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RAILWAY ELECTRIFICATION

MINISTRY OF RAILWAYS
(RAILWAY BOARD)

PUBLIC ACCOUNTS COMMITTEE 1990-91

TWELFTH REPORT

NINTH LOK SABHA

LOK SABHA SECRETARIAT
NEW DELHI

TWELFTH REPORT
PUBLIC ACCOUNTS COMMITTEE
(1990-91)

(NINTH LOK SABHA)

RAILWAY ELECTRIFICATIONS

MINISTRY OF RAILWAYS
(RAILWAY BOARD)

[Action taken on 123rd Report of PAC (8th Lok Sabha)]

Presented to Lok Sabha on 6 Sep. 1990

Laid in Rajya Sabha on 6 Sep. 1990

LOK SABHA SECRETARIAT
NEW DELHI

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INTRODUCTION

I, the Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf this Twelfth Report of the Committee on Action Taken by Government on the observations/Recommendations of the Public Accounts Committee contained in their 123rd Report (8th Lok Sabha) on Railway Electrification.

2. In this Report, the Committee have reiterated that with a view to reap the benefits of electrification and for reduction consumption of precious diesel oil, it is necessary that Railways are provided electricity at a reasonable price so that the electric traction does not prove to be costlier than the diesel traction. The Committee have considered the suggestion made by the Committee of Secretaries in August 1988 to the effect that the tariff for railway traction should not be higher than the high tension industrial tariff for other consumers as reasonable and have desired that this should be acted upon.

3. The Committee considered and adopted the Report at their sitting held on 23 August, 1990. Minutes of the sitting form Part II of the Report.

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

5. The Committee place on record their appreciation of the assistence rendered to them in the matter by the Office of the Comptroller & Auditor General of India.

NEW DELHI ;
August 23, 1990

Bhadra 1, 1912 (Saka)

SONTOSH MOHAN DEV
Chairman,
Public Accounts Committee

CHAPTER I

REPORT

This Report of the Committee deals with action taken by Government on the Committee's recommendations contained in their 123rd Report (8th Lok Sabha) on Railway Electrification.

2. The Observations/Recommendations contained in the Committee's Report have been broadly categorised as shown in Appendix-I.

3. The Committee will now deal with action taken by Government on one of their observations/recommendations.

Fixation of electricity tariff for Railway traction
(Sl. No. 1—Para 2.9)

4. The Committee had observed that the Ministry of Railways had not been able to prove that the electric traction was the cheapest of the three modes of traction viz. Steam, Diesel and Electric as was initially claimed by them. The figures of the latest years had revealed that there was hardly any difference in operation cost (inclusive of fuel, maintenance and repairs; depreciation and interest charges; and other overheads) of diesel and electric traction. On the other hand the line haul cost in case of diesel traction was less in 1984-85 and 1985-86 if the tax element was excluded from the cost of the diesel. The Ministry of Railways had tried to explain that the rate of rise of diesel price from 1984-85 had been much lower than that of electricity. Further, they had also contended that the price of diesel was regulated and controlled under the powers of Government whereas there was no control on the electric tariff for Railway traction and that the State Electicity Boards fixed their tariffs without any consideration for the Railways. The Committee had observed that Railways being a public utility of national importance and the electrification having been declared as a National Policy it became all the more necessary that they got electricity at a price which was commensurate with the cost, For this the Ministry of Energy (Department of power) should render all possible help to the Railways in seeking cooperation of the State Electricity Boards in this regard. While noting that the matter regarding the electricity tariff was taken up by the Railway Board at Secretaries Committee level as a consequence of which a sub-committee was set up to determine the rational tariff policy for traction and the methodology to implement it which submitted its Report on 10 November, 1987 the Committee had desired that the Report should be considered by the Committee of Secretaries at the

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* Presented to Lok Sabha on 12 April, 1988.

earliest and a decision taken so that the Railways were supplied electricity at reasonable tariff for electric traction.

5. The Railways have, in their reply dated 15 September, 1989, stated that the sub-committee's Report submitted in November 1987 was considered at a meeting of the Committee of Secretaries on 8 August 1988 who have directed that the tariff of Railway traction should not be higher than the high tension industrial tariff for other consumers. Further, according to Railways, the Department of Power, Ministry of Energy has been requested to impress upon the State Electricity Board to keep Railway Traction tariff at reasonable rates and not higher than the high tension industrial tariff.

