E. C. No. 205

ESTIMATES COMMITTEE 1960-61

HUNDRED AND TWELFTH REPORT

(SECOND LOK SABHA)

POSTS AND TELEGRAPHS DEPARTMENT

PART III

Telecommunications

LOK SABHA SECRETARIAT
NEW DELHI
March, 1961/Phalguna, 1882 (Saka)
Price : *Rs.* 1.40 nP.

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CORRIGENDA

Hundred and Twelfth Report of the Estimates Committee on the Posts and Telegraphs Department – Part III – Telecommunications.

Page 3, para 10, line 1 of Table; *for* 'Actua' *read* 'Actual'

Page 6, para 18, line 1; *insert* '/' *between* 'circles' *and* 'telephone districts'

Page 9, para 29, line 1; *for* 'capaciy' *read* 'capacity'

Page 11, para 39, line 1; *for* 'monthlv' *read* 'monthly'

Page 16, para 57, marginal heading, *for* 'Plaus of ezpansion' *read* 'Plans of expansion'

Page 29, para 112, line 5; *add* '(' *before* 'Rs.';

Page 32, para 123, line 3; *for* 'years' *read* 'year'

Page 32, para 124, marginal heading; *for* 'Expenditur' *read* 'Expenditure'

Page 42, para 163, item (iii) of Table; *for* 'Inustrial' *read* 'Industrial'

Page 44, para 169, line 6; *delete* '*viz.*'

Page 46, para 180, Col. 5 of Table; line 3; *for* 'e penses' *read* 'expenses'

Page 51, para 199, marginal heading; *add* 'in' *after* 'Losses'

P.T.O.

Page 51, para 201, marginal heading; *for* 'Increase i expenditur' *read* 'Increase in expenditure'

Page 65, Col. 6, last line; *for* 'item' *read* 'items'

Page 72, Col. 6, last line; *for* '1961' *read* '1963'

Page 84, line 13 from bottom, *for* 'Mico-waves' *read* 'Micro-waves'

Page 87, Col. 1, line 5, *for* 'd stance' *read* 'distance'

Page 90, Col. 1, line 3, *for* 'Tar ff' *read* 'Tariff'
line 6, *for* 'a d' *read* 'and'

Page 90, Col. 2, line 4, *for* 'o' *read* 'of'

Page 99, S. No. 2, line 5, *for* 'futher' *read* 'further'

Page 100, S. No. 5, lines 15 and 16, *for* '37,540 lines of old equipment' *read* '37,540 new lines and replacement of 13,460 lines of old equipment'

Page 101, S. No. 11, line 2, *for* 'fund' *read* 'funds'

Page 103, S. No. 26, line 7, *for* 'prescribed limit' *read* 'prescribed delay limit'

Page 105, S. No. 42, line 2, *for* 'regrett ble' *read* 'regrettable'

Page 109, S. No. 70, line 7, *for* 'opend' *read* 'opened'

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1960-61

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*Elected with effect from 25-11-60 *vice* Shri Dinesh Singh resigned.

INTRODUCTION

I, the Chairman, Estimates Committee, having been authorised by the Committee to submit the Report on their behalf, present this Hundred and Twelfth Report on the Posts and Telegraphs Department—Part III—Telecommunications.

2. The Committee wish to express their thanks to the Director General, Posts and Telegraphs and other officers of the P. & T. Department for placing before them the material and information that they wanted in connection with the examination of the estimates.

3. A statement showing an analysis of the recommendations contained in this Report is also appended to the Report (Appendix X).

NEW DELHI;
The 15th March, 1961.
The 24th Phalguna, 1882 (*Saka*).

H. C. DASAPPA,
Chairman,
Estimates Committee.

I

TELEPHONES—LOCAL TELEPHONE SERVICE

A. Introductory

Need for Telephones.

An efficient telecommunication system is the *sine-qua-non* of a modern society. Telephones play a significant role in the communication net-work of any nation and particularly in a vast country like India, with a developing economy.

2. The Telephone Branch of the P. & T. Department has been earning handsome profits continuously for the last several years and its surpluses have helped the Department to offset the deficit of the other two branches in the telecommunication field *viz.* Telegraphs and Wireless, to a great extent.

B Plan provisions for Telephones

Shortfalls.

3. In the First Five Year Plan, a sum of Rs. 33,90 lakhs was provided for telephones (both local and trunk) of which a sum of Rs. 27,83 lakhs was spent thus resulting in a shortfall of Rs. 6,07 lakhs.

4. The financial targets and achievements during the Second Plan period were as under:

(Rs. in crores)

Name of the Scheme	Target	Expenditure in					Total
		56-57	57-58	58-59	59-60	60-61	
1. Local Telephone Service .	30·60	5·50	5·74	5·84	5·04	5·31	27·43
2. Public Call Offices	1·00	0·53	0·25	0·28	0·20	0·21	1·47
3. Copper wire Trunks and Carriers	3·41	0·81	0·67	0·41	0·64	0·69	3·22
4. Trunk Cables and Carriers .	4·30	0·06	0·34	1·28	0·35	1·33	3·36
5. Trunk Exchanges	0·90	0·12	0·12	0·16	0·20	0·19	0·79
TOTAL—Telephones	40·21	7·02	7·12	7·97	6·43	7·73	36·27

C. Demand for Telephones

(a) *Demand in First and Second Plans*

5. The demand for telephones in the First and Second Five Year Plans and the extent to which it was met, is indicated in the table below:—

	First Five Year Plan	Second Five Year Plan
Total No. of telephones at the commencement of the Plan .	1,68,000	2,77,600
Outstanding demand at the time of commencement . . .	1,50,000	1,20,000
Demand anticipated in the Plan period (approx.) . .	1,00,000	1,30,000
Total demand (outstanding plus anticipated)	2,50,000	2,50,000
plan Target	1,32,000	1,80,000
Plan achievement . . .	1,09,600	1,76,000 (anticipated)

Outstanding Demand.

6. The physical shortfall in respect of local telephones was of the order of 22,400 in the First Plan and is anticipated to be 4,000 for the Second Five Year Plan. The Committee were informed that at the beginning of the First Plan, the unsatisfied demand for telephones was roughly estimated at 1,50,000. It was anticipated that after taking into account a further demand of 1,00,000 in the five year period, the unsatisfied demand at the end of the First Plan would be 1,18,000. The assessment made at the end of the Plan showed that it was about 1,20,000.

7. For the Second Plan period, it was estimated in 1956 that 2,50,000 connections would be required (*i.e.*, 1,20,000 for outstanding demand and 1,30,000 on account of new demand during the five year period). The original proposal was for provision of 2,50,000 telephones but this had to be reduced to 1,80,000 telephones because against the original demand of Rs. 75 crores for the Second Plan, Rs. 63 crores were allotted which amount had to be limited to Rs. 54 crores in 1958-59 because of the overall reduction in the Plan.

Rising Demand.

8. The total registered demand for telephones remaining unsatisfied on 31st March, 1960, based on pending applications, was 1,47,000 and it is anticipated that the unsatisfied demand at the end of the Second Five Year Plan may exceed 2,00,000.

(b) *Anticipated demand in Third Plan*

9. The original proposals for the draft Third Five Year Plan proposed by the P. & T. Department in July, 1959 envisaged an expenditure of Rs. 275 crores and provided for an increase in telephone capacity from about 4,00,000 to 12,00,000 lines and linking up of all the major cities by coaxial cable. It also provided for expansion of existing Workshops, Indian Telephone Industries and Hindustan Cables Ltd. and for the setting up of one additional telephone equipment factory and two additional cable factories etc. Original Proposals.

10. The proposals sent to the Planning Commission in September 1959, however envisaged a total outlay of Rs. 175·5 crores and provided for 4 to 5 lakh telephones. In the discussions with the Planning Commission in February 1960, an amount of Rs. 113·5 crores was indicated as the minimum for the P. & T. Department (excluding the schemes for meeting the demands from other Administrations). The Planning Commission have, however, proposed an allocation of only Rs. 68 crores for the P. & T. Department "having regard to the overall resources position". This amount is expected to exclude the cost of telecommunication scheme relating to railway electrification. The financial and physical targets for local telephones envisaged in July 1959, September 1959, February 1960 and on the basis of the latest allocation of Rs. 68 crores proposed by the Planning Commission are indicated below:— Cut in allocation.

	As per proposals submitted to Planning Commission in			Actual Allocation and Target
	July 59	Sept. 59	Feb. 60	
Financial Target (Rs. in crores) .	154	90	65	35
Physical Target (Number) .	8 Lakhs	4·5 Lakhs	2,40,000	2,00,000

(c) *Planning for Telephones*

11. The Committee note that the P. & T. Department had made a demand for Rs. 50 crores for the First Plan and this amount was made available in full by the Planning Commission and even out of this amount the actual expenditure incurred during the Plan period was only Rs. 39·45 crores. *The Committee are not able to appreciate as to why the physical target for telephones was fixed at* 1,32,000 Unrealistic Planning.

when the pending demand at the commencement of the First Plan was estimated to be 1,50,000 *and an additional demand of* 1,00,000 *was expected to be engendered during the Plan period. It is this initial back-log of* 1,18,000 *in planning which has, to a large extent, been responsible for accumulating the unsatisfied demand for telephones and for raising it from* 1,20,000 *at the commencement of the Second Plan to* 2,00,000 *at the end of the Second Plan.*

12. *This unrealistic planning can best be illustrated by the example of Delhi Telephone District. An estimate of requirements for Delhi Telephone District prepared in* 1955 *anticipated that a capacity of* 50,000 *lines would be required for the District by* 1975. *The fact, however, is that even as early as in July,* 1960 *the demand had gone much beyond that capacity for it is seen that after providing* 31,000 *lines there was an outstanding demand of* 27,497.

D. Delays in execution of Projects

Delay in commencement of work.

13. A detailed statement showing the physical and financial progress made in respect of 49 telephone projects costing Rs. 25 lakhs and over included in the Second Plan (including those carried over from the First Plan) is given in Appendix I. *The Committee were surprised to learn that work on the following projects sanctioned between November* 1958 *and February* 1960 *has not yet commenced:—*

Name of the Project	Date of sanction	Date of completion originally fixed
1. Calcutta—Siliguri—Gauhati— Installation of 12 channel carrier	Nov. 58	1962
2. Hyderabad—Expansion by 900 lines and replacement of 2000 lines of old equipment	Feb. 59	1962
3. Jamshedpur—Opening of 1500 lines auto-exchange	Mar. 59	1964
4. Srinagar—Installation of 1500 lines auto-exchange	May 59	1964
5. Vijayawada—Installation of 2000 lines auto-exchange	June 59	1964
6 Jorbagh (New Delhi)—expansion from 5000 to 7000 lines (3rd phase	Feb. 60	1962

14. *The Committee recommend that the Department should take more energetic steps to see that work on the projects costing Rs. 25 lakhs and over which have been sanctioned long back is commenced without further delay and that similar projects are not held up during the Third Plan.*

15. *The Committee further suggest that the Department may impress upon the various circles/telephone districts the desirability of initiating early action for acquisition of sites for telephone exchanges proposed to be constructed in the Third Plan so that work thereon can be completed within the target period.* Need for early acquisition of sites.

E. Time taken in setting up new exchanges

16. *The Committee note that the time taken in the setting up of telephone exchanges, particularly in the Telephone Districts, ranges from 5 to 10 years after a decision to set up an exchange is taken:—*

Name of Exchange	Date of sanction	Target date	Date of cutting over
Calcutta			
'75' East	8-1-1951	Dec. 56	22-12-56
'55' Bagbazar	Do.	Do.	Do.
'56' Cossipore	Do.	Do.	Do.
'47' Kalighat	Do.	Dec. 57	29-6-57
'57' Dum Dum	Do.	Do.	27-7-57
'66' Salkea	Do.	Do.	14-1-58
'67' Sibpore	Do.	Do.	14-1-58
Delhi			
Karolbagh	9-3-1954	Dec. 56	4-1-58
Jorbagh	17-5-1960	Mar. 60	11-3-60
Bombay			
Central	17-5-1950	Mar. 57	In stages— August 55 to May 1958

17. *In some of these cases there have been delays in the preparation of plans, construction of buildings and procurement and installation of equipment.* The Committee were informed that the technological problems in the establishment of telephone exchanges were now "under a set direction" and it might be possible in future to reduce the existing time lag of 5 to 10 years between the sanctioning and commissioning of exchanges. The representative of the Department admitted that there had been delays in planning also. He added that the building programmes would now be accelerated and if funds were made available in time it should be possible to reduce this period at least by one-third. Reduction in time lag.

18. *The Committee need hardly stress that economy in time in the execution of a project is no less important than economy in direct financial terms. They are of the view that suitable directives need to be issued by the Department*

to all circles telephone districts in order to achieve maximum savings in the time taken in completing projects which are potential revenue earners. They also suggest that quarterly reports of the progress made in the execution of the projects may be called for and examined in the Directorate with a view to remove the difficulties, if any, expeditiously.

Delays in Sanction.

19. *The Committee further observe that sanctions for plans for expansion of the telephone systems are inordinately delayed. For example, an expansion scheme for installation of* 18,200 *lines for Bombay was envisaged in* 1946 *but this was held up at several stages, first, on the question of deciding whether it should be a Director type or non-Director type and secondly, because of some practical difficulties in execution after it was sanctioned in May* 1950 *which necessitated a revision of the Project. The revised project was sanctioned by the Government in January* 1956 *and was completed in* 1959. *It has thus taken the Government* 13 *years to provide* 18200 *lines after having felt their need.*

20. *Similarly, Project XXV for installation of* 37,540 *new lines and replacement of* 13,460 *lines of old equipment for meeting the requirements upto* 1961 *was submitted for approval of Government in* 1953 *but was approved in* 1956 *with the result that the project was now expected to be completed only in stages by* 1964, *eleven years after submission of the scheme.*

Advance Planning.

21. *In order to ensure that all projects which are included in the Five Year Plan are completed in time, a great deal of meticulous advance planning is necessary. The Committee urge that blueprints of projects should be prepared without delay and sanctions should be accorded expeditiously.*

Delays in acquisition of sites and construction of buildings.

22. The questions of delay in the acquisition of sites and construction of buildings which have been responsible for delays in the execution of several projects have already been discussed by the Committee in their earlier Report on the P. & T., Directorate. *The Committee hope that effective action would be taken by Government to reduce such delays.*

F. Comparison with foreign countries

23. The table below indicates the number of telephones per thousand of the population in India as compared to the

position obtaining in some of the advanced countries of the world:—

Name of the country	Total number of telephones	No. of telephones per thousand of the population
Australia	19,98,704	200·8
Canada	51,22,519	296·4
Denmark	9,78,667	215·3
Japan	43,34,602	46·9
Norway	6,72,406	190·8
Sweden	25,26,424	346·0
U.K.	75,24,789	145·3
U.S.A.	6,66,45,000	379·7
West Germany	50,90,102	98·0
India	3,78,496	0·9

Augmentation of finances.

24. *It will be seen that it will take a long time for India to reach even the lowest of them.* In this context the Committee would also like to draw attention to the following observations made by the Telephone Tariff Revision Committee:—

> "Telephones provide an important public utility service. Expansion of the service needs to take into account its importance to the economic life of the country. The P. & T. Department operates the service on a sole monopoly basis. It is therefore incumbent that unless special constructional difficulties are involved, telephones are made available to customers as demands arise."

25. *The Committee feel that the proposed provision of 2,00,000 telephones during the Third Five Year Plan would hardly be sufficient for meeting the demand which would be outstanding at the commencement of the Plan and it is, therefore, obvious that the entire demand engendered during the Third Five Year Plan would remain unsatisfied. This is a matter of great concern to the Committee. In view of telephones being always a sound paying proposition, there should be very little hesitation in finding the necessary provision for their expansion. The Government may again consider how best to meet the additional demand that will*

inevitably arise during the Third Plan. If that is not done, the position at the end of the Third Plan will be infinitely worse than what it is at its begining, which is hardly the way of planning. This necessarily means the need for expanding the Workshops and ancillaries such as Indian Telephone Industries, Hindustan Cables Ltd., and making adequate provision therefor. The Committee urge that the possibilities of getting loans from the Life Insurance Corporation, the World Bank etc. for augmenting the Plan resources for telephones should be explored.

26. *The question may arise whether the P. & T. Department could put the additional provisions that may be found, to full use during the Third Plan. Judging from the recent trends, the Committee consider that it may not be difficult for the P. & T. Department to gear up their machinery for the task. It necessarily calls for cooperation from all allied Departments and the Committee see no reason why it should not be forthcoming. The P. & T. Department will have to satisfy the Planning Commission that it is in a position to make good use of the additional funds asked for and that they would be effectively utilised for increasing telephone lines to meet the demand.*

G. **Own Your Telephone Scheme**

Objectives.

27. The Own Your Telephone Scheme was first introduced in India in December 1949 with a view to find sufficient funds for the expansion of telephone exchanges and to curb the demand for telephones in important commercial centres, where the Department could not meet it on account of insufficiency of telephone equipment.

Consideration in lieu of lump sum payment.

28. For a lump sum amount initially recovered from the subscriber a rebate in annual rental is allowed for a specified period as per details given below:—

Name of the city	Initial payment	Period for which rebate in rent is admissible	Amount of rebate in the annual rental
Bombay, Calcutta, Ahmedabad, Amritsar, Delhi and Hyderabad	Rs. 2,500	20 years	Rs. 120
Madras and Nagpur	Rs. 2,000	20 years	Rs. 96
Kanpur	Rs. 1,000	10 years	Rs. 96

29. Seventy per cent of the available capaciy of the exchanges in O.Y.T. stations is reserved for allotment to O.Y.T. applicants who are registered for this purpose separately. The statement below indicates the progress made by the scheme upto the 31st May, 1960:— Demand for OYT connections.

Name of Station	No. of telephone connections for which demand was registered since the inception of OYT Scheme	No. of connections provided	Amount collected (Rs. in thousands)
Bombay . . .	28,683	12,974	33,950
Calcutta . . .	7,492	7,377	18,605
Delhi . . .	10,742	9,224	18,778
Kanpur . . .	2,963	1,942	2,869
Madras . . .	5,269	4,200	8,498
Ahmedabad . .	4,088	2,159	4,372
Nagpur . . .	330	311	624
Amritsar . . .	323	319	644
Hyderabad . .	393	392	776
Bangalore . .	865	717	1,484
Other stations where OYT has since been abolished .	873	873	1,746
TOTAL .	62,021	40,488	92,346

30. *The Committee are surprised to note that out of* 28,683 *applications received in Bombay as many as* 15,709 *were outstanding on* 31*st May,* 1960. *They recommend that the Department should increase expeditiously the capacity of telephone system in Bombay so that the connections are given at an early date.*

31. The Committee were informed that the amount of deposit under the new scheme of O.Y.T. for Kanpur was prescribed at Rs. 1,000 in 1957 as the demand for telephones was not large enough to absorb the additional capacity. The Committee, however, find that out of a demand of 2,963 telephone connections, only 1,942 connections have so far been provided. *They therefore see no reason as to why a lower deposit of Rs.* 1,000 *should be prescribed for Kanpur.*

Telephone Development Fund.

32. The contributions to and balances at the credit of the Telephone Development Fund were as under during the last three years and the current year:—

(Rs. in crores)

Year	Balance at the beginning of the year	Contribution to the Fund	Withdrawals during the year
1957—58 . .	3·29	0·66	0·33
1958—59 . .	3·62	0·99	1·46
1959—60 (RE)	3·15	0·55	1·60
1960-61 (BE) .	2·10	0·70	1·50

33. *The Committee are of the view that since the O.Y.T. scheme would help to find additional funds for expansion, greater emphasis may be laid on the scheme in the Third Plan.*

H. Party Line System

34. This system enables two telephone subscribers to work by utilising only one main cable pair to the telephone exchange. Equipment required in the exchange is the same as for two independent subscribers. Calls originating from each subscriber are separately metered and one subscriber cannot overhear the calls of the other. However, exchange service can be used only by one subscriber at a time and is practicable only when the traffic to and from the two subscribers is small and they agree to the shared service scheme.

35. The Committee were informed that the party line system was first introduced as an experimental measure in Madras and had since been extended to Amritsar and Nagpur. It was proposed to introduce it in Delhi also.

Number of Party line subscribers in U.K. and U.S.A.

36. The Committee understand that the system is widely prevalent in the U.K. and U.S.A. The Report on "Post Office Development and Finance" (U.K.—1955) states—"Shared service was introduced in 1942. Nearly a million subscribers are now sharing. One third of residential subscribers are sharing lines. In the U.S.A. two thirds of residential subscribers are sharing—half of them with more than one party." The present position as stated in the Post Office Guide (U.K.) 1960 is: "In order that the maximum use can be made of existing telephone plant, all residence subscribers who have come on the telephone or removed since the beginning of 1948 have been made liable to share their lines."