6. The Ministry of Energy (Department of Power) in their reply dated 6 April, 1989 have stated that the Railway Board has been advised by this Department that the State Governments have complete autonomy in regard to fixation of tariff. The Electricity (Supply) Act 1948 does not contain any provision which enables the Central Government to issue direction to the State Governments/State Electricity Boards on the subject.

7. The Committee reiterate that with a view to reap the benefits of electrification and to reduce consumption of precious diesel oil, it is necessary that Railways are provided electricity at a reasonable price so that the electric traction does not prove to be costlier than diesel traction particularly when electrification for the Railways is most capital intensive. Although the Electricity (Supply) Act, 1948 does not contain any provision which enables the Central Government to issue directions to the State Governments/State Electricity Board on the subject, the Committee feel that even without any formal directions from the Ministry of Energy, State Governments/State Electricity Boards should be impressed upon to fix the tariff for Railway traction at a reasonable level. The suggestion made by the Committee of Secretaries in August 1988 to the effect that the tariff for railway traction should not be higher than the high tension industrial tariff for other consumers is a reasonable one and should be acted upon. The Committee desire that the Ministry of Energy (Department of Power) should take necessary initiative in this regard and bring round the State Electricity Boards keeping the national perspective in view and utilise central generating stations for this purpose.

CHAPTER II

OBSERVATIONS/RECOMMENDATIONS THAT HAVE BEEN NOTED/ACCEPTED BY GOVERNMENT

Recommendation

Though there is a point in Railways contention that there are number of benefits of electrification and here is need to reduce consumption of imported diesel oil and to use the energy generated by thermal plants, yet the fact that it is the most capital intensive cannot be easily ignored. The Ministry have not been able to prove that the electric traction is the cheapest of the three modes of traction viz. steam, diesel and electric as was initially claimed by them. The figures of latest years reveal that there is hardly any difference in operation cost (inclusive of fuel, maintenance and repairs; depreciation and interest charges; and other overheads) of diesel and electric traction. On the other hand the line haul cost in case of diesel traction was less in 1984-85 and 1985-86 if the tax element is excluded from the cost of the diesel. The Ministry have tried to explain that the rate of rise of diesel price from 1984-85 has been much lower than that of electricity. Further, they have also contended that the price of diesel is regulated and controlled under the powers of Government whereas there is no control on the electric tariffs for railway traction and that the State Electricity Board fix their tariffs without any consideration for the Railways. The Committee feel that Railways being a public utility of national importance and the electrification having been declared as a national policy it becomes all the more necessary that they get electricity at a price which is commensurate with the cost. For this the Ministry of Energy (Department of Power) should render all possible help to the Railways in seeking cooperation of the State Electricity Boards in this regard. It is also pertinent to note that the matter regarding the electricity tariff was taken up by the Railway Board at Secretaries Committee level as a consequence of which a sub-Committee was set up to determine the rational tariff policy for traction and the methodology to implement it. The sub-Committee submitted its report on 10 November 1987 which is yet to be considered by the Committee of Secretaries. The Committee desire that this report should be considered by the Committee of Secretaries at the earliest and a decision taken so that the Railways are supplied electricity at reasonable tariff for electric traction.

[S. No. 1 para 2.9 of 123rd Report of PAC(1987-88) VIII Lok Sabha]

Action taken by Ministry of Railways

Electrification project is considered only when internal rate of return on capital investment calculated as per discounted cash flow technique, is more than 10 per cent over the cost of haulage under diesel traction.

The sub-Committee's report submitted in November, 1987 was considered at a meeting of Committee of Secretaries on 8.8.1988 who have directed that the tariff for Railway traction should not be higher than the high tension industrial tariff for other consumers. Department of Power, Ministry of Energy has been requested to impress upon the State Electricity Boards to keep the Railway traction tariff at reasonable rates and not higher than the high tension industrial tariff.

This has been seen by Audit.

[Ministry of Railways(Rly. Bd.)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15.9.1989].

Action taken by Ministry of Energy (Deptt. of Power)

The Committee of Secretaries has already considered the Report on August 8, 1988.

The Railway Board has also been advised by this Department that the State Governments have complete autonomy in regard to fixation of tariff. The Electricity (Supply) Act, 1948 does not contain any provision which enables the Central Government to issue directions to the State Governments/State Electricity Boards on this subject.

[Ministry of Energy (Deptt. of Power) O.M. No. 27(14)/88-D(SEB)T&FP dated 6.4.89].

Recommendation

Since Centre's share in the power generation in the country through thermal, hydro and nuclear plants is going to increase substantially by the end of Seventh Plan (NTPC's share alone is likely to increase from the present level of 5.25% to 23%), the Committee recommend that the Ministry of Energy should examine the matter in consultation with the Ministry of Railways taking into account the overall national perspective so that Railway's demands for power are met, at reasonable price. The Committee would like to be apprised of further development in this regard.

[S.No. 2, para 2.10 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action taken by Ministry of Railways

The question of application of equitable tariff for Railway traction was taken up by the Ministry of Railways in their Memorandum submitted to the Committee of Secretaries on 7.5.1985. The Committee of Secretaries in turn appointed a High Power Committee chaired by Member Thermal,

CEA, to go into the details of Railways' problem and submit their recommendations. The High Power Committee submitted its report in the month of October '87 which was forwarded by the Ministry of Energy to Cabinet Secretariat in April '88. Subsequently Committee of Secretaries met on 8.8.1988 but could not provide the desired relief to the Railways because as per Indian Electricity Supply Act, 1948, Central Government have no power to issue any policy direction to any State Government/State Electricity Board for fixation of power tariff.

Regarding availing of power from Central Generating Stations, the Committee of Secretaries opined that where unallocated portion of the power from a Central Generating station is assigned to any particular beneficiary to meet emergent requirement, it does not carry with it a tariff that is applicable to the Central Generating Station. Only State Board's tariff would apply.

The Ministry of Railways now propose to take up this issue with Group of Ministers. A draft Memorandum to be submitted to the Group of Ministers has been sent to the concerned Ministries for approval/comments. On receipt of the approval/comments of the concerned Ministries the Memorandum would be submitted to the Group of Ministers for their consideration.

Audit Observations

The Action Taken Note is of interim nature. The final decision taken on the PAC's recommendations may be advised to the PAC after consideration of the issue by the Group of Ministers.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt. 27-11-89]

Action taken by Ministry of Energy (Deptt. of Power)

The possibility of reserving a part of the Electricity generated by Central Sector Power Stations for core and essential industries is presently being considered by a Group of Ministers.

[Ministry of Energy (Deptt. of Power) O.M. No. 27(14)/88-D(SEB) T & FP dated 6-4-89]

Further Information by the Ministry of Railways

The question of application of equitable tariff has been considered by the Cabinet and the proposal for availing power from National Thermal Power Corporation from their unallocated Central share of 15% of power from Central Power Generating Station for Railway traction has been approved in principle.

[Ministry of Railways (Railway Board)'s O.M. No. 88-BC-PAC/VIII/123 dated 21-8-90]

Recommendation

The Committee find that an attempt is being made by the Railway Board to study the effect of changes in the market prices of HSD oil and electric power into the social costs. This study is stated to be yet under way and is expected to be completed soon. The Committee would like to be apprised of the results of such a study and the action proposed by the Ministry thereon.

[S.No. 3, Para 2.11 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

Results of study to determine the traffic level which would justify electrification of a route in the future:—

(i) Based on assumptions of both cost and operating norms as realised in 1987-88 the break-even level of traffic at 10% discount rate and fuel rates of 1.107 per kwh and Rs. 3.586 per litre of HSD, comes to about 28.7 million GTKM/RKM at the beginning of construction and 34.9 million GTKM/RKM in the first year of energisation of the route.

(ii) It has been recommended that no decision on electrification should be taken without financial and economic appraisal of a detailed feasibility report.

(iii) **Economic analysis:**

All other norms of financial analysis remaining unchanged and applying the economic costs of HSD, power and lubricant the economic break-even level justifying electrification worked out as follows:—

Beginning of construction	21.7 million GTKM/RKM
First year of energisation	26.4 million GTKM/RKM

(iv) Calculations show that if a route is energised at economic break even level instead of financial break even level, it will result in **Net Present Value** of lose (during the project life) to the tune of about Rs. 8.2 lacs per RKM in financial terms.