37. *The Committee are surprised that so little is known of this system in this country. In view of the heavy demand for telephones and the shortage of equipment, the Committee recommend that the Department should endeavour to put an appreciable percentage of residential subscribers on the party line system within the Third Plan period. As an immediate step in this direction, the facility needs to be widely publicised in order to make it acceptable to the people.* Need for publicity and expansion.

I. Public Call Offices

38. Public call offices are classified in two groups *viz.* (i) local public call offices; and (ii) Long distance public call offices. The number of public call offices during the years 1957 to 1960 was as under: Classification

	1957	1958	1959	1960
Public Call Offices with coin boxes	810	874	996	1,025
Attended type—local and trunk	3,485	3,899	4,302	4,719
Total	4,295	4,773	5,298	5,744

39. The average monthlv collection of a public call office for the whole of India during each of the last four years was as under:— Average monthly collections.

1956-57	..	..	Rs. 96
1957-58	..	..	Rs. 97
1958-59	..		Rs. 99
1959-60	..		Rs. 106.

40. In view of the heavy outstanding demand for telephone connections particularly in the Telephone Districts and the fact that the average monthly collection of a public call office has risen from Rs. 96 in 1956-57 to Rs. 106 in 1959-60, *the Committee suggest that the Department should endeavour to open adequate number of public call offices, preferably of the attended type, since in their case, the minimum amount of revenue is guaranteed and the safe custody of instruments assured.* Need for providing more PCOs in telephone districts.

41. The Committee were informed that the Bombay Telephone Workshops had developed a compact coin collecting instrument which was undergoing final field test. *The Committee hope that it will be ensured that the new* Manufacture of compact Coin Collecting Instruments.

instrument is as foolproof as possible against tampering before manufacturing it on a large scale.

J. Telephone Facility in Rural Areas

Policy

42. The Committee are informed that in so far as telephone facility in rural areas is concerned, the term 'rural' is taken as generally applying to the areas undeveloped telephonically including headquarters of administrative units, though some of them could not be classified as 'rural' in the strict sense of the term. It was expected that by providing the facility to district, sub-divisional and tehsil towns, the network would get sufficiently widened to make further development easier. The policy laid down in 1956 for the Second Plan was—

(a) to cover the district and sub-divisional towns and also places with a population of over 20,000 which were without public call offices in 1956;

(b) to provide public call offices in about 700 tehsils and corresponding stations; and

(c) to provide public call offices in about 100 'remote places' (about 25 miles away from the existing network).

Limits of loss on opening of PCOs:

43. The Department is authorised to open public call offices at a loss at these places, subject to the condition that the cumulative loss over the five year period on account of the opening of such offices does not exceed Rs. 40 lakhs. The limit for the individual offices as such was not stipulated. In practice, public call offices at sub-divisional towns are sanctioned upto a loss of Rs. 5,000 per annum and about Rs. 3,000-4,000 per annum in the case of tehsil stations.

Second Plan Proposals.

44. The plan proposals envisaged opening of about 1,200 public call offices out of which 975 were to be in the categories indicated above. The remaining 225 were to be at

other places on no-loss basis. The progress made in opening public call offices till the end of the year 1959-60 was as under:—

Category	Target (Approx.)	No. opened till 1959-60
1. District Headquarter towns 2. Sub-divisional towns	150	158
3. Tehsils and corresponding stations	700	510
4. Places with a population of 2,000 and above	25	22
5. Remote places . . .	100	17 (sanctioned)
6. Other places (on no-loss basis)	225	204
	1,200	911

Slow progress in remote areas.

45. The Committee were informed during evidence that out of 1,200 long distance public call offices planned, 1,000 would have been opened by the end of the Second Plan. Progress in the provision of this facility in remote places was however very slow and it would not be possible to open more than 20 or 25 public call offices in these places out of the 100 originally envisaged.

46. The Committee understand that out of a permissible ceiling of Rs. 40 lakhs, an approximate loss of Rs. 25 lakhs would be incurred till the end of the plan under this head. *The shortfall in the attainment of target in the opening of public call offices in the Second Plan is unfortunate. A review of the progress should have been made sufficiently early so that the pace particularly of opening of public call offices in remote areas, could have been accelerated.*

Need for further liberalisation of policy.

47. *The Committee are also of the view that further liberalisation of the policy in regard to the provision of telephone facility in the rural and remote areas is called for in the Third Plan. They recomend that public call offices should, in the first instance, be opened in all places where they are likely to run on no-loss basis. To this end, a survey may be taken up and a phased programme prepared accordingly.*

K. Telephone Districts

Organisation.

48. The telephone organisations at Calcutta, Bombay, Delhi and Madras function as separate independent units. The first three are under the charge of General Managers who are in the senior administrative grade and the fourth under a District Manager in the junior administrative grade. These Districts cater to the telephone requirements of the four metropolitan cities. The Ahmedabad Telephone System is however also included in the Bombay Telephone District.*

(a) *Capacity and traffic handled*

49. The table below shows the equipped capacity and the volume of traffic handled by each of the four telephone districts during the last four years:—

	1956-57	1957-58	1958-59	1959-60
Calcutta Telephone District.				
No. of equipped lines (as on 31st March)	52,000	58,120	60,520	72,060
No. of local calls as recorded on the meters . .	6,69,04,618	7,98,96,057	8,83,63,680	11,73,97,398
No. of effective outward trunk calls put through .	5,13,932	5,15,630	5,42,852	7,01,335
Bombay Telephone District (Including Ahmedabad Telephone System) .				
No. of equipped lines (as on 31st March)	40,100	44,000	49,000	53,000
No. of local calls as recorded on the meters . .	13,65,46,856	14,34,60,108	15,64,12,245	17,14,13,598
No. of effective outward trunk calls put through .	11,72,138	12,43,246	13,44,363	15,24,073

Note: *A proposal to form a separate Circle for the new State of Gujarat is under consideration. The question of changing the status and control of the Ahmedabad Telephone System is also being simultaneously examined.

	1956-57	1957-58	1958-59	1959-60
Delhi Telephone District				
No. of equipped lines (as on 31st March) .	22,000	25,000	28,000	31,660
No. of local calls as recorded on the meters . .	6,61,67,517	7,79,04,014	9,48,60,988	10,93,30,256
No. of effective outward trunk calls put through	7,57,037	9,19,774	11,66,181	12,11,945
Madras Telephone District				
No. of equipped lines (as on 31st March)	9,050	11,700	13,510	14,410
No. of local calls as recorded on the meters . .	1,95,23,171	2,09,32,886	2,32,50,131	4,36,35,474
No. of effective outward trunk calls put through	3,42,098	3,67,438	4,36,887	4,98,542

(b) *Plans for Expansion*

50. The Committee are informed that the number of applications for telephone connections pending on 1st April, 1960 in each of the four telephone districts was as under:— No. of applications pending for telephone connections.

Calcutta	30,247
Bombay . .	21,284
Delhi	26,384
Madras	12,251

51. Brief notes on the plans of expansion in respect of each of the telephone districts of Calcutta, Bombay, Delhi and Madras are given in Appendix II.

52. Despite an expansion by 32,500 lines in the Calcutta Telephone District in the Second Plan, the *Committee observe that the unsatisfied demand is still the highest amongst the Telephone Districts.* Calcutta Telephone District.

53. As regards Bombay Telephone District, a project (Project XXV) for expansion of the Bombay Telephone system was sanctioned in July, 1956. The project provides for a net increase of 37,540 lines and opening of 13 new exchanges and extension of 2 existing exchange buildings. Bombay Telephone District.

The project was meant to meet the requirements of telephones upto 1961, *but the Committee regret to note that due to delay in the execution of the plan it would be completed only by* 1964. The Committee further understand that the forecast on which Project XXV was based had become out of date and that the additional telephone lines required for meeting the demand were 80,000. To meet the great increase in demand, equipment had been installed on an interim basis to the extent of 5,200 lines in the existing exchanges.

Delhi Telephone District.

54. So far as Delhi Telephone District is concerned, the Committee have noted already that the recent demands for new connections have exceeded all previous forecasts. In 1955 it was anticipated that a capacity of about 50,000 lines would be required in 1975 but the present position is that it would fall short of even the current demand. The demand is increasing each year by about 6,000 fresh applications. The number of applications pending on 31st July, 1960 was 27,497 as against 27,006 working connections on that date.

Madras Telephone District.

55. A number of schemes for modernisation and expansion of existing exchanges as also building of new exchanges in the Madras Telephone District are in various stages of completion, details of which are given in Appendix II. Of these, the most important is the installation of a new Central Exchange of a capacity of 8,000 lines initially. This is expected to be cut into service in the middle of 1961. Orders for further expansion by 2,000 lines have also been placed.

Heavy backlog of unsatisfied demand.

56. *The Committee observe that the demand for telephones in the Telephone Districts has far outstripped the expansion schemes of the Second Plan with the result that there is a heavy backlog of unsatisfied demand to be cleared in the Third Plan.*

Need for perspective Plans of expansion.

57. *Being the nerve centres of the country, in the political, administrative and commercial fields, the Committee would urge the Department not to relax the efforts to meet the need for telephones in these Districts. The Department should aim at expanding the exchange capacity to an extent where it might be able to provide telephones 'on demand'. Although it may not be possible to achieve this objective within the Third Plan period, the Committee would yet suggest that perspective plans may be prepared with a view to meet the demand in full within a stipulated period.*

(c) *Staff Matters*

58. A statement showing the strength of staff in each of the Telephone Districts during the last 4 years is given in Appendix III. *The Committee observe that there has been an overall increase of* 28.8 *per cent and* 33.2 *per cent respectively in Delhi and Madras Telephone Districts during the last* 4 *years. The increase in the number of Class I officers has been as much as* 62.5 *per cent and* 75 *per cent in Delhi and Madras Districts respectively in* 1959-60 *as compared to* 1958-59. *This appears* prima facie *to be on the high side.*

High increase of Staff in Delhi and Madras Telephone Districts.

59. *The Committee further observe that the number of Class III staff in Delhi District is as much as* 2,701 *whereas in Bombay District, which is bigger, it is* 2,654. *The Committee therefore suggest that the question of increase in staff in Delhi and Madras Districts may be looked into.*

(d) *Complaints*

60. The Committee were informed that the average number of complaints per telephone per year in each of the four telephone Districts during 1959-60 was as follows:—

Bombay ..	12·0
Calcutta	4·4
Delhi	5·2
Madras	13·2

61. The Committee, however, understand that the procedure for compilation of such statistics is not uniform in so far as Bombay, Calcutta and Madras Districts have been following the same procedure which they were following in the ex-Company days while in Delhi District departmental practices are being followed. The Committee were informed that the question of having complaints statistics on a uniform basis is being taken up. *The Committee suggest that this overdue reform may be given effect to expeditiously.*

62. The Committee understand that the average number of complaints per telephone per year in the U.K. is about 4·5. The percentage of complaints in India particularly in Bombay and Madras is therefore very much on the high side. *The Committee suggest that the Department should look into the matter and take effective steps to reduce the number of complaints.*

L. Telephone Exchanges

(a) *Number*

63. The number of telephone exchanges (including PBXs, PXs etc.) was as under during the last 4 years:—

1956-57	6,202	
1957-58	6,472	
1958-59	6,729	
1959-60	7,014	(estimated)

64. The number of departmental exchanges with a capacity of (i) less than 300 lines, (ii) 300 to 999 lines, (iii) 1,000 to 3,000 lines and (iv) above 3,000 lines was as under:

Capacity	1957	1958	1959	1960
(*i*) Less than 300 lines . .	744	842	932	1,007
(*ii*) 300 to 999 lines . .	119	123	121	117
(*iii*) 1,000 to 3,000 lines . .	51	54	67	73
(*iv*) Above, 3000 lines . .	21	24	26	26
TOTAL .	935	1,043	1,146	1,223

(b) *Metering Facility*

65. The Committee were informed that the policy of the Department was to introduce metering in telephone systems with a capacity of 300 lines and above. On the 1st March, 1960, the number of exchanges of 300 lines and above was 193 with a total capacity of 2,91,000 lines. Of these, 95 exchanges with a total capacity of 2,44,042 lines were metered. The other 98 exchanges including two automatic exchanges at Baroda and Jammu with a total capacity of 47,957 remained to be metered.

66. *The Committee suggest that early steps be taken by the Department to introduce metering in all automatic and manual exchanges of a capacity of* 300 *lines and above within the Third Plan period.*

(c) *Telephone Exchanges in District Towns*

67. The policy proposed for the Second Plan in respect of provision of telephone exchanges was that "the remaining district headquarter towns are to be attended to as early as possible". The progress made is indicated below:— Policy.

As on 1st April	Total number of District Headquarter Towns	Number with Telephone Exchanges
1956 .	314	276
1960 .	331	315

Out of the remaining 16 district headquarters, public call offices already exist in six of them while proposals for two more have been sanctioned.

68. *The Committee suggest that exchanges or public call offices with extensions may be provided in all the remaining district headquarter towns as expeditiously as possible.*

M. Telephones on Central Government Account

69. A statement showing the number of telephone connections on Central Government account (Circle/Telephone District-wise) as on 31st March, 1960 is given in Appendix IV.

70. The Committee observe that the total number of such connections was 29,772 as against about 4·18 lakh telephones in the country on 31st March, 1960, which works out to about 7 per cent. The Committee further observe that the percentage of Central Government connections to the total number of working connections in Delhi is 40 which is the highest as compared to other Circles/Districts. *It is true that being the seat of the Central Government, the number of telephone connections on Government account in the Capital is bound to be high. The Committee would however suggest a speedy review of the position to see that the number of telephone connections is fully justified and that further expansion is limited to what is absolutely necessary.*

II

TELEPHONES—TRUNK TELEPHONE SERVICE

A. Trunk Service

(a) *Objectives*

71. The Second Five Year Plan laid down that—

> "In the expansion of the trunk telephone service, the objective to be kept in view is to make the service available not merely in all towns and administrative units but within a convenient distance, say 5 miles of any place in the country."

Trunk P.C.Os.

72. It was stated during evidence that it was a long term objective which would take 20 to 25 years to achieve. *The Committee recommend that the policy of opening public call offices may be linked up with this objective and trunk public call offices provided wherever feasible.*

(b) *Traffic handled*

Rate of increase.

73. During the First Plan, it was estimated that the rate of increase in traffic would be about 20 per cent. per year *i.e.* from 7·1 million effective calls in 1951 to 17·7 million in 1956. The actual traffic during 1955-56 however rose to 8 per cent. over the original anticipation.

74. The same trend of approximately 20 per cent. rise was anticipated for the Second Plan also. It was, however, stated that for want of sufficient equipment and shortage of foreign exchange etc., the provision of circuits had not kept pace with the requirements and the actual increase in traffic was only 11 per cent. to 15 per cent. per year during the last four years as will be seen from the figures below:—

(Number in millions)

Year	Number of effective outgoing trunk calls
1956-57	20·8
1957-58	23·1
1958-59	26·4
1959-60	30·0

(c) *Time taken in the maturing of trunk calls*

Service on a 'delay' basis.

75. The trunk service in India is offered on 'delay' basis and not 'on demand' as in other advanced countries. According to the Department, the average time taken for trunk calls to mature between major trunk exchanges is, in most cases, of the order of 45 minutes. As between urgent and ordinary calls, it is 30 minutes in the case of the former and one hour in the case of the latter. A detailed statement of the average time taken in the maturing of trunk calls between important exchanges is given in Appendix V.

Inadequacy of trunk circuits.

76. The Committee were informed that the delays were mainly due to instability of trunk lines and inadequacy of trunk circuits. The problem of instability of trunk lines could be got over only if most of the trunk circuits were provided on underground cables. Inadequacy of resources placed limitations on providing trunk circuits; besides direct circuits did not exist between several important stations.

Need for stricter supervision and fuller utilisation of the capacity.

77. The Committee have discussed the question of inadequacy of trunk circuits in subsequent paras. *While they are aware of the limitations of the Department in this regard, they would like to point out that the average time of one hour in the maturing of an ordinary call and half an hour in the case of an urgent call indicates the enormous leeway that has to be made up if the service has to keep up with international standards of providing service 'on demand'.*

Ordinary Calls.

78. The Committee were informed of certain instances where ordinary trunk calls had to be kept pending for several hours because of preference being given to urgent trunk calls irrespective of the time of booking. *In order to improve the service in regard to ordinary trunk calls, the feasibility of laying down a rule to the effect that one ordinary trunk call may be taken, say after* 10 *urgent calls, may be examined. The Department may also see to it that the interval between the booking of an ordinary call and its maturing is not longer than the prescribed delay limit of one hour.*

79. It was brought to the notice of the Committee that there were abnormal delays in the maturing of trunk calls between Srinagar and other parts of the country. Large scale breakdowns occurred due to snow or landslides, floods etc. *The Committee suggest that the Department should make adequate arrangements for speedy restoration of*

communications between the State and the rest of the country in such contingencies as also take steps to improve the quality of the service. In view of the location of the area, the importance of an efficient service needs no special emphasis.

B. Cancellation of Calls

Percentage of cancellations.

80. The Committee were informed during evidence that the percentage of calls cancelled to the total number of calls booked during the last four years was as under:—

Year	Percentage of calls cancelled to the total number of calls booked
1956-57	19·6
1957-58	19·4
1958-59	18·6
1959-60	18·6

81. The number of trunk calls booked and the number of ineffective calls from August 1959 to January 1960 prior to the introduction of the revised rates of tariff was as under:—

Month	Number of total calls booked	Number of ineffective calls	Percentage of Col. 3 to Col. 2
1	2	3	4
1959			
August .	26,87,982	4,35,352	
September	31,96,376	5,50,968	
October	29,41,042	5,51,922	
November	34,28,406	6,34,795	
December	33,46,681	6,56,660	
1960			
January .	37,46,912	7,37,568	
TOTAL .	1,93,47,399	35,67,265	18·4

82. It was stated that separate figures of percentage of calls cancelled on account of departmental reasons and for reasons beyond the control of the Department were not available but they might be taken as 8 per cent. and 10 per cent. respectively.

83. The Committee were further informed that the recent changes in the concessional tariffs and periods for trunk calls effected from 1st February, 1960 were introduced with a view to reduce the delays and the number of ineffective trunk calls during the concessional periods by smoothening out the heavy peaks which were leading to inefficiency. From the figures given below, slight reduction is noticeable in the percentage of ineffective calls after the modification of concessional tariffs:—

Month	Number of calls booked	Number of ineffective calls	Percentage of Col. 3 to Col. 2
1	2	3	4
1960			
February . .	30,00,782	5,11,897	
March . . .	33,69,341	5,95,440	
TOTAL .	63,70,123	11,07,337	17·3

84. *As compared to Western countries where there are hardly any cancellations on departmental account, the position in India is not satisfactory. The Committee consider that the percentage of cancellations in a way provides a measure to judge the efficiency of the Department. The Committee suggest that the Department should take all necessary steps to improve the position by stricter supervision over the operating staff and by fuller utilisation of capacity.*

C. Modernisation of Trunk Service

85. Modernisation of the trunk service involves (a) strengthening and modernisation of the existing trunk network; (b) introduction of improvements in the existing trunk exchanges as well as making necessary additions for speedy handling of traffic; and (c) introduction of subscriber dialling. Some of the steps taken by the Department in this regard are referred to below. Ingredients of modernisation.

(a) *Coaxial Cable Project*

Efficiency of coaxial cables.

86. The most important scheme for modernising the trunk telephone system is the proposed linking up of the three principal cities, Bombay, New Delhi and Calcutta by special types of underground cables known as coaxial cables. The coaxial cables would be capable of providing 960 high grade telephone circuits and each of these telephone circuits can be equipped to provide, if necessary, upto 24 telegraph channels capable of teleprinter operation. The cables would also eliminate dislocations of traffic which frequently occur on open wire routes because of weather disturbances, thefts of copper wire etc.

87. The scheme drawn up in 1955 provided for laying these cables on the route Bombay—New Delhi—Calcutta with provision for installation of carrier equipment and repeater stations over the entire route at suitable distances. The routes selected included important cities like Surat, Baroda, Ahmedabad, Ajmer, Jaipur, Kanpur, Agra, Lucknow, Allahabad, Varanasi and Asansol. When completed, the coaxial cable scheme should enable trunk calls to be put through on a 'no delay' basis, raise the quality of speech to international standards and pave the way for introduction of modern techniques for the future. A brief note on the efficiency of coaxial cables is given in Appendix VI.

Progress of work

88. The project was sanctioned in August 1956 at an estimated cost of Rs. 7·95 crores. It involves laying of 2,000 miles of cables. The work on Delhi-Agra, Agra-Kanpur and Kanpur-Lucknow sections has been completed and the cables commissioned into service. The work on Kanpur-Banaras, Banaras-Sasaram and Sasaram-Asansol sections is being taken up. The total expenditure incurred till the end of the year 1959-60 was Rs. 1·58 crores while in the budget for 1960-61 a provision of Rs. 0·56 crores has been made for the project. The progress made to the end of 1959-60 was estimated to be 18 per cent.

Target date for completion.

89. The Committee understand that it was proposed to complete the entire programme in the Second Five Year Plan period but due to shortage of foreign exchange, no further orders for cables or equipments could be placed. The Hindustan Cables Limited have now taken up manufacture of coaxial cables and the progress is expected to be more rapid. It is anticipated that the project will be completed by the middle of the Third Plan. *The Committee hope that the target date* (viz. 1963) *set for the completion of the project will be adhered to.*

90. *The Committee further recommend that the Department may endeavour to introduce coaxial cable transmission to as many principal towns as possible in the Third Plan so that full advantage is derived from the project and the benefit of improved telephone service is wide-spread. The capacity of Hindustan Cables Limited to manufacture coaxial cables to meet these requirements may be suitably augmented, if need be.*

Extension of Coaxial Cables to other principal towns.

91. The Committee were informed that the traffic organisation of the P. & T. Directorate was studying the traffic trends and its requirements and on that basis it was proposed to have a regional redistribution of telephone systems with a view to meet the needs of traffic and promote its growth. *Since the reorganisation of the trunk exchange system is linked up with the coaxial cable project, the Committee suggest that the studies of traffic trends should be completed expeditiously so that the work may be completed within the Third Five Year Plan.*

Traffic Surveys.

(b) *Trunk Exchanges*

92. The original target for trunk exchange expansion during the Second Plan envisaged installation of 1,400 trunk positions and trunk automatic exchanges at Delhi and Kanpur. The target was subsequently revised because of the reduced requirement of trunk positions on the Calcutta—Delhi—Bombay coaxial route as the original coaxial cable scheme was implemented only partially due to foreign exchange restrictions. The programme for installation of trunk automatic exchanges, involving import of equipment from abroad, was also not pursued because of foreign exchange difficulties. The revised target was therefore limited to the installation of 1,150 trunk positions only. Against this revised target, 800 trunk boards have been delivered so far by the departmental workshops out of which 650 have been installed and 150 boards are under installation.

Second Plan Targets and Achievements.

93. The provision made for trunk exchanges in the Second Plan and the year-wise progress is as under:—

(Rs. in lakhs)

Plan Targets	Progress in				
	1956-57	1957-58	1958-59	1959-60	1960-61 (BE)
90	12	12	16	20	19
	Total=79				

Augmenting the capacity of the Workshops.

94. The actual achievement in respect of trunk exchanges by the end of the Second Plan will be less than even the revised target for trunk exchange expansion. *The Committee suggest that since the main coaxial project is expected to be completed by* 1963, *the production of trunk boards in the P. & T. Workshops should be stepped up speedily to meet the requirements of the Department.*

Trunk Assistance Service.

95. *The Committee also suggest that the trunk assistance service at present in operation in Delhi and Calcutta may be provided in Bombay and Madras trunk exchanges also, as early as possible.*

Tape Recorders.

96. With a view to exercise random surprise checks on the performance of trunk operators and to ensure that the trunk calls put through are in fact billed, it has been decided to equip the four Telephone Districts with tape recorders which can be plugged in at any time by the supervisor. These would be helpful for checking the deficiency of operators as well as in training them.

97. *The Committee suggest that tape recorders may be installed in the big trunk exchanges and surprise checks on the performance of the operators intensified.*

Automatic trunk timing indicators.

98. Automatic trunk timing indicators give automatic signals to subscribers just before the end of 3 minutes, 6 minutes and so on, thus eliminating the necessity of operators interrupting the conversation to announce the expiry of the due periods as also of complaints from subscribers for having been disconnected before time.

99. The Committee were informed that 80 automatic trunk timing indicators were expected to be delivered shortly and would be installed within the current financial year. *The Committee suggest that all the large trunk exchanges may be expeditiously provided with automatic trunk timing indicators and call-queuing equipment.*

Buildings.

100. The Study Groups of the Committee observed that the buildings in which some of the trunk exchanges were located were totally inadequate to meet the present day needs and the operators had to be crowded together for want of adequate space. *The Committee suggest that a survey of building requirements of trunk exchanges all over the country may be taken up and a phased programme of housing them properly be drawn up to be implemented early.*

(c) Single Link Operator and Subscriber Trunk Dialling

101. As a step in modernisation of trunk service, the Department has introduced single link operator dialling system, under which a call is controlled by the originating operator thus doing away with the need for a second operator at the incoming end. The facility is at present available on 110 trunk circuits over 39 different routes. Orders for equipment for additional 200 circuits have been placed on the workshops. Single Link Operator Dialling.

102. As a further step in modernisation, subscriber trunk dialling is being introduced. It enables the subscriber at one station to call another subscriber at the distant station without the assistance of trunk operators. This facility has been introduced recently between Kanpur and Lucknow. The Committee were informed that the question of extension of the facility was linked up with the coaxial cable project. It was intended to link up Delhi-Agra, Delhi-Kanpur, Delhi-Lucknow, Agra-Lucknow and Agra-Kanpur shortly. Subscriber Trunk Dialling.

103. According to the Report and Commercial Accounts of the U.K. Post Office (1958-59), the expansion of the subscriber trunk dialling facility "will convert most of the telephone system into a vast local network within the next ten years". "Already the range of the 3d local call has been greatly increased and charges for most trunk calls reduced."

104. It has been stated in the Second Plan that "the standard of the (trunk) service has to be raised so that direct dialling is possible on the main sections and service on the subsidiary sections is available with practically no delay."

105. *As the coaxial cable project is scheduled to be completed by* 1963, *the Committee suggest that the subscriber to subscriber dialling facility may be extended to many more important trunk routes in the Third Plan itself, and necessary schemes in this regard drawn up early.* Extension of the facility.

106. *The Committee further suggest that in view of the lower recurring cost that will result, the question of laying down a cheaper and rational tariff structure for dialled trunk calls may be examined.* Need to reduce rates for dialled trunk calls

(d) *Conference Call Facility*

107. The conference call facility permits a calling party to converse simultaneously with a number of other telephone subscribers and thus enables telephonic conference to be held between parties situated far apart.

108. The Committee were informed that with the extension of the coaxial, it might be possible to introduce this facility on certain sections. *It however appears that no concrete proposals have been drawn up in this regard so far. The Committee suggest that the feasibility of introducing this facility between a few important commercial centres in the course of the Third Plan may be examined.*

III
TELEPHONES—MISCELLANEOUS

A. Telephone Tariffs

(a) *Local Tariffs*

Revision of Local Tariff.

109. A comprehensive study of the local telephone tariffs was undertaken for the first time by the "Telephone Tariff Revision Committee for local telephone systems" appointed by the Government in May, 1956 which submitted its report in July, 1958. Based on the recommendations of the Committee, the Government announced revised tariffs in March, 1960. These rates were further modified in May 1960 and applied retrospectively with effect from the 1st March, 1960. A statement showing the tariffs recommended by the Telephone Tariff Revision Committee, as announced in March 1960 and further modified in May 1960 is given in Appendix VII.

(b) *Trunk Tariffs*

Revision of Trunk Tariffs.

110. The Committee were informed that the rates for trunk calls had been last revised in 1951. The only changes made recently were in regard to the concessional periods and those necessitated by the enforcement of the metric system. The entire question of trunk tariffs was under consideration and their revision was being examined.

111. *Rapid technological advances are taking place in the field of tele-communications. The Committee would suggest that a review of the trunk tariffs may be undertaken at least once in every five years.*

B. Telephone Revenue

Break-up of Telephone Revenue.

112. The break-up of telephone revenue on account of (i) trunk and public call office fees (ii) rental and local fees and (iii) other receipts during the last three years and the current year was as under:—

(Rs. in lakhs)

Year	Trunk & PCO Call fees	Rental & Local Call fees	Other receipts less refunds	Total
1957-58	806.98	908.10	121.94	1837.02
1958-59	792.05	1054.29	155.17	2001.51
1959-60 (RE)	840.00	1070.00	280.81	2190.81
1960-61 (BE)	840.00	1135.00	560.83	2535.83

It may be noticed that there has been a regular increase year after year in the total receipts.

(a) *Cost of billing and collection*

113. The cost of billing and collection of telephone revenue during the last three years and the current year is as follows:—

	Rs. Lakhs
1957-58 . . .	49.58
1958-59 . . .	57.22
1959-60 (R.E.) .	65.97
1960-61 (B.E.) .	75.83

Rising Costs.

114. *The Committee observe that while the telephone revenue has increased by 27.5 per cent during these four years, the cost of billing and collecion has gone up by 53 per cent which is dis-proportionately high even after allowing for the increase in expenditure due to improvement in emoluments of the staff.*

115. The Telephone Tariff Revision Committee anticipated that the savings in the cost of billing of local telephone revenue would aggregate to about Rs. 25 lakhs per annum if its recommendations in this regard were adopted. *The Committee suggest that necessary economies may be effected.*

116. The Telephone Revenue Accounting Offices are situated in certain cases far removed from the area covered by them, for example, the Telephone Revenue Accounting Office (Central) is located at Delhi but deals with the preparation and issue of telephone bills for rental and trunk call charges in respect of the Poona Telegraphs, Poona Telephones and Bombay Engineering Divisions of the Bombay Circle. Considerable inconvenience is caused to the subscribers on this account.

Decentralisation of TRAOS

117. The Committee were informed that though the decision to decentralise the telephone revenue accounting offices was taken as early as in 1951, final orders in this regard had been issued only recently. *The inordinate delay in effecting this desirable reform is regrettable. They suggest that the work of decentralisation may be completed expeditiously.*

(b) *Complaints of Over-billing*

118. The Committee were informed that the number of complaints about over-billing of telephone dues was 12,700 in 1958-59 and 14,800 in 1959-60. On investigation it was found that most of the subscribers had not kept a complete and accurate record of the calls put through by them. *The Committee nevertheless consider that in view of the large number of such complaints, the Department may intensify checking and testing of the meters.* Increasing number of complaints.

(c) *Arrears of Telephone Revenue*

119. The Committee are informed that the arrears of telephone revenue as on 1st July, 1957, 1958 and 1959 were as under:— Break up.

(Rs. in lakhs)

Year	Rent	Trunk	Total
1957	64·23	41·94	106·17
1958	75·50	52·16	127·66
1959	97·21	50·43	147·64

120. The reasons for accumulation of the arrears have been stated to be—

(a) enormous growth in the number of telephone connections; and

(b) a large proportion (approximately 45 per cent) of the outstanding amount relating to Government subscribers including Defence Services.

121. The following steps are stated to have been taken to bring down the arrears:— Measures taken.

(a) Time allowed to Government subscribers for making payment of telephone bills has been reduced from about 2 months to 15 days just like private subscribers from 1st April, 1960;

(b) Orders have been issued abolishing proscription of telephones for non-payment of trunk call bills in all exchanges except manual exchanges with less than 300 connections. In such cases, telephones are now straightway disconnected for the non-payment of dues after issue of a registered notice to the subscribers. This applies to both Government and private subscribers.

(c) Procedure for disconnection of and proscription of telephones (where it exists) has been tightened up and orders have been issued to ensure that defaulters are disconnected promptly by exchanges on receipt of orders from Telephone Revenue Accounting Offices.

(d) It has been decided to decentralise the Telephone Revenue Accounting Offices so that there might be closer contact of telephone revenue organisation with the subscribers.

122. *While appreciating the steps taken by the Department to recover the arrears of telephone revenue, the Committee are of the view that with the adoption of a consolidated system of billing and decentralisation of Telephone Revenue Accounting Offices, further improvement in the matter of arrears of telephone revenue should be possible. Strict enforcement of the rules regarding disconnection of telephones, not excluding Government offices, is also called for.*

C. Financial position of the Telephone Branch

Receipts and Expenditure.

123. Following are the figures of the receipts and expenditure of the Telephone Branch as per Profit and Loss accounts during the last three years and current years:—

(Rs. in Lakhs)

	1957-58	1958-59	1959-60	1960-61 (BE)
1. Receipts .	1838·96	2003·24	2195·51	2537.39
2. Expenditure .	1301·14	1480·12	1754·78	2190·71
3. Surplus . .	537·82	523·12	440·73	346·68
4. percentage of Expenditure to receipts	70·7	73·8	79·9	80·2

Disproportionate rise in Expenditur

124. *It appears from the above figures that there has been a disproportionate rise in expenditure of the Telephone Branch. While the receipts have gone up only by about* 38 *per cent. during these years, the expenditure has increased by* 68·3 *per cent.* It was stated during evidence that an additional revenue of the order of Rs. 210 lakhs was expected in the current year on account of the revision of tariffs for local telephone systems. *The Committee, however, observe that this increase in revenue has been offset by a steep rise in expenditure as compared to that of the previous year. The Telephone Branch is the only Branch of the P. & T. Department which has been consistently showing a surplus since the year* 1928-29 *but, as will be seen from the above table, this surplus has been declining during the last*

*four years despite the accretions to capital assets made during these years.**

125. *In this connection, the following observations of the Telephone Tariff Revision Committee are pertinent:—*

> "The financial working of the Telephone Branch in future, with the present level of expenditure, cannot be looked upon with complacency. The apparently satisfactory present financial working of the Telephone Branch is unreal, and the present profits will reduce appreciably during the next decade when old assets whose block value is small are replaced at the present day high cost of materials.
>
> Unless, therefore, certain specific measures are adopted either to reduce the expenditure or increase the revenue or partly by adopting measures in both these directions, it would appear to the Committee inevitable that the gap between revenue and expenditure will decrease and perhaps result in a loss to the Telephone Branch."

Need to curtail expenditure.

126. *The Committee therefore recommend that the Department should direct its efforts to curtail progressively the working expenses of the Telephone Branch by streamlining the procedures and by intensive utilisation of its assets. The economies effected may also be indicated in the annual reports of the Department.*

D. Telephone Advisory Committees

Constitution & functions.

127. At present there are 31 Telephone Advisory Committees functioning in various places in the country . It was brought to the notice of the Committee that at certain places, meetings of these Committees were not held for a long time. The representative of the Department stated during evidence that the meetings were not held at certain places under the wrong impression that it was not necessary to hold them if there were no connections to be given.

128. *The Committee suggest that suitable provision may be made for the holding of meetings of the Telephone Advisory Committees in the rules and regulations for the conduct of business of these Advisory Committees.*

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*At the stage of factual verification the P. & T. Department furnished a note on the subject which is given in Appendix VIII. At this stage, an examination of the note cannot obviously be expected to be undertaken. The Committee's conclusions are based on the published Profit and Loss Accounts of the Department.

IV

TELEGRAPHS

A. Introductory

129. The history of telegraph traffic service in India dates back to the middle of the 19th century. A beginning was made in 1850 when the construction of the first telegraph line between Calcutta and Diamond Harbour was taken up. By the close of the year 1853, telegraph wires had been drawn connecting the major cities. Within a period of two years, the telegraph services were thrown open for public use.

Amalgamation of post and Telegraph Offices.

130. The Telegraph Department functioned as an independent unit till 1883-84 when a scheme for amalgamation of the post offices and telegraph offices was worked out. Wires were extended to some post offices and combined post and telegraph offices were set up. A further step was taken in 1914 by taking over the telephones thus bringing into existence the prevailing integrated pattern of P. & T. Services.

B. Extension of the Telegraph facility

131. Telegraph expansion falls into two main groups *viz.*, (a) opening of new offices and (b) expansion and improvement of the existing service. "The general aim in the expansion programme for telegraph offices" was stated in the Second Five Year Plan to be "to make the telegraph service available within a distance, say 5 miles, of any place in the country."

Number of telegraph offices opened in the First and Second Plans.

132. The representative of the Department stated in evidence that the objective set out in the Plan was a long term one which might take 20 to 25 years to materialise, as it meant providing 25,000 telegraph offices. In the first Five Year Plan, the number of new telegraph offices opened was 1,465 against the target of 1,200 and during the Second Plan it is hoped to open 1,360 new telegraph offices against the target of 1,400.

133. The total number of telegraph offices on 1st April, 1960 was 6,414 (excluding licensed offices) and out of these, 145 were departmental while the rest were combined post and telegraph offices. Another 2,000 telegraph offices are proposed to be opened in the Third Plan. *It is evident*

that though steady progress is being made according to the target set, at the present rate the objective visualised in the Second Plan will take too long a time to materialise.

134. Until 1951, no telegraph office could be opened if it involved any loss to the Department. In that year a decision was taken to permit loss upto Rs. 500 per annum (which was later increased to Rs. 1,000) for places with a population of over 5,000. During the first and second plan periods, further liberalisation was effected in respect of administrative towns such as district, sub-divisional and tehsil head-quarters etc. Policy.

135. The detailed targets laid down in accordance with this policy for the Second Plan and the actual achievements are as under:—

	Second Plan Target	Number opened so far	Number sanctioned but not yet opened
1. Administrative towns	700	488	268
2. Towns with a population of 5000 and above	400	281	195
3. Out-of-the way places	200	20	60
4. On-no-loss-basis	100	369	252
TOTAL	1400	1158	775

136. *Although the Second Plan targets in regard to the opening of new telegraph offices will be almost achieved, it will be seen that progress in regard to the provision of the telegraph facility in out-of-the-way places is disappointing. More attention will have to be given to such areas, particularly those on the border, in the Third Plan.* Telegraph Offices in out of-the-way places.

137. It is observed that out of 2,797 places with a population of over 5,000, 1,362 places had been provided with telegraph facility by 1st June, 1960 and proposals for providing it at 152 other places had been sanctioned. *The Department may endeavour to provide this facility in the remaining* 1,283 *places in this category within the Third Plan period. The Committee would also urge that telegraph offices may be provided in the administrative towns on priority basis.*

C. Conversion of Combined Offices

Observations of the earlier committees.

138. Referring to the neglect of telegraph work in the combined offices, the Telegraph Enquiry Committee (1957-58) observed that the combined postal signaller did not give the same importance to the urgency of the telegrams as a wholetime signaller or a telegraphist in a Departmental Telegraph Office did. Earlier too, the Telegraphs Establishment Enquiry Committee (1932) also pointed out that the postal signallers, postal heads of offices and postal superintendents lacked the 'telegraph mentality' and that there was not "the same appreciation in a combined office, as there was in a departmental one, of a telegram as an urgent communication which required to be handled with the maximum of celerity." The Telegraph Enquiry Committee therefore recommended that for the sake of higher efficiency, all the offices where a full time signaller was justified, should be converted into Departmental Telegraph Offices.

Review of the position.

139. The Committee understand that as a first step, 340 combined offices employing two or more signallers each and handling more than 60 to 75 messages per day are to be converted into Departmental Telegraph Offices. *The Committee feel that before converting on a large scale the combined post offices into departmental telegraph offices, it would be of advantage to convert only a few of them on the above basis to begin with, and then review the position in the light of advantages which are gained from such conversion* vis-a-vis *the additional expenditure incurred.*

Inspection of Combined Offices.

140. *The Committee would also urge that inspection of combined post and telegraph offices may be tightened up with a view to ensure that there is no slackness in such offices in dealing with telegraph work.*

D. Voice Frequency Telegraph System

Progress in Second Five Year Plan.

141. The Committee were informed during evidence that by the Voice Frequency Telegraph System it was possible to work 24 telegraph circuits out of one circuit by using different frequencies. The system was notable for its economy and efficiency and could work over long distances. In the Second Plan about 80,000 channel miles of Voice Frequency Telegraph carrier systems were proposed to be provided out of which 75,000 channel miles were completed in the first four years of the plan. The equipment had so far to be imported but the Indian Telephone Industries had recently taken up its manufacture. 72 channels of equipment were expected to be produced in the current year with increasing number of channels from the next year onwards

(at the rate of 360 channels per year). *In view of its obvious advantages, the Committee suggest that the production capacity of the Indian Telephone Industries to manufacture Voice Freqency Telegraph equipment may be augmented speedily so that the system may be extended throughout the country.*

Reduction in the engineering costs.

142. *In this connection, the Committee would also like to draw attention to the following observations of the Telegraph Enquiry Committee—*

"....by the introduction of V.F.T. channels, engineering costs should have gone down further but due to light loading of circuits, the engineering costs have not gone down sufficiently."

143. *The Committee suggest that besides extending the system, the Department should make every effort to bring down the engineering costs by ensuring full utilisation of the additional capacity.*

E. Teleprinter Working

No. of stations working on teleprinters.