2. **Decision of the Ministry**

The Railway Board have taken a decision, *inter-alia,* that survey for electrification should be undertaken when a traffic level of 30 million GTKM per route km has been attained on a double line section. It has been decided, further, that investment decisions on electrification projects shall be taken only after proper financial/economic appraisal based on a detailed survey and all relevant factors including cost of fuel should be considered in each detailed feasibility report for an electrification project.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/ VIII/123 dt. 27-11-89]

Recommendation

The Ministry of Railways have asserted that since electrification is done essentially on high density routes/sections, the change in break-even levels has not really disturbed the perspective plan of electrification. The Committee are, however, of the opinion that since the break-even-level of traffic density also depend *inter-alia,* on the cost of fuel and the rate of increase in diesel price has been much lower than that of power since 1984-85, it would be better to select sections, other than those falling on trunk routes connecting four metropolitan cities, for electrification with projected break-even-level of traffic densities on the high side, say, near to 30 to 32 GTKMs/RKm/annum so that the electic traction is not proved uneconomical as compared to diesel traction even in adverse conditions in future.

[S.No. 4, Para 3.6 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The observations of the Committee have been noted.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd.)'s O.M. No. 88-BC-PAC/ VIII/123 dt. 15-9-89]

Recommendation

The Committee also desire that while computing the rate of returns, which also depend among other things on the cost of fuel, the Railways should examine the feasibility of assuming relative change in the pattern of cost of diesel and electric traction over the period of analysis, i.e., the life of the project so that the electrified project keeps on giving at least 10 per cent return on the capital as compared to diesel haulage.

[S.No. 5, Para 3.7 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

It is necessary to clarify at the outset that the Railways approve projects which give 10 per cent return on DCF basis. However, this does not necessarily mean that the project gives a 10 percent return or above during every year of the life of the project. The DCF return is a kind of weighted average, the present worth factors being the weights, and some individual year's returns may be below 10 per cent while those of others may be above 10 resulting in overall average of 10 percent.

As far as taking into account relative change in the pattern of cost of diesel and electric traction, it may be mentioned that investment analysis

on the Railways or in any other sector for that matter is carried out at present on the basis of prices prevailing in the year of the analysis.. An attempt was made by this Ministry to collect the future prices of HSD oil and electricity rates from the Planning Commission. In view of very uncertain international crude oil market which is expected to be stabilised in the near future, the forecasted prices by different agencies vary from 25 to 45 $ per barrel. As regards electricity rates the prices are estimated to be around one rupee per KWH. These prices are being made use of for appraisal of electrification projects. It may be mentioned that the approved IRR for Railway Projects is 10 per cent.

This has been seen by Audit.

[Ministry of Railways (Rly.Bd.)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15-5-89]

Recommendation

The Contention of the Ministry that by and large all the sections progressively electrified so far have satisfied the general criteria fixed for track electrification is indicative of the possibility that there may be certain electrified sections or sections being electrified which may not satisfy the general criteria. The Committee are of the view that this aspect needs to be critically analysed with a view to identifying such sections and exploring the reasons due to which the prescribed criteria was not satisfied. The Committee would like to be apprised of the results of such examination. They have also been informed that studies in the three electrified sections to find out projections, investment and operation costs in relation to the targets are being undertaken. The Committee would like the post project evaluation studies being conducted in these sections in different zonal Railways completed expeditiously and they would like to be apprised of the results thereof. They are also of the opinion that projection in regard to rate of returns, traffic density etc. of every section after a specified period of its getting electrified should be evaluated as a matter of general practice so that reasons for shortfall in projections are critically analysed and appropriate remedial measures taken for the future selection of sections.

[S.No. 6, Para 3.8 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

As desired by Public Accounts Committee, the matter has been critically reviewed to identify whether sections electrified/being electrified satisfy the criteria for electrification projects. It has been found that the general criteria as indicated in para 3.3 of the

report of the Committee referred to above, has been followed rigidly while selecting sections for electrification on Indian Railways.