144. About 1450 teleprinters were in service on the 31st March, 1960 including those used on leased circuits. It has been stated that generally Departmental Telegraph Offices having more than 200 messages a day work on teleprinters. During the last four years, the number of additional teleprinter circuits brought into working was as follows:—

1956-57	15
1957-58	7
1958-59	31
1959-60	15

Shortage of teleprinters.

145. The programme is stated to be severely limited due to the present shortage of teleprinters. The Government have since entered into an agreement with Messrs. Olivetti & Co., of Italy for manufacture of teleprinters in India and a factory is being set up at Guindy in Madras. *The Committee suggest that a phased programme for replacement of Morse instruments by teleprinters may be prepared taking into account the production programme of the teleprinter factory, which, it is hoped, will be able to meet all the requirements of the country.*

F. Speedier transmission of telegrams

Traffic Studies.

146. The Committee understand that the entire telegraph service in India is to be divided into a few zones in conformity with the normal pattern of traffic and automatic tape relay exchanges would be installed in the respective zone centres. Detailed traffic studies were being undertaken in this connection in 20 large telegraph offices and the implementation of the scheme would take about 3 years if the necessary equipment for mechanisation was made available. *In view of the fact that mechanisation would greatly reduce the delays in the transmission of telegraph messages, the Committee would urge that such studies may be completed on priority basis.*

G. Mechanisation of Central Telegraph Offices

Progress in Second Plan.

147. The Telegraph Enquiry Committee have observed that "for the purpose of stepping up efficiency of the telegraph handling in this country and for economical reasons as well, it is necessary to introduce modern methods of handling telegrams and complete the installation of the mechanised systems early." The Second Plan envisaged mechanisation of the Central Telegraph Offices at Bombay, Calcutta, Delhi and Madras. Only the scheme relating to Bombay C. T. O. could be completed and that too partly and the others could not be taken up due to foreign exchange restrictions. Similarly, a proposal for introducing teleprinter exchanges in these cities and interlinking them with high grade telegraph circuits had to be given up for lack of foreign exchange.

148. *The Committee suggest that the proposals for mechanisation of the Central Telegraph Offices at Bombay, Calcutta, Delhi and Madras may be given high priority in the Third Plan. They hope that the setting up of the teleprinter factory in the country would go a long way in the early implementation of the scheme.*

H. Speedier Delivery of Telegrams

Trip-*cum*-message rate system.

149. As regards faster delivery of telegrams, the Committee were informed that the recommendation of the Telegraph Enquiry Committee about the introduction of the trip-*cum*-message rate system had been accepted and would shortly be implemented. The Telegraph Enquiry Committee had added that in order to make the system successful, it was necessary to reduce the size of delivery zones in all the large cities having Central Telegraph Offices by (i) opening more delivery zones and (ii) delivering long distance telegrams of the zone by despatch riders.

150. The Committee understand in this connection that the system of effecting door to door delivery on motor-cycles has been introduced in Delhi as an experimental measure but it is restricted to telegrams of very high priority and express delivery letters. The representative of the Department further informed the Committee that the system was also being introduced in Bangalore to test its functioning in a smaller city. *Should these experiments prove successful, the Committee suggest that the scheme may be extended to areas where it would be of particular advantage, taking into consideration the cost of the service.* Delivery of Telegrams on motor cycles.

I. Retransposition Scheme

151. The Committee were informed that the retransposition scheme, being introduced presently on a fairly wide scale in the country, will increase the present telegraph circuit capacity on these routes approximately four to six times. They however learnt that in most cases the work was held up because of lack of stores. Lack of stores.

152. *The Committee suggest that the Department should look into the matter with a view to expedite the supply of the required stores. If the scheme has been in practice as successful as claimed, it should be more extensively implemented to augment the circuit capacity.*

J Services provided

(a) *Printergram and Telex Services*

153. The printergram service is at present functioning in Bombay, the number of subscribers connected to the service being 60. The progress made is rather slow considering that the service was introduced as early as on 1st May, 1956. The telex system was introduced between Bombay and Ahmedabad in 1953 and has at present 33 subscribers. It has been stated that the system is working to its full capacity and 44 applicants are on the waiting list. Number of subscribers.

154. The Telegraph Enquiry Committee have observed that "it should be possible to extend this (telex) service throughout the country as there has been demand for the same everywhere. Early efforts should be made for introducing it in all large centres and building up the network to connect all of them. This will assist the Department in reducing the daily peaks of traffic." Demand.

Proposals.

155. The Committee were informed that the equipment required both for telex and printergram services was now being manufactured in the country. The telex service was proposed to be introduced simultaneously in Delhi, Bombay, Calcutta and Madras. *The Committee suggest that the printergram and telex services may be provided in important commercial towns and business centres in the Third Plan period. More publicity may be given about these services so as to make them popular with the public.*

(b) *Phonogram service*

No. of telegrams booked as phonogrms.

156. The number of telegrams booked under the phonogram system during the last three years was as under:—

Year	Telegrams booked as phonograms
1957-58 . .	2,481,155
1958-59 . .	2,699,798
1959-60 . .	3,071,287

Procedure.

157. The Telegraph Enquiry Committee stated that the procedure followed in New Delhi and other large offices in regard to the handling of phonograms was most annoying as after taking down the subscriber's number it took anything upto half an hour for ringing back the subscriber. The Committee were informed that in 1959-60 standards were laid down that subscribers should be called back as quickly as possible and ordinarily not later than 30 minutes. The following figures for Madras, Bombay, Calcutta and New Delhi Central Telegraph Offices illustrate the actual position:

Name of the CTO	Percentage within 20 minutes	Percentage within 20 to 30 minutes	Percentage beyond
Madras . . .	73.68	10.8	15.52
Bombay . .	81.4	12.7	5.9
Calcutta . .	91.0	9.0	..
New Delhi . .	80.4	19.2	0.4

158. *The Committee are of the view that there is scope for further improving the phonogram service in the Central Telegraph Offices. Adequate number of phonogram positions may be provided with queueing facility in these offices.* Scope for improvement.

(c) *Greetings Telegrams*

159. The volume of greetings telegrams during the last four years was as follows:— Volume of Greetings Traffic.

Year	No. of Greetings Telegrams
1956-57	801,798
1957-58	806,408
1958-59	897,002
1959-60	1,251,001

160. The Committee were informed that as such telegrams were usually sent on holidays, there was unusual pressure on the telegraph circuits leading to delays in transmission. Mistakes also occured in decoding, resulting in wrong telegrams being delivered. *The Committee are of the view that stricter supervision is called for in regard to the handling of greetings traffic on the part of the staff, particularly in the matter of their decoding.* Delays in transmission.

161. It was stated in evidence that separate statistics of complaints about greetings telegrams were not maintained. *The Committee consider that it would be desirable to keep separate statistics of complaints about such telegrams. They may be analysed regularly and remedial action taken to improve the service.* Statistics.

162. The Committee were informed during evidence that there were difficulties in printing of greetings forms with the result that telegraph offices sometimes ran out of stock. It was now proposed to get printed greetings telegrams with certain common phrases to expedite delivery. *The Committee suggest that this may be done early.*

(d) *Telegraph Circuits on lease*

163. Telegraph circuits are allotted to Government departments and other parties for enabling them to have direct telegraph link between their head offices and branches. Circuits are also allotted to press parties for transmission of news. The number of telegraph circuits rented out by the Department to various categories of parties during 1958-59 Users of the service.

and 1959-60, the charges realised from each of them and the demand for such circuits remaining outstanding at the end of these years was as under:—

	No. of rented circuits	Charges realised	Outstanding Demand of Circuits
(*i*) Government Departments excluding Defence.		(Rs. Lakhs)	
1958-59	49	11.01	13
1959-60	62	10.96	5
(*ii*) Defence			
1958-59	47	10.01	
1959-60	58	6.73	
(*iii*) Inustrial and other parties.			
1958-59	44	14.33	10
1959-60	55	15.77	9
(*iv*) Press Parties			
1958-59	90	8.77	42
1959-60	100	7.86	150

164. *The unsatisfied demand for telegraph circuits is the highest in the case of the Press Parties.* It has been stated that provision of new circuits is severely limited due to shortage of resources. However, designs have been prepared and it is hoped to manufacture the equipment indigenously. *The Committee suggest that the Department may endeavour to meet the pending demand to the fullest extent as expeditiously as possible.*

(e) *Facilities to Press Correspondents*

165. The Press in India, as in other countries, enjoys certain special facilities and concessions which are based on the long established principle that "Governments should encourage the collection and rapid dissemination of news". The rates for press telegrams as compard to non-press telegrams are as under:—

Rates for Press telegrams.

	Express Rs. nP.	Ordinary Rs. nP.
Press		
For first 50 words	1 50	0 75
Each additional 5 words	0 13	0 07
Non-Press		
For first 8 words	1 60	0 80
For each additional word	0 16	0 08

An accredited press correspondent is permitted to send in a day four flash press telegrams containing upto 100 words.

166. The number of press telegrams handled by the Department during the last 3 years and the revenue earned was as under:— Number of Press telegrams handled and revenue earned.

Year	No. of Press Telegrams	Revenue Rs.
1957-58	2,27,357	6,15,002
1958-59	2,25,323	7,61,762
1959-60	2,52,457	8,44,145

The Committee were informed that the Press was also provided teleprinter channels on lease at special rates.

167. The Press Guild of India, Bombay informed the Study Group of the Committee that the working of teleprinters was sometimes interrupted during the scheduled time owing to faults developing on the line or in the teleprinter machine. In such cases it was imperative that the time for the use of teleprinters was extended. The procedure for such extension was, however, cumbersome with the result that they could not effectively make use of it. *The Committee suggest that the procedure for extension of the time in such cases may be simplified.* Interruptions and faults.

(f) *Telegrams in Devanagri Script*

168. The Indian Language Telegraph Service in Devanagri Script was started in the year 1949. The total number of telegraph offices offering this facility on 31st March, 1960 was 1552. The following observations of the Telegraph Enquiry Committee on the working of this service are pertinent:

> "We were told at various places by Hindi telegraphists themselves that the arrangements and overall organisation for looking after the expeditious disposal of Hindi telegrams are not satisfactory. We also observed that the Hindi telegrams are subject to heavy delays .....We were, therefore convinced that the existing arrangements are not only defective but also wasteful. The public is given to understand that a Hindi telegram is delayed more in transmission rather than a telegram in English. It is perhaps one of the reasons why the Hindi Telegraph Service did not make any appreciable stride....". Delays in transmission.

169. The representative of the Department admitted that Hindi telegrams were delayed in transmission as compared to English telegrams, the reason being that their number was small and the circuits as well as the staff had to be re-arranged for their transmission. It was now proposed to divert all Hindi telegrams *viz. via* a Central Office where there would be appreciable concentration of such traffic and the position was expected to improve as a result thereof. *The Committee hope that as a result of the steps proposed to be taken now the efficiency of the service would improve.*

(g) *Registration of abbreviated addresses*

Cumbersome procedure.

170. The Committee understand that the procedure for registration of abbreviated addresses is somewhat cumbrous and causes inconvenience by non-renewal by certain parties in time. *The Committee suggest that the procedure may be simplified.*

K. Service Telegrams

Number of service telegrams issued.

171. The following statement shows the number of service telegrams issued as compared to the total number of paid telegrams handled by the Department during the last three years:—

Year	Total No. of service telegrams	Total No. of paid telegrams	Percentage of (2) to (3)
1	2	3	4
1957-58 . . .	68,29,539	3,31,53,656	20·6
1958-59 . . .	70,35,636	3,43,34,270	20·5
1959-60 . . .	74,02,447	3,69,85,484	20·1

Lavish use of the service.

172. The Telegraph Enquiry Committee stated in this connection that "The privilege of issue of service telegrams in most of the CTOs and DTOs has been observed to be very lavish. The rules and instructions are more often than not, not borne in mind by those concerned." In order to reduce the number of such telegrams, it has been enjoined that they should be issued only when it is really necessary and the purpose cannot be secured by issuing express letters and savingrams. Further, special checks are required to be conducted by the Heads of offices and heads of Circles periodically to prevent any misuse of the privilege. Action is also required to be taken to realise the cost of the service telegrams improperly issued.

173. The Telegraph Enquiry Committee have observed:

> "....such checks have dwindled down to nothing and indiscriminate use of service telegrams is the inevitable outcome. The real remedy, however, lies in not merely checking such services or taking action which is no doubt very essential, but rigid observance of departmental rules on the subject must be the first consideration of authorities empowered to the privilege of using such services."

174. That the number of service telegrams is about one-fifth of the total paid traffic is an eloquent testimony to the somewhat lavish use of the service. Not only is this misuse grave in itself but it also affects the transmission and delivery of paid traffic. *The Committee urge that the Department should undertake periodic reviews of the number of service telegrams issued by the various circles and offices and tighten up the observance of the rules in this regard with a view to keep their number to the minimum.*

L. Foreign Telegrams

175. *Certain cases of delays in the transmission/delivery of foreign telegrams after it is handed over to Inland Telegraphs by the Overseas Communications Service and omissions of names of telegraph offices in India from the International Telegraph Directory published by the International Telecommunication Union came to the notice of the Committee.*

Delays in transmission and delivery.

176. So far as delays in the receipt of foreign telegrams are concerned, the Department have stated that these could be attributed to lack of supervision and control. *The Committee recommend that the Department may analyse in detail the complaints of delay in the receipt of overseas messages and take necessary remedial measures.*

Coordination with the OCS.

177. *The Committee would also urge that there should be close co-ordination between the Overseas Communications Service and the P. & T. Department. For this purpose regular meetings, say once in a quarter, may be held between the officers of the two departments with a view to make necessary adjustments in the interest of traffic.*

Omission of names of telegraph offices from the International Telegraph Directory.

178. In regard to the omission of names of telegraph offices from the International Telegraph Directory, the Committee were informed that with the separation of Telegraph Guide from the Postal Guide from the current year it would now be possible to issue an annual corrected list of telegraph offices and send consolidated lists periodi-

cally to the International Telecommunication Union for incorporation in the International Telegraph Directory.

179. *The Committee would like to emphasize that the omissions and errors in the International Telegraph Directory should be rectified without delay and the procedure in this regard streamlined so as to leave no room for such mistakes in future. Care may also be taken to ensure that the names of all telegraph offices which are opened in future, are correctly and promptly incorporated in the International Telegraph Directory.*

M. Financial position of the Telegraph Branch

180. The following table shows the financial position of the Telegraph Branch during the last three financial years together with the budget estimates for the current year:—

(Rs. in lakhs)

Year	Receipts	Expenditure	Surplus(+) deficit(—)	% of working e penses to revenue
1957-58	8,24·21	7,82·32	+41·89	94·9
1958-59	8,26·23	8,32·27	—6·04	100·7
1959-60	9,10·05	8,98·85	+11·20	98·5
1960-61 (BE)	8,97·41	10,96·12	—198.71	122·1

Increase in working expenses.

181. *The Committee suggest that the reasons for steep increase in the working expenses of the Telegraph Branch in the current year may be examined in detail and necessary steps taken to bring down the expenditure.*

N. Telecommunication Cable Project for the Railway Electrification Scheme

Necessity for laying cables.

182. The Committee understand that high voltage A/C electrification of certain sections of the Eastern, South Eastern and Southern Railways necessitated the cabling of open wire telecommunication circuits running close to the railway tracks in these sections to protect the telecommunication equipment and personnel against hazardous inductive effect. Firm demands are stated to have been received

from the Railways so far in respect of the following sections totalling 852 railway route miles:

Section	Length in miles	Estimated total cost	P&T's phasing & grouping
		(Rs. in Lakhs)	
Asansol—Gaya Padharkanta—Patardhi	170	134·68	Phase I
Rajkharswan—Dungaposi	47	30·69	Phase II Stage I
Asansol—Durgapur Asansol—Sim Tatanagar—Rourkela Kandra—Gomarrhia	235	169·98	Phase II Stage II
Gaya—Moghalsarai Tata—Kharagpur	209	138·58	Phase III
Sealdah—Ranaghat Dum Dum—Bonagaon	90	N.A.	Phase IV
Madras—Villupuram	101	N.A.	Phase V

Demands from railways.

183. The total estimated cost of the first three phases of the project finally included in the Second Five Year Plan is Rs. 473·93 lakhs. Work on Phase I and Phase II—Stage I of the Project was commenced during 1959-60. An expenditure of Rs. 70 lakhs was incurred during that year while a provision of Rs. 370 lakhs (including overheads) has been made for 1960-61 for the work in respect of Phases I, II and III.

Estimated cost.

184. *The Committee observe that the total estimated cost of the project was not indicated in the Demands for Grants for* 1959-60 *nor has it been shown in the Demands for the current year. The reason given that the project was sanctioned in stages depending on railway requirements, is not convincing. They consider it strange that an overall estimate of the cost likely to be incurred on the scheme should not have been available when the budget for the current year which is the final year of the Second Plan, was finalised. It is necessary that the estimated cost, under the different components, of laying telecommunication cables in the sections for which firm demands have been indicated by the Ministry of Railways should be prepared and shown in the Demands for Grants in future to enable Parliament to judge the amount required for the year in the context of the total outlay involved.*

185. The Committee further observe that an amount of Rs. 327 lakhs was provided for the scheme in 1959-60. The estimates were subsequently revised to Rs. 148 lakhs and the actual expenditure was only Rs. 70 lakhs. It has been stated that the budget estimates for 1959-60 were framed in November 1958 based on the tentative target

Revision of target dates.

dates then indicated by the Railways for commissioning of the track sections. These target dates were subsequently revised by the Railways and cabling work was reprogrammed accordingly. *The Committee find that even the revised estimates could not be adhered to and the progress in that year was very slow.*

Carry over to Third Plan.

186. Further, out of a total railway route mileage of 852 programmed to be electrified in the Second Plan, sections totalling 685 miles have been carried forward by the Railways to the Third Plan. It is therefore obvious that a substantial portion of the amount of Rs. 370 lakhs included in the budget estimates for the current year will remain unutilised. *This is unfortunate particularly when the various departments of Government including P. & T. are not in a position to take up, for want of funds, other equally desirable schemes. To avoid a similar situation in future, the Committee consider it essential that the Ministries of Railways and Transport and Communications effect a close liaison in the matter of planning and phasing the execution of this scheme.*

Import of aluminium sheathed cables.

187. The Committee were informed that all the special aluminium sheathed cables and their accessories required for the project were being imported. The question of manufacturing these cables in the Hindustan Cables Ltd. to meet the future needs of the Department had been taken up with the Planning Commission and the Ministry of Commerce and Industry. However, such cables would not be required if the Railways changed over to booster transformers which were used almost throughout the world.

Use of Booster transformers.

188. *The Committee suggest that the question of adopting the technique of using booster transformers may be studied by the Railway Board in conjunction with the P. & T. Department and a decision taken expeditiously keeping in view the additional capital and recurring cost involved* vis-a-vis *the advantages that would be derived therefrom. In case it is found that aluminium sheathed cables would be preferable in the balance, urgent action may be taken to manufacture these cables and other accessories indigenously.*

V

WIRELESS

A. Set-up and Functions

189. The Wireless branch is a complement of the telegraph and telephone branches and provides these facilities through wireless working wherever landline facilities are not practicable or as a stand-by arrangement of tele-communication between important places in the event of interruption of landline circuits. Wireless services are also required to be maintained at coastal stations for communication with ships in compliance with international obligations. The number of Wireless Stations functioning at present is 101 comprising three divisions each under a Divisional Engineer.

Coordination of wireless development.

190. The Committee understand that till 1953 the requirements of wireless development of the various user departments were being co-ordinated by the Inter-departmental Wireless Board under the P. & T. Department. Due to the increasing needs of the user departments in respect of wireless, radio, navigational aids and tele-communication equipment which the Inter Departmental Wireless Board could not handle with its limited functions, a Radio and Cable Board was constituted by the Government with the technical representatives of the tele-communication user Ministries.

Abolition of the Radio and Cable Board.

191. The representative of the P. & T. Department stated during evidence that the Radio and Cable Board "has not been functioning properly and the question of its reconstitution or rather abolition and placing the matter under P. & T. has already been taken up by the Ministry."

192. *The Committee are of the view that with the formation of the P & T. Board having enhanced powers and since the Department is the principal tele-communication user, it is desirable that the question of again entrusting the co-ordination and planning work for wireless to the P. & T. Department is examined.*

B. Plan Schemes

193. In the first Five Year Plan a sum of Rs. 60 lakhs was provided for the Wireless branch of which, an amount of Rs. 28 lakhs only was expended.

Shifting of Wireless Stations.

194. During the Second Five Year Plan an amount of Rs. 40 lakhs has been provided for the Wireless Branch. Twenty Wireless Stations were proposed to be shifted, at a cost exceeding Rs. 65 lakhs, to technically suitable sites having adequate space for erecting aerials away from the city areas and providing adequate separation between the transmitting and receiving points. In addition, new radio telephone and radio teleprinter links were to be opened.

195. The Committee were informed in this connection that after the War and Partition in 1947, a number of wireless stations had to be established in a hurry for providing essential communication facilities between various points. They were located in the accommodation available with the Department. As these places were not entirely suitable for proper and efficient functioning of wireless stations, it had become necessary to shift them to more suitable sites.

196. *The Committee consider it unfortunate that a good deal of expenditure has to be incurred on the shifting of wireless stations which were established earlier without proper consideration of the suitability of their location. The expenditure incurred in setting up the stations at the older locations had thus become infructuous. It is hoped that the Department will gain from this experience and ensure in future that the sites for setting up new stations fully meet the technical requirements.*

Shortfalls.

197. The Committee understand that progress so far in the matter of shifting of wireless stations and in establishing new radio telephone and teleprinter links has fallen short of plan targets due to delays in acquisition of sites, construction of new buildings and difficulties in the import of equipment.

198. *In order that the Third Plan schemes are not held up for similar reasons, the Committee would urge the Department to take necessary steps well in advance. The Committee would also suggest that efforts may be made to manufacture indigenously the equipment required and for this purpose there should be close coordination with the Bharat Electronics Ltd.*

C. **Financial position**

199. From its inception, the Wireless Branch has almost always shown a deficit in its working. The following table

gives the receipts and expenditure of the Branch during the last three financial years and the current year:—

(Rs. in lakhs)

Year	Receipts	Expenditure	Surplus(+) Deficit (—)
1957-58	11·85	21·26	—9·41
1958-59	15·24	20·74	—5·50
1959-60	12·48	31·51	—19·03
1960-61 (BE)	14·54	30·56	—16·02

Losses Working.

200. The percentage of working expenses (including interest on debt) to the revenue earned and to the cost of capital assets of the Wireless Branch during these years is as under:—

Year	% of working expenses to Revenue	% of working expenses to the cost of Capital assets
1957-58	179·4	33·5
1958-59	136·1	27·0
1959-60	252·4	22·1
1960-61 (BE)	210·1	32·2

201. It has been stated that the increase in the expenditure in 1960-61 (BE) over 1958-59 is due to decrease of Rs. 0·70 lakhs in revenue and an increase of Rs. 9:82 lakhs in expenditure, the break up of the latter amount being as follows:—

Increase in expenditure

	Rs. in Lakhs
(*i*) General Administration	+1·90
(*ii*) Maintenance of assets	+2·99
(*iii*) Operative charges	+3·25
(*iv*) Dividend to General Revenues (over interest paid in 1958-59)	+2·56
(*v*) Contribution to Renewals Reserve Fund	—2·00
(*vi*) Net effect of other minor increase and decreases	+1·12
TOTAL	+9·82

Better utilisation of circuit capacity.

202. The Committee were informed in this connection that action had been taken to introduce teleprinter working on important wireless circuits so that the traffic handling capacity and circuit efficiency could be increased and to stabilise the wireless channels in service by intensive monitoring work. No other economies were likely to arise in the working of the Branch as the services maintained were in compliance with international regulations for coastal wireless stations and for point to point communication links required to meet emergent needs when landline circuits were interrupted.

203. *Even so, the Committee are not happy at the steep increase in the working expenses of the Wireless Branch during the current year. They suggest that the Department may undertake at an early date a study of the reasons for increase in the expenditure on general administration and operative charges with a view to see if some economies are possible consistent with maintenance of international standards. They also hope that the revenue receipts of the Branch would increase in proportion to the increase in its traffic handling capacity.*

VI

TELECOMMUNICATIONS—GENERAL

A. Telecommunication Research Centre

(a) *Introductory*

204. The Telecommunication Research Centre, New Delhi was set up in 1956 with the object of improving the efficiency of the telephone and telegraph services in the country by the application of new technological methods and for designing equipment for indigenous manufacture. The Centre was also to provide technical advice on major matters to the other wings of the P. & T. Department.

(b) *Achievements*

205. The Committee were informed that during the last four years, the Telecommunication Research Centre had designed a number of instruments covering practically the whole range needed by the Department. Some of these had already been manufactured while others were expected to go into production in the near future.

Designs Developed.

206. A list of designs of equipment passed on by the Research Centre to the I.T.I. and the P. & T. Workshops during the last four years is given in Appendix IX. The Committee were informed that the value of items that would be manufactured as a result of the designs developed by the Centre would amount to over a crore of rupees during the next few years. This represented direct savings in foreign exchange. In addition, a number of designs have been evolved to make better use of the existing facilities leading indirectly to a saving of foreign exchange.

Coordination.

207. *Since the Indian Telephone Industries are the principal manufacturers of telecommunication equipment in the country and most of the designs developed in the Telecommunication Research Centre are manufactured there, the Committee are of the view that a very close liaison is necessary between the two so that the researches done by the Research Centre are quickly translated for practical use. It has also to be ensured that there is no duplication of effort between the two in the matter of research in the field of telecommunications. The Committee would like to recall in this connection the following observations made by them in para 142 of their Eeleventh Report (Second Lok Sabha) on the Indian Telephone Industries:—*

"The Committee feel that the existing coordination for research is not adequate. They would therefore suggest that there should be greater integration between the research activities of I.T.I., P. & T., Railways, Defence and Universities so that limited resources and facilities in this field might be used to the best advantage."

208. *The Committee would also urge the Ministry of Transport and Communications as well as the P. & T. Department to see that the proved designs which have been handed over by the Telecommunication Research Centre to the I.T.I. and the P. & T. Workshops are expeditiously produced for use on the P. & T. network.*

(c) *Research in electronics and cross-bar systems*

Modern trends.

209. Under the existing agreement with the Automatic Telephone and Electric Company (ATE) of the U.K., the Indian Telephone Industries were bound down to the manufacture of equipment on the 'step by step' system. The present trend was towards electronics and the 'Cross Bar' systems. The Committee were informed that the question of adapting the existing 'step by step' system to the 'cross bar' and eventually to electronics had assumed urgency. A nucleus section had been started to study these systems and a number of exchanges were on trial.

Need for intensification of research work.

210. *As the agreement with the A.T.E. will expire in* 1963 *and in view of the rapid advancements being made in the field of telecommunications, the Committee consider that the Research Centre should intensify its work with a view to keep the country abreast of the latest developments and also to adapt the system most suited to the requirements.*

(d) *Requirements of Equipment*

211. The Study Group of the Committee were informed that equipment worth $47,000 had been received by the Telecommunication Research Centre from the T.C.M. in the Second Five Year Plan.

212. The Committee were informed that the P. & T. Department had sent up a proposal for equipment worth about Rs. 15 lakhs last year for being financed under the United Nations Special Fund Programme which is specially devoted to meet the needs of research and training. However, the Government of India had not put the Department's

proposals on the programme. *The Committee suggest that the matter may be reconsidered with a view to include the requirements of equipment of the Research Centre in the programme.*

(e) *Staff Matters*

Interchange of Staff.

213. The scientific and technical staff of the Research Centre is drawn from amongst the departmental engineering officers. It is now intended to have direct recruitment for the posts of Scientific and Technical Officers, Grades I & II, to begin with. *While the Committee welcome this proposal, they are of the view that a flexible system of interchange of staff engaged on research and engineering functions will be conducive to the efficiency of the Department as it will enable the staff engaged on research to keep in touch with the practical requirements of the Department.*

Incentives.

214. The Committee further understand that in order to provide incentives to the staff working in the Telecommunication Research Centre, proposals for granting advance increments and merit promotions, have been forwarded to the Cabinet Secretariat. *The Committee are of the view that the scientific personnel working in the Telecommunication Research Centre may be given, as far as possible, the same benefits and privileges as are available to their counterparts working under the C.S.I.R. The above proposals, may therefore be considered sympathetically and an early decision taken thereon.*

(f) *Review*

215. The Telecommunication Research Centre is the only one of its kind in the country. During the four years of its existence, the Centre has developed a number of designs which will help considerably in the implementation of the development projects undertaken by the P. & T. Department as also assist the indigenous industry to produce a good deal of equipment which had so far to be imported. *The Committee are of the view that a periodical objective assessment of the achievements of the Research Centre by a competent body would be helpful to the Centre to maintain a sense of direction in its work in consonance with the overall needs of the country. The Committee, therefore, recommend that a quinquennial review of the research work done by the Telecommunication Research Centre on the lines of the C.S.I.R. may be undertaken by the P. & T. Department also. If necessary, an expert from outside may be associated with such a review.*

B. Copper Wire Thefts

216. The following table shows the extent of the menace of copper wire thefts in the P. & T. Department:—

Year	No. of cases	No. of working hours lost	Qty. of wire stolen (lbs.)	Value in Rs.
1956-57 . .	5,314	88,035	4,87,804	12,11,268
1957-58 . .	4,467	94,236	4,00,860	9,81,391
1958-59 . .	4,919	99,303	4,72,316	10,02,658
1959-60 . .	5,599	1,46,485	5,17,230	10,85,259

It is seen that the situation has deteriorated sharply in 1959-60. *West Bengal, Bihar and Bombay among them account for* 57 *per cent of the theft cases with* 1,431, 1,099 *and* 566 *cases respectively.*

Measures Taken.

217. The Committee were informed that the Department was giving an annual subsidy of Rs. 48,000 to the Government of West Bengal for maintaining a skeleton police squad for investigating and following up copper wire theft cases. The results had, however, not been encouraging. In Madras, on the other hand, by a special arrangement with the Inspector General of Police, certain effective measures had been taken. *The Committee consider that since the problem of copper wire thefts is essentially a law and order problem, the State Governments should be asked to intensify the necessary protective and detective measures. The steps taken by the Government of Madras in this regard may be brought to the notice of other State Governments.*

Use of Electronic fault locators.

218. The Committee understand that the Telecommunication Research Centre has recently developed an electronic fault locator which has been passed on to I.T.I. for production. *The Committee hope that it would be expeditiously brought into use.*

C. Breakdowns

219. The following table indicates the number of working hours lost due to copper wire thefts, breakdowns and interruptions due to heavy lightning etc. during each of the last 4 years:

Number of working hours lost by

Year	Thefts	Breakdowns	Heavy Lightning	Total
1956-57 .	80,035	62,014	44,357	1,94,406
1957-58 .	94,236	61,421	62,399	2,18,056
1958-59	99,303	72,309	65,026	2,36,638
1959-60	1,46,485	82,414	59,953	2,88,852

220. The Committee are informed that it is not possible to assess the loss of revenue because (i) in most cases standby circuits are provided for use when normal circuits fail, (ii) the loss is dependent on the time and the number of circuits failing simultaneously and (iii) trunk traffic is dealt with on a delay basis so that the cancellations do not give any idea of even notional losses. The Committee have discussed the question of copper wire thefts in the earlier paras. *In regard to breakdowns they would like the Department to examine how far laxity in supervision and inadequate or non-regular maintenance has been responsible for the steady deterioration in the situation during the last four years and take adequate remedial measures.*

NEW DELHI-1;
The 15th March, 1961.
The 24th Phalguna, 1882 (*Saka*)

H. C. DASAPPA,
Chairman,
Estimate Committee

APPENDIX I

(*Vide* Para — 13)

Statement showing progress of work on projects costing over Rs 25 lakhs taken up during the Second Plan period, including those carried over from the first plan

Name of the project & date of sanction	Date of commencement of work & date of completion, originally fixed	Original estimates & revised estimates, if any, together with reasons for variation	Actual expenditure incurred	Physical progress upto-date since inception	Remarks, including reasons for delays & excess expenditure, if any
1	2	3	4	5	6
		Rs.	Rs.		
Jamshedpur—Opening of 1500 lines auto Exchange. 19th March, 1959.	(*a*) Not commenced (*b*) 1964	38,52,300	Nil	Sanction for the auto building is under issue	
Calcutta - Siliguri-Gauhati Installing 12 chl. carrier, November, 1958	(*a*) Not commenced (*b*) 1962.	43,37,700	Nil		Lines, stores & equipment awaited.
Installation of 3000 line auto exchange at Patna. 15th September, 1954.	(*a*) 55-56 (*b*) 57-58	54,65,000	44,51,700 upto 30-9-59.	Exchange cut over on 11th January, 1958 The work has been completed except	

					for some minor items of building component.
Installing 1000/2000 lines auto exchange at Shivajinagar (Poona) November. 1954.	(*a*) 1-8-55 (*b*) 1958	25,21,000	20,12,300 30-9-59.	upto	Auto-exchange cut over on 19th April, 1958. Building has been completed except quarters. Work on 'L & W' and 'A & P' components is almost complete.
Bombay Thana Cable Scheme 5th September, 1953.	(*a*) June, 1952 (*b*) 1954	28,81,300	23, 00, 200 30-9-1959.	upto	The trunk cables were brought into commission in August, 1954. The work has been completed.
Opening of 1600 lines auto exchange at Surat. 12th March, 1958.	(*a*) 1958-55 (*b*) 1964	27,78,100	6,82,900 30-9-59	upto	Building plan has been finalised. L & W work has been commenced and 10% of work has been completed. 90% of cable work has been completed. Supply of equipment has begun to arrive from I.T.I.

1	2	3	4		5	6
		Rs.	Rs.			
Expansion of Nagpur exchange from 2500 to 4,000 lines. 18th March, 1958	(*a*) 24th Feb, 1958 (*b*) 1958	25,38,000	23,66,600 31-3-60	upto	The auto equipment was cut into service as below : 500 lines on 5th December, 1958. 1000 lines on 15th May, 1959. The work has been nearly completed.	
Hyderabad — Expansion by 900 lines and replacement of 2000 lines of old equipment. 3rd February, 1959	(*a*) Not yet commenced. (*b*) 1962	28,18,600	13,92,700 31-3-60.	upto	Building estimate sanctioned on 9th January, 1960. Supply of I. T. I. equipment started.	
Vijayawada—Installation of 2000 lines auto exchange. 15th June, 1959	(*a*) Not yet commenced (*b*) 1964.	26,60,900	1,56,400 31-3-60.	upto	Building Plan approved. Some cables have been also received.	
Hyderabad Telephone Expansion Scheme—Phase I 23rd Feb , 1954.	(*a*) 10th Oct., 1952. (*b*) 1958.	1,03,09,750	93,14,700 31-3-60.	upto	The equipment was cut into service as below :— Secunderabad Exchange on 2nd August, 1955. Saifabad Exchange	

					on 6th November, 1955. Work on this project has been physically completed.	
Expansion of Bangalore Telephone system. 10th June, 1954 (*Ex-post facto*)	(*a*) 1950. (*b*) 1954.	87,29,800	90,44,300 30-9-59.	upto	The work has been physically completed and exchange cut over on 15th January, 1955.	The Scheme had been earlier sanctioned by the Mysore State Government. Revised sanction had to be allowed after the inspection of the Ex-State Telephone System.
Automatisation of Ernakulam, Cochin Mattancherry and Willingdon Island Exchanges. 20th August, 1957.	(*a*) 1957. (*b*) Cochin Exchange end of 1960. Willingdon Exchange by March, 1961. Ernakulam Exchange in March, 1964.	48,47,400	13,79,400 31-3-60.	upto	Land has been acquired. Two of the buildings are under construction. Installation of equipment at Cochin is in progress.	
Installation of 2000 lines auto exchange at Coimbatore. 17th July, 1956.	(*a*) 1956-57. (*b*) 1959.	25,59,400	23,05,700 31-3-60.	upto	The exchange was cut over in June, 1959. L&W work is in progress.	

1	2	3	4	5	6
		Rs.	Rs.		
Expansion of Bangalore Auto exchange from 4400 to 7000 lines. 2nd March, 1957.	(*a*) May, 1957. (*b*) 1958.	37,02,700	24,91,000 upto 30-9-59.	The new equipment was cut over as below :— 600 lines on 25th February, 1958. 2000 lines on 27th September, 1958. The work has been physically completed except for some minor items.	
Installation of 2000 lines auto exchange at Amritsar 30th October, 1952.	(*a*) 1952-53 (*b*) 1957	34,89,000	27,24,400 upto 30-9-59	The auto equipment was cut into service on 31st May, 1958. The work has been completed.	
Installation of 1500 lines auto exchange at Srinagar, 29th May, 1959.	(*a*) not commenced. (*b*) by end of 1964.	23,74,400	400 on freight charges of some stores upto 31st March, 1960.		
Installation of 2000 lines auto exchange	Not yet commenced.	26,53,400	2,48,100 upto 31st March, 1960.	Building work has not commenced.	

at Bhopal, 4th February, 1959.				
Installation of 2500 lines auto exchange at Agra, 3rd Sept., 1954	(*a*) January, 1955. (*b*) 1959	41,57,000 (Original estimate)	29,31,000 upto 31st March, 1959.	The exchange has been cut in service on 7th February, 1960. The work has been physically completed except for some minor items of work under L & W and cables.
Installation of a centralised 3000 lines auto exchange at Allahabad, 4th June, 1960.	(*a*) Not yet commenced. (*b*) by end of 1964.	31,29,700		
Expansion of exchange by 2000 lines and replacement of old 2000 lines at Kanpur, 10th November, 1956.	(*a*) Commenced April, 1957. (*b*) 1959.	49,09,800	36,28,800 upto 31-3-60.	Exchange cut over on 1st May, 1959. Replacement of old-2000 lines completed 3rd May, 1958. Replacement of lines and installation of additional lines completed. Two-third of the cable work has also been completed and balance is in progress.

1	2	3	4	5	6
		Rs.	Rs.		
Expansion of Kanpur Auto Exchange by 2000/4000. lines, Jan. 1954.	(*a*) November, 1954 (*b*) 1956-57	41,24,000	33,72,400 (Approx) upto 31-3-1960.	The work has been physically completed and exchange cut into service on 28th March, 1957.	
Installation of 4000/7000 lines auto exchange at Lucknow.	(*a*) December, 1954 (*b*) 1956	66,87,100	45,55,900 (Approx) upto 31-3-60.	The exchange was cut into service on 26th April, 1956. The work has since been physically completed and exchange cut into service.	
Installation of 2500 lines exchange at Varanasi, 24th July, 1954.	(*a*) 8th Feb. 1957. (*b*) Expected to be cut over in Oct., 1960.	44,44,100	24,94,100 upto 31-3-1960	The work has been physically completed except for some minor items of work under exchange equipment, cables and air-conditioning plant.	
Trunk Cable scheme Calcutta Asansol 15th Feb. 1954.	(*a*) Feb. 1954 (*b*) 1958.	60,73,800 (net cost)	68,83,500 upto 30-9-59	The main work of trunk cable laying was completed and cables commissioned in July,	Recoveries of about Rs. 10 lakhs anticipated from the dismantlement of C-8 line.

				1958. Electric installation to be done at two repeater stations due to non-availability of electricity. Dismantlement of C-8 line to be taken up.	
Long Term expansion of Bombay Telephone system (Project XXV) 12th July, 1956.	Commenced in 56-57 and is still in progress. A tentative programme of installation of new exchange based on CPWD targets for completion of buildings has been drawn up. The last exchange to be completed under this scheme is scheduled to be cut over in 1964.	12,49,53,000	2,72,91,900 upto 31-3-60	The Scheme is in initial stage of progress. It involves installation of 51,000 lines of new automatic equipment. Construction of buildings is in progress.	The execution of this scheme is dependent on a large number of factories *viz.* acquisition of sites, construction of buildings, obtaining automatic equipment, underground cables etc.
Expansion of Ahmedabad Telephone system by 2700 lines originally sanctioned Sept. 1950 Revised	(*a*) Sept. 1951 (*b*) 1957	(*a*) 39.41,000 (*b*) Revised cost Rs.57,12,300	46,67,600 upto 31-3-60	The work has been mainly completed.	This project consists of a number of component works for various exchanges Most of the item

1	2	3	4	5	6
		Rs.	Rs.		
sanction issued in Feb. 1955.					have been completed. The balance are either in progress or to be commenced.
Expansion of Bombay Telephone system (Project II). The project was originally sanctioned in 1950 and revised sanction issued on 31-1-56.	(*a*) The work was commenced in 48-49 (*b*) 1958-59	(*a*)Original cost. 3,160,000 (*b*) Revised cost 3,13,05,300 During the execution of the project delays were observed in acquisition of sites & construction of buildings. In order to provide early relief, modification of the scheme became necessary.	2,75,59,300 upto 31-3-60	The work has been completed in 59-60.	There has been a saving of Rs. 37 lakhs in expenditure in A. & P. and cable components of the scheme.