Post project evaluation studies in three sections in different Zonal Railways have been completed. Salient features and findings of the studies are enumerated below:—

1. (a) SECTION: Virar (Bombay) — Sabarmati (Ahmedabad) of Western Railway.

(b) SALIENT FEATURES OF VSRE PROJECT REPORT:

(i) Project Section*	:	Bombay-Sabarmati (Some facilities on Bombay-Virar section also included)
(ii) Length of Section	:	491 route km.
(iii) Gestation period	:	
Projected	:	4 years (ending 1970-71)
Actual	:	5½ years (appx.)
(iv) Capital cost (after devaluation)		
(a) Total net outlay	:	Rs. 3254.653 lakhs
(b) Foreign exchange requirement (with rolling stock)	:	Rs. 1582.522 lakhs

(v) Financial return of electric traction

	over	
	Steam	Diesel
(i) Before devaluation	8.51	9.94
(ii) After devaluation	6.94	7.75

(*) Since electrification terminated at Ahmedabad, this scheme should be appropriately referred to as Bombay-Ahmedabad Electrification Project.

(c) FINDINGS:

(i) The VSRE project was one of the early Railway Electrification projects and hence an attempt was made to do an impact evaluation in terms of comparing the actual IRR with the estimated IRR. The formulation of this project lacked in sophistication, technique and the benefit of experience. This resulted in additions/deletions in scope of work and material modifications.

(ii) It incurred time over run of about 1½ years which can be considered as justifiable, keeping in view the natural calamities of floods in the catchment area.

(iii) Total cost over run works out to about 33% till completion report stage, the main reason for which was the change in accounting procedure, viz. inclusion of cost of colour light signalling and telecom. cables in the electrification project which was not the practice earlier and therefore was not provided in the VSRE Feasibility Report. Cost over run was also due to material modification and rise in price as well as increase in labour cost.

(iv) The weakest link of the VSRE Report is the traffic estimate which was made only for the first year of the commencement of the services and had not adopted any detailed methodology. The importance of inter-modal split as between rail and road was not considered. As a result traffic projections went absolutely away. Despite the fact that traffic projections did not materialise, the financial viability of the project is established. The annual returns worked out in this post evaluation study show that the project has been remunerative in financial tems at current prices from 1980-81. This was partly due to relative change in prices of HSD oil and power and partly to savings in annual cost of locomotives provision and maintenance.

(v) In general, therefore, the VSRE project was poorly formulated, basically due to lack of expertise in such project planning. Nonetheless, the end-result has been found to be financially viable by this post-project evaluation study.

The formulation of RE projects has now been systematised and the deficiencies in the earlier reports like that of VSRE, have now been overcome. Guidelines for preparation of RE projects have been formulated for ensuring availability of required data/analysis for assessing their technical, financial, commercial and economic viability. The cost of CLS, which is incurred for smoother and safer operation on high traffic density routes, and improvements in communication (S&T works) are now excluded from the capital cost of the RE projects.

2(a) SECTION: Delhi-Mathura-Jhansi

(b) SALIENT FEATURES OF PROJECT:

(i) Project section	:	Delhi-Mathura-Jhansi
(ii) Route kms.	:	409
(iii) Date of energisation	:	Delhi-Mathura—March 1984 Mathura-Jhansi—March 1987
(iv) Capital cost		
(a) Original:		
Delhi-Mathura (1979)	:	Rs. 20.27 crores gross (Rs. 19.15 crores net)

Mathura-Jhansi (1980)	Rs. 24.78 crores gross (Rs. 23.34 crores net)
Total	Rs. 45.05 crores gross (Rs. 42.58 crores net)
(b) Revised	
Delhi-Jhansi (1983 FR)	Rs. 110.47 crores gross (Rs. 107.36 crores net)

(July 1985 — Board's sanction Rs. 113.76 crores gross) (Rs. 106.65 crores net)

(v) Traffic projections — in million GTKm (of electric traction)

Year	Traffic
1984-85	13461
1985-86	13820
1986-87	14180

(vi) Financial return (anticipated as per Feasibility Report) — 10.2% (on revised investment of Rs. 110.47 crores as in F.R. of September. 1983)

(c) FINDINGS:

In this study no attempt has been made to investigate the impact of project in terms of realisation of envisaged financial and economic returns. This is so because in respect of infrastructural projects at least 8 to 10 years should have elapsed before meaningful impact evaluatioan is undertaken. Findings/observations of the post-project evaluation study are as under:—

(i) The main reasons for the dealy in completion of energisation were (a) diversion of resources to MTP work for ASIAD, 1982 and (b) slow progress of work by OHE contractours. Both these factors were beyond Railway's control.