Jorasanko—Expansion of exchange. Not sanctioned.	(*a*) Not sanctioned so far. (*b*) October, 1962.		..	The project estimate and A.&P. detailed estimates are in process of sanction.	
Russa—Expansion of exchange, 10th June, 1960.	(*a*) Not commenced yet. (*b*) 1962.	34,92,300	..	Equipment from I.T.I. awaited.	
Calcutta—Automatisation project. 9th Feb. 1951.	(*a*) commenced in 1951-52. (*b*) completion proposed in five stages.	(*a*) Original cost 1,325·71 lakhs (*b*) Revised cost as estimated on 31-3-60...) 1,350·05 lakhs.	1,305 lakhs upto 30-9-59	The date of completion of each stage is as follows :	The work has been carried out according to schedule. As computed at present, the excess over the estimated cost of the work is 9·3% which is less than 10%.

Stage	Name of Exchanges	Date of Completion
I	Central, Avenue, Jorasanko	June 1953
II	Bank, City . . .	June 1955
III	Alipore, Circus, Russa .	Mar. 1956
IV	Bagh Bazar, Cossipore East	Dec. 1956
V	Kalighat, Dumdum, Salkia, Sibpur	Dec. 1957

Stage	Date of Completion
I	8-8-53
II	14-5-55
III	10-3-56
IV	22-12-56
V	14-1-1958.

Extension to Calcutta-Alipore Auto exchange by 2100 lines. 23rd Feb. 1959.	(*a*) March 1959-60 (*b*) August 1961.	27,75,500	8,45,000 upto 30-9-1959.	Exchange equipment received and installed. Work on 'cable' component and subscribers lines is being carried out.	

1	2	3	4	5	6
		Rs.	Rs.		
Installation of 4000 lines auto exchange at Delhi Gate, Delhi. June, 1957.	(*a*) July, 1958. (*b*) 1961	67,18,900	24,00,300 upto 30-9-59	Land has been acquired. Building work is in progress, Major portion of equipment has been received from ITI.	The building work has been suspended by the contractor on account of some variation in rates. CPWD are taking action.
Installation of a second unit of 5000 lines at Delhi Gate, Delhi auto exchange.	Not sanctioned so far.	1,05,60,600		The work will be taken up after the building is completed.	
Expansion of Jorbagh (New Delhi) auto exchange from 3000 lines to 7000 lines (3rd phase) 25th Feb. 1960.	(*a*) Not yet commenced (*b*) June 1962.	42,50,600	100 only upto 31-3-1960.	The work has not commenced yet.	
Expansion of Jorbagh (New Delhi) Exchange from 3000 to 5000 lines (II Phase) 13th November, 1959.	(*a*) Commenced in April 1960. (*b*) Target date of completion March, 1962.	40,92,400	2,83,000 upto 31-3-1960	Equipment from I.T.I. has started arriving.	

Installation of 3000 lines auto exchange at Jor bagh (New Delhi) 22nd November, 1956.	(*a*) 9th Nov. 56 (*b*) 1959-60	56,63,500	40,58,100 upto 30-9-59.	The exchange was cut into service on 11-3-60. The work has been physically completed.	The project estimate is under revision due to cost of some component works *e.g.*, land and building, having exceeded the original anticipations.
Expansion of Karol Bagh Exchange from 2500 lines to 5000 lines (II Phase) 6th April, 1957.	(*a*) 20th Nov.1957 (*b*) 1958-59	36,41,400	33,10,700 (Approx.) upto 31-3-60	The new equipment was cut into service as below : 600 lines 15-4-58 1500 lines 19-2-59 400 lines 15-6-59. The work has been completed and additional lines brought in service as indicated above.	
Installation of 2500 lines auto exchange at Karol Bagh (New Delhi) 31st May, 1952.	(*a*) 11th November 1954. (*b*) 1957-58.	59,25,400	49,59,700 (Approx.) upto 31-3-60	The work has been physically completed and exchange cut over on 4-1-1958.	

1	2	3	4	5	6
		Rs.	Rs.		
Expansion of Secretariat (New Delhi) exchange from 4000 lines to 6000 lines (3rd Phase) 19th Dec. 1956.	(*a*) Commenced Aug. 1957. (*b*) 1958-59	31,98,600	18,26,000 (Approx.) upto 31-3-1960	The new equipment was cut into service as below : 500 lines : July '58 500 lines : Aug. '58 1000 lines : Mar. '59. The work has been physically completed except for some minor items.	
Installation of 2000/4000 lines auto exchange at Secretariat (New Delhi) 31st May, 1952.	(*a*) July, 1954 (*b*) 1955.	31,88,100	25,40,200 upto 31-3-58	The exchange was cut over on 25-6-55. The work has since been physically completed except for minor adjustments of expenditure.	
Expansion of Tis Hazari (Delhi) auto exchange from 8000 to 10,000 lines (3rd phase) Nov. '59.	(*a*) 4th Dec. '59 (*b*) Target date of completion December 1961.	40,42,200	6,99,000 upto 31-3-60	Laying of cable work is in progress. Equipment. has begun to arrive.	

Expansion of Tis Hazari (Delhi) auto exchange from 4000 to 8000 lines. 16th April, 1955.	(*a*) Commenced Jan., 1956. (*b*) 1959.	66,67,000	54,18,500 upto 30-9-59.	The work has been physically completed in 1959.	Savings of eight lakhs are anticipated or this project.
Installation of 4000 lines auto exchange at Tis Hazari, Delhi. 28th Sept. '54 (*Ex-post-facto*).	(*a*) Commenced December, 1950 (*b*) 1953.	66,04,700	59,76,800 upto 30-9-57.	The exchange was cut into service in 1953. The work has been physically completed in March, 1957.	
Expansion of Madras central exchange by 8000/12000 lines. 27th Aug. 1954.	(*a*) Dec., 1956 (*b*) 1961.	1,25,76,260	73,76,600 upto 31-3-60.	Work on 'Building' has been completed. Exchange equipment has been partly installed. Work on laying of cables is in progress.	
Expansion of Madras Telephone system by 3000 lines. 24th Nov., 1951.	(*a*) Nov., 1951 (*b*) 1954-55	54,07,700	58,59,700 upto 31-3-60.	The new exchanges at Kilpauk and Mylapore were brought into commission in April, 1955 and Aug. 1955 respectively. The work has been physically completed.	The excess is due to increase in cost of land and building, cost of line materials and cost of cables.

1	2	3	4	5	6
		Rs.	Rs.		
Madras-Expansion of Mambulam Exchange to 2400 lines. 7th June, 1957.	(*a*) 1957-58 (*b*) 1962-63	33,56,400	4,92,300 upto 31-3-60.	Sanction of building work has been issued in May '60. Work under I. & W. and A. & P. has been commenced.	
Madras-Central-Expansion of Exchange by 2000 lines. 7-7-60	(*a*) Not commenced yet (*b*) 1963.	35,67,100		Sanctioned recently. Estimate for extension to the building is in process of sanction.	
Laying-Co-axial cable connecting Bombay-New Delhi-Calcutta. 20th Aug. 1956.	(*a*) Commenced on 19th May 1958. (*b*) To be completed in stages over a period of five years.	7,95,lakhs	1,71,69,000 upto 30-9-59	Laying of cable has been completed between New Delhi-Kanpur sections and also between Kanpur-Lucknow. Ancillary works between Kanpur-Allahabad section are in progress. Cable laying has also been commenced in the section Asansol-Sasaram.	The progress of the work is satisfactory. Expected to be completed by 1961.

Shifting of Bombay Telephone Workshop.	Not sactioned yet	87.19 lakhs (Approx.)	Nil.	Expenditure Finance Committee has approved the project and also acquisition of land. Modified sanction for acquisition of land for factory portion only has been issued on 2nd May, 1960. The project estimate is under scrutiny.

APPENDIX II

(*Vide* paras 51 and 55)

Note on plans of expansion of Calcutta, Bombay, Delhi and Madras Telephone Districts

Calcutta Telephone District

The P. & T. Department took over the Calcutta Telephone System from the Bengal Telephone Company in 1943. The number of direct exchange lines and telephones at the time of taking over was 18,679 and 26,414 respectively. The system serves the main Calcutta Corporation area, the Howrah Municipal area and the suburban areas. The total area covered is 500 sq. miles. The number of direct exchange lines and telephones was of the order of 54,000 and 77,000 respectively at the end of March 1960.

Immediately after the War, the Government appointed a team of British Post Office Officers as Consultants to advise on the type of system to be adopted in place of the existing manual system. The Consultants submitted their report in 1947 and recommended the 'Director' type system similar to that in London.

Inspite of a number of difficulties, the automatisation scheme, the biggest undertaken in Asia, provided for the installation of 15 Director Exchanges of equipped capacity of 55,000 lines at a total cost of Rs. 1362·80 lakhs. The project was completed to schedule, the last exchange being cut over on 14th January, 1958.

The Consultants, who had prepared plans for automatisation of the Calcutta Telephone system, had surveyed Calcutta and its surrounding areas in 1945-46. Their forecasts went far out of the mark in almost all cases due to—

(i) the Partition and consequent increase of the importance of Calcutta; and

(ii) deviation from the original target dates envisaged by the Consultants.

The consultants had forecast the number of direct exchange lines as 57,349 on 1st April, 1960, whereas the present estimate based on revised forecasts is as high as 77,791. In view of the heavy demand, plans for extension to the automatic exchanges had to be taken up as early as in 1955. On the basis of the revised forecast, a programme for expansion/installation of 32,500 lines was approved and is under its completing stages under the second plan.

Bombay Telephone District

The Bombay Telephone system is the second largest in India, the largest now being the Calcutta Telephone system. It comprises the

South Bombay area and the outlying suburban areas in the Salsette Island. The Ahmedabad telephone network is also under the General Manager, Bombay Telephones. The system was under the management of the Bombay Telephone Company till as late as 1943. No large scale scheme of expansion of the system was taken up by the Company and the buildings housing the exchanges were not planned to take up future expansion. With the growth of industries in the Bombay suburban area, applications for the new connections have been accumulating. In 1946, an expansion scheme was prepared with a view to meet the accumulated demand during the War and post-War periods. The scheme provided for installation of 18,200 lines at a cost of Rs. 207 lakhs but it could not be largely implemented pending a detailed examination of different automatic systems. A Planning Organisation was set up in 1951 to undertake investigations and draw up plans and recommendations for their implementation.

As the 1946 scheme could not be implemented, another revised Project (Project II) for the installation of 18,200 lines at a cost of Rs. 316 lakhs was drawn up in 1948-49. This work was carried out in stages and completed in 1959.

An overall plan and a programme of development was submitted by the Bombay Telephone Planning Organisation in 1953. The project estimate covered requirements of Bombay Telephones upto 1961. The project as sanctioned in July 1956, envisages installation of 37,540 new lines and replacement of 13,460 lines of old equipment. It also provides for acquisition of 13 new sites and construction of 13 new buildings for exchanges. The total estimated cost of the scheme is Rs. 12·5 crores. The actual expenditure incurred till the year 1959-60 was Rs. 2·72 crores and a provision of Rs. 1·35 crores has been made in the budget estimates for 1960-61.

Originally it was estimated to complete the project by 1962-63, but the progress has been delayed due to difficulties in the completion of the new exchange buildings.

Delhi Telephone District

The Delhi Telephone District was established in 1911 with manual exchanges. It was converted to automatic working in 1925-26. The pre-War period showed a very slow rate of growth and at the beginning of the War, the capacity was only 5000 lines. With the War time growth in the number of lines, Delhi Telephones were taken away from the administrative jurisdiction of the Punjab Circle in 1946 and formed into a Telephone District. The pressure of demand continued to grow with Independence and Partition and in this respect, the system experienced similar stresses and strains to which the city of Delhi itself was subjected.

In 1947, the system consisted of three automatic exchanges with a total capacity of 9000 lines. At the end of the first plan it had risen to about 16000 lines and the old automatic exchanges had been replaced.

The second five year plan programme provided for installation of three new automatic exchanges at Karolbagh, Jorbagh and Delhi Gate of which the first two have been completed. The capacity has now risen to 30,300 lines that is, an increase of about 90 per cent during the last four years.

The recent demands for new connections on Delhi system have exceeded all previous forecast. At one time it was anticipated that a capacity of about 50,000 lines would be required in 1975. But the position now is that such a capacity would fall short of even the current pending demand. In other words, the forecast of growth of 1975 has materialised more than 15 years earlier. The rate of growth of demand is also very steep and now totals about 6,000 applications per year. The structure of the system has been in need of complete replanning for the major expansion required and this has been recently undertaken after sanction of a special Planning Organisation under a Director of Telegraphs. New schemes have been sanctioned and provided in the 1960-61 budget to raise the system equipped capacity from its present 30,550 lines to 47,500 lines. Of the increase of 17,000 lines, it is estimated that 3,300 lines will be fully completed by March 1961 and the balance progressively thereafter. Long term telephone planning of the requirements of the District on a 20 year basis has been undertaken by the Planning Organisation in the meanwhile and will be placed before Government for approval shortly.

Madras Telephone District

Till 1943, the telephone service at Madras was provided by the Madras Telephone Co. operating under a licence. This was taken over by Government with effect from 1st April, 1943 and a scheme for expansion of the system which then consisted of 3 exchanges only with an equipped capacity of 4000 lines was framed. Even under the extreme stress of wartime conditions good progress was made and the system has at present 7 exchanges with an installed capacity of 14,140 lines and 23,372 telephone lines working.

The important schemes under execution are—

(1) Orders for replacement of the Chromepet manual exchange by 300 lines auto exchange have been placed. This is likely to be effected towards the end of 1960.

(2) A new trunk exchange in the new Central Exchange building replacing the existing one is likely to be brought into service early in 1961.

(3) An 8000 lines (initial) new exchange including special services, is under installation in the new Central Exchange building recently completed. This is expected to be cut into service during the middle of 1961. Orders for further expansion of the Central Exchange by 2000 lines have already been placed.

(4) Orders for further expansion of the Mount Road exchange by 800 lines have been placed. This expansion is expected to be effected towards middle of 1961 (equipment delivery —last quarter of 1960-61).

(5) Orders for expansion of Mylapore exchange by 1200 lines have been placed. This expansion is likely to be effected by middle of 1961 (Equipment delivery—last quarter of 1960-61).

(6) Orders for the expansion of Kilpauk exchange by 500 lines have been placed. This expansion is likely to be effected by the end of 1961 (equipment delivery—first quarter of 1960-61).

(7) On construction of the new building, which is in progress a 500 lines new exchange in replacement of the existing exchange is to be opened at St. Thomas Mount. This is likely to be effected towards the end of 1961.

(8) Opening a new 900 line (initial) exchange towards the north at Kalmandapam. The site has been acquired and the building construction is expected to commence this year. The new exchange may be expected to be cut into service during the financial year 1962-63.

(9) Orders for a 2400 lines (initial) new exchange at Mambalam to replace the existing exchange have been placed. The building construction is yet to commence. This scheme is not likely to be effective before 1963-64.

(10) A scheme for giving service to the industrial area towards Ambattur has been practically completed and service from Kilpauk exchange is being given to that area.

APPENDIX III

(*Vide* para 58)

Statement showing the strength of staff (class-wise) in the four Telephone Districts during the years 1956-57 to 1959-60

Name of District	Numbers of Staff				Total
	Class I	Class II	Class III	Class IV	
Bombay District					
1956-57	23	57	2250	883	3213
1957-58	24	56	2282	815	3177
1958-59	26	56	2387	813	3282
1959-60	24	53	2654	823	3554
Calcutta District					
1956-57	19	66	3207	401	3693
1957-58	22	64	3310	491	3887
1958-59	22	74	3555	526	4177
1959-60	24	73	3647	569	4313
Delhi District					
1956-57	5	27	1987	383	2402
1957-58	6	30	2122	395	2553
1958-59	8	37	2399	436	2880
1959-60	13	50	2701	332	3096
Madras District					
1956-57	3	9	1018	360	1390
1957-58	3	10	1228	347	1588
1958-59	4	19	1277	371	1671
1959-60	7	25	1455	365	1852

APPENDIX IV

(*Vide* para 69)

Statement showing the number of telephone connections on Central Government account (Telephone District-wise and Circle-wise) and the percentage thereof to the total number of working connections as on 31st March, 1960.

No.	Name of the Circle/ District	No. of connections on Central Govt. Account	Percentage of Central Govt. connections to total number of working connections	Remarks
1.	Andhra Circle	936	10·89	
2.	Assam Circle	538	10·06	
3.	Bihar Circle	1011	9·59	
4.	Bombay Circle	1473	6·92	
5.	Central Circle	699	6·13	
6.	Hyderabad Circle	444	5·25	
7.	Madras Circle	2012	5·9	
8.	Mysore Circle	595	6·3	
9.	Orissa Circle	223	9·86	
10.	Punjab Circle	1877	12·33	
11.	Rajasthan Circle	1407	11·7	
12.	U. P. Circle	2399	8·5	
13.	West Bengal Circle	639	8·3	
14.	Bombay Telephones	1937	4·5	
15.	Ahmedabad Telephones	201	3·8	
16.	Calcutta District	2633	4·9	
17.	Delhi District	10195	40	
18.	Madras District	553	4·41	
	TOTAL	29772		

NOTES:

1. Telephones provided to commercial and service Departments of the Government such as those of Railways, Defence services and establishments, Income Tax, Customs and Central Excise organisations etc. have been included in these figures.

2. Similarly, the service telephones of the Posts and Telegraphs Department are also included in these figures. These service connections are for administrative and executive offices as well as for service maintenance and enquiry services. In the latter category are telephones provided at the enquiry points in Post Offices, Telegraph offices and Telephone Exchanges, and office and residential telephones for Supervisors and Assistant Engineers in charge of Telephone Exchanges.

APPENDIX V

(*Vide* para 75)

Statement showing the average time taken in maturing of trunk calls between important trunk exchanges

Delay Limits—Urgent Calls 30 Mts., Ordinary Calls 1 Hour

Routes on which average delay is within limits	Routes on which average delay is beyond limits		
	Route	Urgent	Ordinary
1	2	3	4
Bombay		H. M.	H. M.
Baroda Calcutta Indore Madras Nagpur Poona Rajkot Secunderabad	Ahmedabad Bhopal New Delhi Surat	0.30 0.39 0.43 0.32	1.52 3.09 2.02 1.39
Calcutta			
	Asansol Bombay Dhanbad Gauhati New Delhi Patna Madras	1.04 0.58 0.42 2.01 0.49 1.00 1.28	Common to both urgent and ordinary
Madras			
Bangalore Bombay Cuttack New Delhi Secunderabad Tiruchirapalli Vijayawada	Calcutta Ernakulam Madurai	0.46 0.30 0.13	2.23 1.46 1.11

Routes on which average delay is within limits	Routes on which average delay is beyond limits		
	Route	Urgent	Ordinary
New Delhi		H. M.	H. M
Agra	Allahabad	0.43	1.26
Ambala	Bhopal	0.07	1.32
Amritsar	Madras	0.33	0.20
Bhatinda			
Bombay			
Hapur			
Jaipur			
Jullundur			
Kanpur			
Meerut			
Agra			
Hapur		0.39	1.20
Jaipur			
Lucknow			
New Delhi			
Ahmedabad			
Mehsana	Bombay	0.10	1.13
Allahabad			
Lucknow	Banaras	0.40	1.17
	Kanpur	0.37	1.28
	New Delhi	1.06	1.36
Asansol			
	Dhanbad	1.13	Common to both urgent and ordinary
	Patna	1.26	
	Ranchi	1.11	
Bangalore			
Madras	Coimbatore	0·36	0.53
Secunderbad			
Baroda			
Ahmedabad			
Bombay			
Broach			
Dobhoi			
Godhra			
Surat			
Bhopal			
Indore	Bombay	0.55	0.46
	New Delhi	0.31	0.50

Routes on which average delay is within limits	Routes on which average delay is beyond limits			
	Route		Urgent	Ordinary
Coimbatore			H. M.	H. M.
Bangalore				
Madurai				
Tiruchirapalli				
Cuttack				
Coimbatore . . .	Ernakulam	.	0.21	1.49
Madras . . .				
Gauhati				
	Dibrugarh	.	0.38	Common to both urgent and ordinary
	Jorhat	.	0.48	
	Nowgong	.	0.57	
	Shillong	.	1.23	
	Tinsukia	.	0.37	
Hapur				
Agra				
Meerut				
New Delhi				
Indore				
Bhopal .	Ratlam	.	0.26	1.26
Bombay				
Gwalior				
Mhow				
Ujjain				
Kanpur				
Allahabad . . .	Agra	.	0.28	1.08
	Lucknow	.	0.12	1.05
	New Delhi	.	0.19	1.20
Madurai				
Coimbatore .	Madras	.	0.28	1.17
Tiruchirapalli .				
Meerut				
Hapur . . .	Lucknow	.	0.39	0.13
New Delhi				
Poona				
Ahmednagar				
Bombay				
Kolhapur				
Lonavala				
Satara				
Sholapur				

Routes on which average delay is within limits	Routes on which average delay is beyond limits		
	Route	Urgent	Ordinary
		H. M.	H. M.
Rajkot			
Ahmedabad			
Bombay			
Jamnagar			
Secunderabad			
Bangalore			
Bombay			
Madras			
Nizamabad			
Vijayawada			
Warangal			
Surat			
Ahmedabad			
Baroda			
Billimora			
Bombay			
Broach			
Navagsari			
Tiruchirapalli			
Coimbatore			
Madras			
Madurai			

APPENDIX VI

(*Vide* para 87)

Brief note on Coaxial Cable Scheme

Communication by means of coaxial cables represents the most advanced method of communication for providing the largest number of circuits with the maximum quality and reliability. The type of coaxial system being introduced in India (the 4 Megacycle coaxial system) is the latest type of coaxial system standardised for production. This system will be capable of providing 960 high grade telephone circuits. If necessary each of these telephone circuits can be equipped to provide upto 24 telegraph channels capable of teleprinter operation.

A further development of this type of coaxial system is the 12 Megacycle system which will be capable of providing 1860 number of telephone channels or one Television channel and in addition a number of telephone channels. A small number of such systems have recently been introduced in other parts of the world but the standardisation of this system is currently under consideration of the International Telegraph and Telephone Consultative Committee (C.C.I.T.T.).

The coaxial systems being installed in India are capable of being converted into 12 Megacycle system at a later date with the addition of necessary equipment.

As regards other means of communication, wireless communication by Mico-waves or by the Forward Scatter technique are also used in some parts of the world. The number of channels obtainable from such systems is small as compared to those obtainable from even the 4 Megacycle system and their reliability is also dependent on the geographical and climatic conditions of the locality. In the Micro-wave system the normal propagation is limited to the "line of sight" and extension of the range requires the installation of relay stations with high towers, aerial systems, electronic equipment and reliable power supplies.

In the Forward Scatter system the average range of propagation is of the order of 250 miles though it has been claimed that in certain experiments longer ranges have been reached. In the latter case the number of channels which can be utilised is small.

APPENDIX VII

[*Vide* para 109]

Statement showing the main recommendations of the Telephone Tariff Revision Committee together with Government's decisions thereon

Sl. No.	Recommendations of the T.T.R.C.			Government's decision					
I. Tariffs for Direct exchange connections (*a*) Measured Rate areas (within local area)				As announced in March 60			As modified in May 60 and given restrospective effect from 1-4-60		
				Rates of annual rental and call fees			Rates of quarterly rental and call fees		
	Name of system	Annual rental	No. of free local calls per quarter	Rate per local call beyond free calls	Rental	No. of local calls allowed free of charge per quarter	Rate per local call beyond prescribed free calls	Rental	No. of local calls allowed free of charge per quarter	Rate per local call beyond prescribed free calls
		Rs.		nP.	Rs.		nP.	Rs.		nP.
(1)	Bombay	240	180	12	(1) 240	200	15	(1) 54	150	12
(2)	Calcutta	240	150	15	(2) 240	200	15	(2) 54	150	15
(3)	Bihar Coalfield areas	240	240	12	(3) 240	200	15	(3) 54	150	15
(4)	Delhi	240	240	12	(4) 240	200	10	(4) 50	150	12
(5)	Madras	240	240	12	(5) 240	200	10	(5) 50	150	10
(6)	Other metered automatic exchanges	240	240	10	(6) 240	250	10	(6) 50	150	10
(7)	Metered manual exchanges	240	300	10	(7) 240	300	10	(7) 50	150	10

(1) Flat Rate areas (within 5 kilometres—local area)

Type of exchange	Flat rate annual charges for Direct exchange lines within 3 miles radius	Rate of Rental per annum		Rates of rental		
					Annual	Monthly
	Rs.		Rs.		Rs.	Rs.
(1) Automatic and Manual exchanges of 300 lines capacity and over . . .	288	(1)	30	(1)	300	27
(2) Automatic exchanges of less than 300 lines capacity	240	(2)	250	(2)	250	23
(3) Manual exchanges of less than 300 lines but over 20 lines	240	(3)	250	(3)	250	23
(4) Manual exchanges of 20 lines capacity or less providing—						
(*a*) 24 hours of service . .	240	4 (a)	250	4(a)	250	23
(*b*) Restricted hours of service	180	4 (b)	180	4(b)	180	17

Recommendations of the T.T.R.C.	Government's decision	
	As announced in March 60	As modified in May 60 and given retrospective effect from 1-4-60
2. *Special Tariffs*		
The local area of the exchange system be defined and the D.E.Ls. connected to the local system may be given under the stated circumstances at an additional monthly charge of Rs. 5 per 1/2 mile of actual d stance beyond the exchange boundary.	A charge of Rs. 75 per annum per kilometre or fraction thereof has been fixed.	In measured rate areas the charge has been fixed at Rs. 18/- per quarter and in flat rate areas at Rs. 75/- per annum in the case of annual rates and Rs. 7/- per month in the case of monthly rates for each additional kilometre or fraction thereof.
(2) A tariff based on capital cost for lines involving unusually heavy construction.	Accepted.	No change.
(3) A rebate of Rs. 10 p.m. in Bombay and Calcutta and Rs. 8 p.m. at other exchanges for lines provided under O.Y.T. Scheme.		
3. *Extensions and Private Wires*		
(1) Internal extensions without intercommunication facility Rs. 60 p.a.	Accepted.	

Recommendations of the T.T.R.C.	Government's decision	
	As announced in March 60	As modified in May 60 and given retrospective effect from 1-4-60
(2) Internal extensions with intercommunication facility Rs. 100 p.a.	(*a*) Accepted and fixed at Rs. 250 for the first kilometre plus Rs. 75 for every additional kilometre or part thereof.	
(3) *External extensions*		
(*a*) Metered areas :—Rs. 250 p.a. for the first half mile plus Rs. 60 for every additional half mile or part thereof.		
(*b*) Flat rate areas :—Rs. 180 p.a. for the first half mile plus Rs. 60 for every additional half mile or part thereof.	(*b*) accepted and fixed at Rs. 180 for the first kilometre plus Rs. 75 for every additional kilometre or part thereof.	No change.
(4) Private Wires :—Same tariffs as for internal extensions with I.C.F. and external extensions.	Accepted.	
(5) Extensions on installations other than D.E.Ls. :—Same tariffs as those on D.E.Ls.	Accepted.	
4. *Private Exchanges and Private Branch Exchanges*		
(1) A simple and rational scheme of charging whereby charges are payable for each component such as switchboards and connections based on quantum of facilities supplied.	Accepted.	No change.

(2) *Flat rate tariffs for switchboards* :

Size of board	Initial non-recurring installation charge for the board	Rent per annum for the board		
	Rs.	Rs.		
Private Manual Exchanges				
1 plus 3£	50	200	Accepted.	No change.
2 plus 6£	100	350		
3 plus 9£	150	500		
5 plus 20ff	10 per equipped termination	40 per equipped termination		
10 plus 50ff	Do.	Do.		
Over 10 plus 50ff	Do.	Do.		
Private Automatic exchanges.	10 per equipped termination subject to a minimum of Rs. 150.	60 per equipped termination.		

£ Cordless.
ff Floor Pattern.

(3) Connections and Private Wires from Private exchanges and Private Branch exchanges.	Same tariffs as for corresponding internal extensions without I.C.F. and external extensions.	Accepted.
(4) Inter-switchboard junctions, Tie lines etc.	Same tariffs as for external extensions.	

Recommendations of the T.T.R. C.	Government's decision	
	As announced in March 60	As modified in May 60 and given retrospective effect from 1-4-60
(1) Flat rate tariffs for Manual switchboards of 50 lines capacity or less.		
(2) Tariff on flat rates or on capital cost basis whichever is higher for Manual switchboards of over 50 lines capacity and all Automatic switchboards.	Accepted.	
5. (1) *Plugs and Sockets* :		
	Rs. p.a.	Rs.
Rental for one plug and two Sockets with 55 yards of internal wiring . . .	30	*Accepted as follows*: Rent for one plug & two sockets with 50 metres o internal wiring 25
For each additional Socket	15	For each additional Socket 15
(2) *Long Cords* :		*Accepted and fixed as follows*:
(*i*) Rental for a long cord upto 5 yards in length	30	Rental for long cord 5 metres in length . . 30 p.a.
(*ii*) Rental for every additional 5 yards in length	15	Rental for every additional 5 metres in length . 15 p.a.
(3) *Coloured Instruments* : A non-recurring charge of Rs. 40 per instrument.		Accepted.
(4) *Other auxiliary facilities* :		
Extension Bells	20	Accepted.
Extension Bell with switch . . .	20	
Extra Receiver	10	
Head and Breast set	20	

6 *Installation charges* :

(1) Installation charges for each telephone connection, internal and external extension, P.X. and P.B.X. connection, Junction lines to P.B.Xs. and for each end of a private wire	Rs. 40	Accepted.
(2) Installation charge for the first plug and two sockets	Rs. 40	Accepted.
Installation charge for each socket installed subsequently	Rs. 20	
(3) Installation charge for each extra bell .	20	

NOTE.—Installation charges will be levied on all new installations including O.Y.T. connections and temporary connections

7. *Reconnection and transfer fee* :

(1) Half the appropriate charge if reconnected within the specified period, otherwise full charge.	Accepted.
(2) A charge equivalent to the full installation charge if transfer involves any work at the premises of the subscriber, otherwise 50% of the installation charge subject to a maximum of Rs. 50.	

Recommendations of the T.T.R.C.	Government's decision	
	As announced in March 60	As modified in May 60 and given retrospective effect from 1-4-60
8. *Shift charges*:		
(1) For shifts within the same room, 50% of the appropriate installation charges. In all other cases full installation charges.	Accepted.	
(2) The shifting charges for P.B.Xs. in the same room to be 50% of the appropriate installation charges subject to a maximum of Rs. 100 per installation.		

APPENDIX VIII

(*Vide para* 124)

*Note on the revenue and expenditure of the Telephone Branch**

A statement showing the revenue and expenditure of the Telephone Branch from 1954-55 to 1959-60 has been prepared and is attached.

The total revenue indicated is the same as in the Committee's Report with the modification that adjustment for collections under the OYT Scheme has been made. The totals of the expenditure are also the same as in the Committee's report excepting for the year 1959-60 where the actuals (instead of estimated amounts) have been indicated.

The expenditure of the Telephone services in which the quantum of investments is very large has been considered on commercial principles. That is to say, the expenditure which indicates the trading expenses, which are under the control of the department, have been indicated separately. The other expenditure, namely, contributions to R. R. Fund and payment of interest on invested capital are matters of accounting in terms of the larger policy which, as the Committee is aware, was revised on more rational and commercial lines with effect from the accounts of 1960-61.

It is suggested that an appreciation of the working of the Branch is possible by comparing net trading expenses with the revenue. It will be seen that they have varied from 55.4% to 53.6%.

The Committee may like to consider the following comments upon the statement which is now being furnished:—

During the period 1954-55 to 1959-60 there has been no change in the tariff structure. Therefore, unless there are any other factors, the expenses can be directly related with the amount of revenue. This, however, is not entirely correct so far as the Telephone Branch is concerned for the following reasons:—

(a) *Local Telephone Service*: (i) The revenue earning capacity of the assets is not altered but due to rising costs the costs of materials and spare parts has increased. Thus, the

*Furnished to the Committee at the stage of factual verification *vide* D.G.P.&T. U. O. No. 16-19/B. Coll. V dated the 11th March, 1961.

expenses for the same revenue should show ordinarily an increase from year to year; and (ii) the staff costs have been going up and therefore there should be some element of increase in the expense ratio as a result of the working of the Branch.

(b) *Trunk Telephone Service*: (i) The operative staff in the trunk telephone services is not related to the revenue. It is related directly to the traffic. Against 18·6 million calls handled during 1955-56, 29·8 million were handled during 1959-60. Therefore, the total operative costs in this sector should ordinarily increase in this proportion; and (ii) the increase due to the increased emoluments of the staff would be on similar lines as indicated in (a) (ii) above.

It is suggested for the consideration of the Committee that the fact that the expense ratio has been stabilised between 52 and 55% and has actually been reduced somewhat during these years, indicates a measure of the active steps that have been taken during recent years to reduce the expenses and not permitting it to rise in spite of increasing stores and staff costs.

Statement showing Revenue and Expenditure of the Telephone Branch

(In thousands of rupees)

	1954-55 (1)	1955-56 (2)	1956-57 (3)	1957-58 (4)	1958-59 (5)	1959-60 (6)
Total Revenue as per Profit & Loss Account	12,38,61	14,41,64	16,30,51	18,38,96	20,03,24	21,95,51
Less Collections under Own Your Telephone Scheme	45,40	71,57	73,78	65,91	99,29	70,84
BALANCE	11,93,21	13,70,07	15,56,73	17,73,05	19,03,95	21,24,67
Add proportion of O.Y.T. collections allocable as revenue for the year.	22,52	26,10	29,79	33,25	38,41	42,09
TOTAL REVENUE (A)	12,15,73	13,96,17	15,86,52	18,06,30	19,42,36	21,66,76
Total expenses as per Profit & Loss account	8,94,13	10,32,06	11,34,10	13,01,14	14,80,12	17,54,78
Less Interest on capital	1,00,65	1,17,40	1,32,42	1,50,13	1,75,06	1,93,30
Contribution to R.R. Fund	74,00	84,00	91,00	1,43,00	1,68,00	3,44,20
Contribution to T. D. Fund	45,40	71,57	73,79	65,91	99,29	55,00
NET TRADING EXPENSES (B)	6,74,08	7,59,09	8,36,89	9,42,10	10,37,77	11,62,28
Percentage of Trading Expenses (B) to Revenue (A)	55·4%	54·4%	52·8%	52·2%	53·4%	53·6%
Percentage of expenditure including interest and contribution to Funds to Gross Revenue as shown in Accounts	72·2%	71·6%	69·6%	70·7%	73·8%	79·9%

APPENDIX IX

(*Vide* Para 206)

List of designs of equipment passed on by the Telecommunication Research Centre to the Indian Telephone Industries and the P & T Workshops during the last four years

Designs of Equipment	To whom passed on
Switching system designs	
1. Manual trunk exchange designs (a large number of circuits to give improvements over a large front).	P & T Workshops.
2. Automatic trunk switching system (all circuits including testing circuits and a number of metering arrangements).	I.T I.
3. Manual teleprinter exchange .	I.T.I. and P &T Workshops
4. Automatic teleprinter exchange (a number of circuits and alternative metering arrangements have been designed) . . .	I.T I.
5 International teleprinter exchange . .	I.T.I. and P&T Workshops.
6. Call queueing equipments (two versions) .	I.T.I
7. Observation and Monitoring positions .	I.T I.
8. Ten line private automatic exchange systems .	I.T I.
9. Five line private automatic branch exchange .	I.T.I.
10. Design of A.C.and D.C. relay sets with extended dialling limits	
Carrier telephone systems	
1. (*a*) stackable carrier system valve version .	I.T.I
(*b*) stackable carrier system transistorised .	I.T.I.
2 (*a*) Eight-channel carrier system normal version	I.T.I.
(*b*) Eight-channel carrier system staggered version	I.T.I.
3 12-channel carrier repeaters for 2-W cable systems with normal output . . .	I.T.I.
(*a*) frequency frogging with tubes . .	I.T.I
(*b*) straight with tubes	I.T I.

Designs of equipment	To whom passed on
Carrier telephone systems—contd.	
(*c*) frequency frogging with transistors .	I.T.I.
(*d*) straight with transistors . . .	I.T.I.
4. 12-channel carrier repeaters for 2-W systems with reduced output for carrier pairs in co-axial cables	
(*a*) straight with transistors . . .	I.T.I.
(*b*) frequency frogging with transistors .	I.T.I.
5. Power line carrier system . . .	I.T.I.
6 12-Channel terminal equipment (transistorised)	I.T.I.
7. Frequency generating bay (transistorised) .	I.T.I.
8. Modifications to existing 12-channel terminal and frequency generating equipment .	I.T.I.
V.F. Equipments	
*1. V.F. repeaters	I.T.I.
2. Compandor	I.T.I
3. Loading coils	I.T.I.
4. Repeating coils (Several types) . . .	I.T.I.
*5. Matching transformers . . .	I.T.I
Railway equipment	
*1. Special way-side equipment for control working, terminal equipment and junction equipment .	I.T.I. for Railways.
*2. Block circuit protection filters . . .	I.T.I. for Railways.
*3. Train wire and telephone equipment .	I.T.I. for Railways.
*4. Inter-wire equipment including junction repeaters	I.T.I. for Railways.
Signalling equipment	
*1 In band one V.F. signalling equipment .	I.T.I.
2 In band multi-frequency signalling equipment	I.T.I.
Power Plant	
*1. Regulated automatic float charge system for 220 V-1·4A	I.T.I.
2. Regulated automatic float charge for exchange system 40V 8A.	I.T.I.
3. Do. Do. 50V 50A .	I.T.I.
4. Battery eliminators (3 types) for 4V with 1A, 3A, and 6A outputs	Workshops.
5. Transistorised ringer equipment . .	I.T.I.

* Items in production.

Designs of equipment	To whom passed on

Telegraph Transmission equipment

1.	VF telegraph system with 120 cycles spaced	I.T.I.
2.	VF telegraph system with 240 c/s spaced	I.T.I.
3.	Telegraph regenerative repeater (electronic)	I.T.I.

Test equipments

1.	Oscillators upto 35 Kc and upto 150Kc/s two types	I.T.I.
2.	DB meters—3 types	I.T.I.
3.	Vacuum tube voltmeter—3 types	I.T.I.
4.	Selective level meters—2 types	I.T.I.
5.	Psophometer	I.T.I.
6.	Frequency measuring circuits—2 types	I.T.I.
*7.	VF cross-talk measuring equipment	I.T.I.
8.	Cathode ray oscilloscope (high grade lab. type)	I.T.I.
9.	Cathode ray oscilloscope (general purpose)	I.T.I.

Fault location

*1.	Fault locator pulse type for o/w lines	I.T.I.
2.	Do Do. for cables	I.T.I.
3.	Do. Do tone type	I.T.I.

Telegraph measurements

1.	Teleprinter speed checker	I.T.I.
2.	Start stop distortion measuring set	I.T.I.
3.	Telegraph relay checking and adjustment set	I.T.I.

*Items in production

APPENDIX X

Summary of conclusions/recommendations

Sl. No.	Reference to para No. of the Report.	Summary of conclusions/recommendations
1	2	3
1	11 & 12	The Committee are not able to appreciate as to why the physical target for telephones was fixed at 1,32,000 when the pending demand at the commencement of the First Plan was estimated to be 1,50,000 and an additional demand of 1,00,000 was expected to be engendered during the Plan period. It is this initial backlog of 1,18,000 in planning which has, to a large extent, been responsible for accumulating the unsatisfied demand for telephones and for raising it from 1,20,000 at the commencement of the Second Plan to 2,00,000 at the end of the Second Plan. This unrealistic planning can best be illustrated by the example of the Delhi Telephone District. An estimate of the requirements for Delhi Telephone District prepared in 1955 anticipated that a capacity of 50,000 lines would be required for the District by 1975. The fact, however, is that even as early as in July, 1960 the demand had gone much beyond that capacity for it is seen that after providing 31,000 lines there was an outstanding demand of 27,497.
2	14	The Committee recommend that the Department should take more energetic steps to see that work on projects costing Rs. 25 lakhs and over which have been sanctioned long back is commenced without futher delay and that similar projects are not held up during the Third Plan.
3	15	The Committee further suggest that the Department may impress upon the various circles/telephone districts the desirability of initiating early action for acquisition of sites for telephone exchanges proposed to be constructed in the Third Plan so that work thereon can be completed within the target period.