(ii) Use of aluminium catenary could not be made and decision was ultimately taken to use conventional copper-cadmium catenary. This was so because technology for the right alloy as also the drawings tor catenary application had to be developed for the first time in the country and this was a time consuming process. In fact, large scale adoption of aluminium catenary is intended now.

(iii) The major item of cost over run amounting to Rs. 5.31 crores (out of Rs. 23.32 crores of total excess due to increase in scope of work)

is due to wiring of additional 134 track km. of various loops and sidings.

Increases in cost on account of revision made by SEB's and P&T department have been taken up at appropriate levels. Co-ordination is now being done both with SEB's & P&T department.

(iv) On the traffic side, the actual traffic on the Jhansi-Delhi (TKD) section was more than the anticipated traffic during the first three years of the energisation of the section. In the present study we have not attempted the impact evaluation or even compared the anticipated internal rate of return with actual internal rate of return. The trend of actual traffic in the first three years, however, indicates that other things remaining unchanged, the actual internal rate of return of the project may be more than the IRR anticipated at the project appraisal stage. However, even while appreciating this fact, it may be emphasised that precision in traffic estimates would be helpful.

To sum up, the Delhi-Jhansi railway electrification project was an improvement on the similar projects of the past. The cost over-run especially relating to material modification and change in the scope of the project during the gestation period could be avoided for the furture projects by improving the quality of technical and commercial analysis of the Feasibility Report.

3(a) SECTION: Arakkonam-Renigunta

(b) SALIENT FEATURES OF PROJECT:

(i) Project section: Arakkonam-Renigunta (excluding)

(ii) Route kms.: 66

(iii) Date of energisation: December 1984

(iv) Capital cost

(a) Original sanction of April 1982 : Rs. 12.24 crores

(b) Revised sanction of June 1985 : Rs. 19.34 crores

(v) Traffic projections in million GTKm per RKm per year

Year	Traffic density
1985-86	34.53
1989-90	41.16
1994-95	44.78

(vi) Financial return (anticipated) 14.0%

(c) FINDINGS:

(i) The project was taken up without a detailed feasibility report for the sake of expediency. For the current projects, feasibility report is being insisted upon.

(ii) The section was energised in 1984 and there was no time over-run.

(iii) The cost over-run has been explained by general inflation and changes in scope of work coming to light at the time of execution of the project.

(iv) Even though no impact evaluation of the project has been undertaken, its IRR may be marginally lower than the projected 14%.

This has been seen by Audit.

[Ministry of Rlys. (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt. 27/11/89]

Recommendation

The Committee note that the Railways had indicated priorities to sections failing on quadrilateral and diagonal routes connecting the four metropolitan cities of Delhi, Bombay, Calcutta and Madras with a view to introducing electric traction over the maximum possible distance within a short span of time not only to avoid multiplicity of traction but also for better utilisation of electric locos. The decision regarding this policy was taken by Railways in July 1972 and reiterated in January 1981. The Committee find that more or less the Railways have followed this policy but there are instances when the sections have been taken up and electrified in violation of the prescribed criteria which are narrated under:—

i) Waltair-Kirandul section, neither part of trunk route nor contiguous to any electrified track was completed in Sixth Plan at a cost of Rs. 53.31 crores. Though it was targetted to be completed in 1976, the traffic density of its four sub-sections has been quite low and as late as in 1985-86 ranged between 12.89 and 19.18 million GTKm/RKm/annum and has yet to achieve the present break even level of 22-30 million GTKm/RKm/annum. The Committee do not know whether this section is giving 10% return on the investment as compared to diesel haulage as well and would like to be informed of the exact position.