1	2	3
4	18	The Committee need hardly stress that economy in time in the execution of a project is no less important than economy in direct financial terms. They are of the view that suitable directives need to be issued by the Department to all circles/telephone districts in order to achieve maximum savings in the time taken in completing projects which are potential revenue earners. They also suggest that quarterly reports of the progress made in the execution of the projects may be called for and examined in the Directorate with a view to remove the difficulties, if any, expeditiously.
5	19 & 20	The Committee further observe that sanctions for plans for expansion of the telephone systems are inordinately delayed. For example, an expansion scheme for installation of 18,200 lines for Bombay was envisaged in 1946 but this was held up at several stages, first, on the question of deciding whether it should be Director type or non-Director type and secondly, because of some practical difficulties in execution after it was sanctioned in May, 1950 which necessitated a revision of the project. The revised project was sanctioned by the Government in January, 1956 and was completed in 1959. It has thus taken the Government 13 years to provide 18,200 lines after having felt their need. Similarly, Project XXV for installation of 37,540 lines of old equipment for meeting the requirements upto 1961 was submitted for approval of Government in 1953 but was approved in 1956 with the result that the project was now expected to be completed only in stages by 1964, eleven years after submission of the scheme.
6	21	In order to ensure that all projects which are included in the Five Year Plan are completed in time, a great deal of meticulous advance planning is necessary. The Committee urge that blueprints of projects should be prepared without delay and sanctions should be accorded expeditiously.
7	25	In view of telephones being always a sound paying proposition, there should be very little hesitation in finding the necessary provision for their expansion. The Government may again consider how best to meet the additional demand that will inevitably

1	2	3
		arise during the Third Plan. If that is not done, the position at the end of the Third Plan will be infinitely worse than what it is at its beginning, which is hardly the way of planning. This necessarily means the need for expanding the Workshops, the Indian Telephones Industries, the Hindustan Cables Ltd. and making adequate provision therefor. The Committee urge that the possibilities of getting loans from the Life Insurance Corporation, the World Bank etc. for augmenting the plan resources for telephones should be explored.
8	26	Judging from the recent trends, the Committee consider that it may not be difficult for the P&T Department to gear up their machinery for the task. It necessarily calls for cooperation from all allied Departments and the Committee see no reason why it should not be forthcoming. The P&T Department will have to satisfy the Planning Commission that it is in a position to make good use of the additional funds asked for and that they would be effectively utilised for increasing telephone lines to meet the demand.
9	30	The Committee recommend that the Department should increase expeditiously the capacity of the telephone system in Bombay so that O.Y.T. connections could be given at an early date.
10	31	The Committee see no reason why a lower deposit of Rs. 1000 should be prescribed for Kanpur under the O.Y.T. Scheme.
11	33	The Committee are of the view that since the O.Y.T. Scheme would help to find additional fund for expansion, greater emphasis may be laid on it in the Third Plan.
12	37	In view of the heavy demand for telephones and the shortage of equipment, the Committee recommend that the Department should endeavour to put an appreciable percentage of residential subscribers on the party line system within the Third Plan period. As an immediate step in this direction, the facility needs to be widely publicised in order to make it acceptable to the people.

1	2	3
13	40	The Committee suggest that the Department should endeavour to open adequate number of public call offices, preferably of the attended type, since in their case, the minimum amount of revenue is guaranteed and the safe custody of instruments assured.
14	41	The Committee hope that before manufacturing on a large scale, the compact coin collecting instruments developed by the Bombay Telephone Workshops, it will be ensured that the new instrument is as fool-proof as possible against tampering
15	46	The shortfall in the attainment of target in the opening of public call offices in the Second Plan is unfortunate. A review of the progress should have been made sufficiently early so that the pace, particularly of opening of public call offices in remote areas, could have been accelerated.
16	47	The Committee are of the view that further liberalisation of the policy in regard to the provision of telephone facility in the rural and remote areas is called for in the Third Plan. They recommend that public call offices should, in the first instance, be opened in all places where they are likely to run on no-loss basis. To this end, a survey may be taken up and a phased programme prepared accordingly.
17	57	Being the nerve centres of the country in the political, administrative and commercial fields, the Committee would urge the Department not to relax the efforts to meet the need for telephones in the four Telephone Districts. The Department should aim at expanding the exchange capacity to an extent where it might be able to provide telephones 'on demand' Although it may not be possible to achieve this objective within the Third Plan period, the Committee would yet suggest that perspective plans may be prepared with a view to meet the demand in full within a stipulated period.
18	59	The Committee suggest that the question of increase in staff in Delhi and Madras Telephone Districts may be looked into.
19	61	The Committee suggest that the overdue reform of having complaints statistics regarding telephones on an uniform basis, may be given effect to expeditiously.

1	2	3
20	62	The percentage of complaints about telephones in India, particularly in Bombay and Madras, is very much on the high side The Committee suggest that the Department should look into the matter and take effective steps to reduce the number of complaints.
21	66	The Committee suggest that early steps be taken by the Department to introduce metering in all automatic and manual exchanges of a capacity of 300 lines and above within the Third Plan period.
22	68	The Committee suggest that telephone exchanges or public call offices with extensions may be provided in all the remaining district headquarter towns as expeditiously as possible.
23	70	The Committee would suggest a speedy review of the number of telephone connections on Central Government account in Delhi to see that they are fully justified and that further expansion is limited to what is absolutely necessary
24	72	The Committee recommend that the policy of opening public call offices may be linked up with the objective of expansion of trunk telephone service and trunk public call offices provided wherever feasible.
25	77	The average time of one hour in the maturing of an ordinary call and half an hour in the case of an urgent call indicates the enormous leeway that has to be made up if the trunk service has to keep up with international standards of providing service 'on demand'.
26	78	In order to improve the service in regard to ordinary trunk calls, the feasibility of laying down a rule to the effect that one ordinary call may be taken, say after 10 urgent calls, may be examined. The Department may also see to it that the interval between the booking of an ordinary call and its maturing is not longer than the prescribed limit of one hour.
27	79	The Committee suggest that the Department should make adequate arrangements for speedy restoration of communications between the State of Jammu and Kashmir and the rest of the country in the event of breakdowns due to snow, landslides, floods etc. as also take steps to improve the quality of the service. In view of the location of the area, the importance of an efficient service needs no special emphasis.

1	2	3
28	84	As compared to Western countries where there are hardly any cancellations on departmental account, the position in India is not satisfactory. The Committee consider that the percentage of cancellations in a way provides a measure to judge the efficiency of the Department. The Committee suggest that the Department should take all necessary steps to improve the position by stricter supervision over the operating staff and by fuller utilisation of capacity.
29	89	The Committee hope that the target date (*viz.*, 1963) set for the completion of the Coaxial Cable project will be adhered to.
30	90	The Committee recommend that the Department may endeavour to introduce coaxial cable transmission to as many principal towns as possible in the Third Plan so that full advantage is derived from the Project and the benefit of improved telephone service is widespread. The capacity of the Hindustan Cables Ltd. to manufacture coaxial cable to meet these requirements may be suitably augmented, if need be.
31	91	Since the reorganisation of the trunk exchange system is linked up with the coaxial cable project, the Committee suggest that studies of traffic trends should be completed expeditiously so that the work may be completed within the Third Five Year Plan.
32	94	The Committee suggest that since the main coaxial project is expected to be completed by 1963, the production of trunk boards in the P&T Workshops should be stepped up speedily to meet the requirements of the Department.
33	95	The Committee suggest that the trunk assistance service at present in operation in Delhi and Calcutta may be provided in Bombay and Madras trunk exchanges also, as early as possible.
34	97	The Committee suggest that tape recorders may be installed in the big trunk exchanges and surprise checks on the performance of the operators intensified.
35	99	The Committee suggest that all the large trunk exchanges may be expeditiously provided with automatic trunk timing indicators and call-queueing equipment.

1	2	3
36	100	The Committee suggest that a survey of building requirements of trunk exchanges all over the country may be taken up and a phased programme of housing them properly be drawn up to be implemented early.
37	105	As the coaxial cable project is scheduled to be completed by 1963, the Committee suggest that the subscriber to subscriber dialling facility may be extended to many more important trunk routes in the Third Plan itself, and necessary schemes in this regard drawn up early.
38	106	The Committee further suggest that in view of the lower recurring cost that will result, the question of laying down a cheaper and rational tariff structure for dialled trunk calls may be examined.
39	108	The Committee suggest that the feasibility of introducing the conference call facility between a few important commercial centres in the course of the Third Plan may be examined.
40	111	The Committee suggest that a review of the trunk tariffs may be undertaken at least once in every five years.
41	115	The Committee suggest that necessary economies may be effected in the cost of billing and collection of telephone revenue in the light of the recommendations of the Telephone Tariff Revision Committee.
42	117	The inordinate delay in the decentralisation of Telephone Revenue Accounting Offices is regrettable. The Committee suggest that it may be completed expeditiously.
43	118	In view of the large number of complaints of overbilling, the Department may intensify checking and testing of the meters.
44	122	While appreciating the steps taken by the Department to recover the arrears of telephone revenue, the Committee are of the view that with the adoption of a consolidated system of billing and decentralisation of Telephone Revenue Accounting Offices, further improvement in the arrears of telephone revenue should be possible. Strict enforcement of the rules regarding dis-connection of telephones, not excluding Government offices, is also called for.

1	2	3
45	126	The Committee recommend that the Department should direct its efforts to curtail progressively the working expenses of the Telephone Branch by streamlining the procedures and by intensive utilisation of its assets. The economies effected may also be indicated in the annual reports of the Department.
46	128	The Committee suggest that suitable provision may be made for the holding of meetings of the Telephone Advisory Committees in the rules and regulations for the conduct of business of these Advisory Committees.
47	136	Progress in regard to the provision of the telegraph facility in out-of-the way places is disappointing. More attention will have to be given to such areas, particularly those on the border, in the Third Plan.
48	137	The Department may endeavour to provide the telegraph facility in the remaining 1283 places with a population of over 5000, within the Third Plan period. The Committee would also urge that telegraph offices may be provided in the administrative towns on priority basis.
49	139	The Committee feel that before converting combined post and telegraph offices into departmental telegraph offices, it would be of advantage to convert only a few of them to begin with and then review the position in the light of advantages which are gained from such conversion *vis-a-vis* the additional expenditure. incurred.
50	140	The Committee would also urge that inspection of combined post and telegraph offices may be tightened up with a view to ensure that there is no slackness in such offices in dealing with telegraph work.
51	141	In view of the obvious advantages of the Voice Frequency Telegraph System, the Committee suggest that the production capacity of the Indian Telephone Industries to manufacture the equipment may be augmented speedily so that it may be extended throughout the country
52	143	The Committee suggest that besides extending the V F.T. System, the Department should make every effort to bring down the engineering costs by ensuring full utilisation of the additional capacity

1	2	3
53	145	The Committee suggest that a phased programme for replacement of Morse instruments by teleprinters may be prepared taking into account the production programme of the teleprinter factory, which, it is hoped, will be able to meet all the rquirements of the country.
54	146	In view of the fact that mechanisation would greatly reduce the delays in the transmission of telegraph messages, the Committee would urge that traffic studies may be completed on priority basis .
55	148	The Committee suggest that the proposals for mechanisation of the Central Telegraph Offices at Bombay, Calcutta, Delhi and Madras may be given high priority in the Third Plan. They hope that the setting up of the teleprinter factory in the country would go a long way in the early implementation of the scheme.
56	150	Should the experiments about delivery of high priority telegrams and express delivery letters on motor-cycles prove successful, the Committee suggest that the scheme may be extended to areas where it would be of particular advantage, taking into consideration the cost of the service.
57	152	The Committee suggest that the Department should look into the question of shortage of stores for implementing the retransposition scheme with a view to expedite the supply of the required stores. If the scheme has been in practice as successful as claimed, it should be more extensively implemented to augment the circuit capacity.
58	155	The Committee suggest that the printergram and telex services may be provided in important commercial towns and business centres in the Third Plan period. More publicity may be given about these services so as to make them popular with the public.
59	158	The Committee are of the view that there is scope for further improving the phonogram service in the Central Telegraph Offices. Adequate number of phonogram positions may be provided with queueing facility in these offices.
60	160	The Committee are of the view that stricter supervision is called for in regard to the handling of greetings traffic on the part of the staff, particularly in the matter of their decoding.

1	2	3
61	161	The Committee consider that it would be desirable to keep separate statistics of complaints about greetings telegrams. They may be analysed regularly and remedial action taken to improve the service.
62	162	The Committee suggest that the proposal to get printed greetings telegrams with certain common phrases to expedite delivery may be implemented early.
63	164	The Committee suggest that the Department may endeavour to meet the pending demand for telegraph circuits on lease to the fullest extent as expeditiously as possible.
64	167	The Committee suggest that the procedure for extension of time in cases of faults developing on the line or in the teleprinter machine may be simplified.
65	169	The Committee hope that as a result of the steps proposed to be taken now, the efficiency of the Indian Language Telegraph Service in Devanagri script would improve.
66	170	The Committee suggest that the procedure of registration of abbreviated addresses may be simplified.
67	174	The Committee urge that the Department should undertake periodic reviews of the number of service telegrams issued by the various circles and offices and tighten up the observance of the rules in this regard with a view to keep their number to the minimum.
68	176	The Committee recommend that the Department may analyse in detail the complaints of delay in the receipt of overseas messages and take necessary remedial measures.
69	177	The Committee would also urge that there should be close co-ordination between the Overseas Communications Service and the P&T Department. For this purpose regular meetings, say once in a quarter, may be held between the officers of the two departments with a view to make necessary adjustments in the interest of traffic.

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70	179	The Committee would like to emphasise that the omissions and errors in the International Telegraph Directory should be rectified without delay and the procedure in this regard streamlined so as to leave no room for such mistakes in future. Care may also be taken to ensure that the names of all telegraph offices which are opend in future, are correctly and promptly incorporated in the International Telegraph Directory.
71	181	The Committee suggest that the reasons for steep increase in the working expenses of the Telegraph Branch in the current year may be examined in detail and necessary steps taken to bring down the expenditure.
72	184	It is necessary that the estimated cost, under the different components, of laying telecommunication cables in the sections for which firm demands have been indicated by the Ministry of Railways should be prepared and shown in the Demands for Grants in future to enable Parliament to judge the amount required for the year in the context of the total outlay involved.
73	186	The Committee consider it essential that the Ministries of Railways and Transport and Communications effect a close liaison in the matter of planning and phasing the execution of the scheme to lay telecommunication cables in connection with Railway Electrification.
74	188	The Committee suggest that the question of adopting the technique of using booster transformers may be studied by the Railway Board in conjunction with the P&T Department and a decision taken expeditiously keeping in view the additional capital and recurring cost involved *vis-a-vis* the advantages that would be derived therefrom. In case it is found that aluminium sheathed cables would be preferable in the balance, urgent action may be taken to manufacture these cables and other accessories indigenously.
75	192	The Committee are of the view that with the formation of the P&T Board having enhanced powers and since the Department is the principal tele-communication user, it is desirable that the quesion of again entrusting the coordinaion and planning work for wireless to the P&T Department is examined.

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76	196	The Committee consider it unfortunate that a good deal of expenditure has to be incurred on the shifting of wireless stations which were established earlier without proper consideration of the suitability of their location. The expenditure incurred in setting up the stations at the older locations had thus become infructuous. It is hoped that the Department will gain from this experience and ensure in future that the sites for setting up new stations fully meet the technical requirements.
77	198	In order that the Third Plan schemes for wireless development are not held up due to delays in acquisition of sites, construction of new buildings and difficulties in the import of equipment, the Committee would urge the Department to take necessary steps well in advance. The Committee would also suggest that efforts may be made to manufacture indigenously the equipment required and for this purpose there should be close coordination with the Bharat Electronics Ltd.
78	203	The Committee are not happy at the steep increase in the working expenses of the Wireless Branch during the current year. They suggest that the Department may undertake at an early date a study of the reasons for increase in the expenditure on general administration and operative charges with a view to see if some economies are possible consistent with maintenance of international standards. They also hope that the revenue receipts of the Branch would increase in proportion to the increase in its traffic handling capacity.
79	207	Since the I.T.I. are the principal manufacturers of telecommunication equipment in the country and most of the designs developed in the Telecommunication Research Centre are manufactured there, the Committee are of the view that a very close liaison is necessary between the two so that the researches done by the Research Centre are quickly translated for practical use. It has also to be ensured that there is no duplication of effort between the two in the matter of research in the field of tele-communications. The Committee

1	2	3
		would like to recall in this connection the following observations made by them in para 142 of their Eleventh Report (Second Lok Sabha) on the I.T.I.:—
		"The Committee feel that the existing coordination for research is not adequate. They would therefore suggest that there should be greater integration between the research activities of I.T.I., P&T, Railways, Defence and Universities so that limited resources and facilities in this field might be used to the best advantage."
80	208	The Committee would also urge the Ministry of Transport and Communications as well as the P&T Department to see that the proved designs which have been handed over by the Telecommunication Research Centre to the I.T.I. and the P&T Workshops are expeditiously produced for use on the P&T network.
81	210	The Committee consider that the Telecommunication Research Centre should intensify its work with a view to keep the country abreast of the latest developments and also to adapt the system most suited to the requirements.
82	212	The Committee consider that the question of putting the requirements of equipment of the Telecommunication Research Centre on the U.N. Special Fund Programme may be reconsidered.
83	213	While the Committee welcome the proposal to have direct recruitment for the posts of Scientific and Technical Officers—Grades I and II, they are of the view that a flexible system of inter-change of staff engaged on research and engineering functions will be conducive to the efficiency of the Department as it will enable the staff engaged on research to keep in touch with the practical requirements of the Department.
84	214	The Committee are of the view that the scientific personnel working in the Telecommunication Research Centre may be given, as far as possible, the same benefits and privileges as are available to their counterparts working under the CSIR. The proposals submitted in this regard may therefore be considered sympathetically and an early decision taken thereon.

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85	215	The Committee recommend that a quinquennial review of the research work done by the Telecommunication Research Centre on the lines of the CSIR may be undertaken by the P&T Department also. If necessary, an expert from outside may be associated with such a review.
86	217	The Committee consider that since the problem of copper wire thefts is essentially a law and order problem, the State Governments should be asked to intensify the necessary protective and detective measures. The steps taken by the Government of Madras in this regard may be brought to the notice of other State Governments.
87	218	The Committee hope that the electronic fault locator would be expeditiously brought into use for preventing copper wire thefts.
88	220	In regard to breakdowns, the Committee would like the Department to examine how far laxity in supervision and inadequate or non-regular maintenance has been responsible for the steady deterioration in the situation during the last four years and take adequate remedial measures.

APPENDIX—XI

Analysis of recommendations contained in the Report

I. CLASSIFICATION OF RECOMMENDATIONS:

A. Recommendations for improving the organisation and working:

S. Nos. 2, 3, 4, 6, 9, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 42, 43, 44, 46, 47, 48, 49, 50, 51, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 68, 69, 70, 73, 75, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87 and 88

Total: 71

B. Recommendations for effecting economy (including those for augmenting income)

S. Nos. 10, 18, 23, 41, 45, 52, 67, 71, 74, 76, and 78

Total : 11

C. Miscellaneous recommendations:

S. Nos. 1, 5, 7, 8, 29, and 72

Total 6

II. ANALYSIS OF MORE IMPORTANT RECOMMENDATIONS DIRECTED TOWARDS ECONOMY (INCLUDING THOSE FOR INCREASING THE INCOME)

S. No.	No. as per summary of recommendations	Particulars
1	2	3
1	10	There is no reason why a lower deposit of Rs.1000 should be prescribed for Kanpur under the OYT Scheme.
2	18	The question of increase in staff in Delhi and Madras Telephone Districts needs to be looked into.
3	23	A speedy review of the number of telephone connections on Central Government account is necessary with a view to see if they are fully justifed. Further expansion should be limited to what is absolutely necessary.

1	2	3
4	41	The cost of billing and collection of telephone revenue needs to be curtailed.
5	45	The working expenses of the Telephone Branch should be progressively curtailed by streamlining the procedure and by intensive utilisation of assets.
6	52	The engineering cost should be brought down with the introduction of the V.F.T. System.
7	67	Periodic reviews of the number of service telegrams issued by various Circles and offices and tightening up of the observance of rules in this regard are called for with a view to keep their number to the minimum.
8	71	Reasons for steep increase in the working expenses of the Telegraph Branch in the current year may be examined and steps taken to bring down the expenditure.
9	74	The question of adopting the technique of using booster transformers may be studied by the Railway Board in conjunction with the P&T Department and a decision taken expeditiously keeping in view the additional capital and recurring cost involved *vis-a-vis* the advantages that would be derived therefrom.
10	76	It is unfortunate that a good deal of expenditure has to be incurred on the shifting of wireless stations which were established earlier without proper consideration of the suitability of their location. The expenditure incurred in setting up the stations at the older locations had thus become infructuous.
11	78	A study of the reasons for increase in the working expenses of the Wireless Branch in the current year, particularly on general administration and operative charges, may be undertaken at an early date with a view to see if some economies are possible. It is also to be hoped that the revenue receipts of the Branch would increase in proportion to the increase in its traffic handling capacity.

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