ii) Kharagpur-Midnapore section, not included in the approved ten year programme of electrification of high density trunk routes and having low traffic density (1.8 million GTKm/RKm/annum during 1982-83) was electrified out of turn in May-June 1984 at a cost of Rs. 1.84 crores by reappropriation of funds from the ongoing Delhi-Jhansi priority project.

iii) During Seventh Plan six new works having priority as 'B' were

approved at a cost of Rs. 98.36 crores. Four out of the six projects are stated to have been taken up on operational considerations and the expenditure incurred thereon till March 1987 was Rs. 4.63 crores and the outlay (RVSD) on these during 1987-88 is about Rs. 27.50 crores. In case of remaining two sections, the preliminary work is in progress. The Committee are of the opinion that taking up these priority 'B' works and incurring expenditure thereon while priority 'A' projects (Sections on trunk routes) are yet to be completed perhaps could have been deferred.

[S.No. 7, Para 4.9 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

(i) Return on investment for electrification of Waltair-Kirandul section as compared to diesel haulage is 10.2%.

(ii)&(iii) These projects were approved on operational considerations. However, Committee's observations have been noted.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/ 123 dt. 27/11/89]

Recommendation

A disquieting feature about the execution of the various projects has been the failure of the Railways to complete the spill over works during the following plan periods. For example, 3 of the 7 works in Fifth Plan and 1 of the 7 works in Sixth Plan were not completed and again in Seventh Paln,6 out of the 18 works are not targetted to be completed. It appears that spill over works have not been accorded the priority they deserved. As the track electrification of a section normally takes only 4-5 years, it should not be difficult to complete the spill over works within 2-3 years of the following plan period. The Committee hope that Railways would ensure this and in no circumstances spill over works will be allowed to again spill over. they also expect the Railways to draw a lesson from this experience and strengthen their planning implementation and monitoring machinery so that there are no time and cost over runs.

[S.No. 14, Para 5.17 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The observations of the Committee have been noted.

To avoid spill over of electrification works from one plan period to another, the required monitoring and planning organisations have been set up in the General Manager, Central Organisation for Railway Electrification, Allahabad's office and with Chief Project Managers' Field Organisations. Electrification Projects costing above Rs. 100 crores are also monitored by the Prime Minister's Office through the Ministry of Programme Implementation.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/ 123 dt. 15/9/89]

Recommendation

The Committee regret to observe that the Railways have failed to adopt technological upgradation developments in traction distribution and tranction rolling stock of the electrification system which have been taking place abroad since long and it is only recently that some steps have been contemplated by them in this direction. For example, nothing was done till 1983 to upgrade 3900 H.P. locomotives being manufactured in Chittaranjan Locomotive Works based on 1960 vintage technology. The Indian Railways did not opt for the technology of thyristors which came into Europe as early as in 1972-73 and the locomotives based on this technology are stated to be highly reliable. While the Committee can realise the importance of introducing technology change only when proved successful, they are unable to understand the long delay in adopting the same. The Committee consider that it is necessary to keep track of the proven technological changes relevant to Indian environment and adopt them at the earliest so that research and development being done abroad could be advantageously utilised with a view to increasing the efficiency of Indian Railways electrification system. As regards the question of huge finances involved in the process, the Committee consider that it would be worthwhile to electrify less number of route kms. than those being planned in order that the electrification system (both in terms of fixed installation and traction Rolling Stock) thereon could be maintained up-to-date with latest technological developments.

[S.No. 15, Para 6.9 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The observations of the Committee have been noted.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15/9/89]

Recommendation

The Committee are constrained to point out that even the belated decision of the Railways to upgrade the electric locos with latest technology has not been acted upon. This is evident from the fact that after inviting tenders in 1983 the Railways placed orders for 18 prototypes of 6000 H.P. thristorised control locomotive viz six each of 3 designs from Japan and Sweden in 1985 and the same are expected to be delivered from January 1988 onwards whereafter they would be put on service trials for one year and then out of these one type will be selected for series manufacture. Apart from slow pace of action in this regard, the decision of

the Railways to place orders for these locomotives in 1985 can not be fully justified in view of the fact that a better technology (AC3 phase) had been developed abroad by then and it was paying rich dividends in terms of better availability of locomotives and certain other parameters. The Railways could have possibly revised their decision at that time in favour of the latest technology or at best simultaneous action could have been taken to import some prototypes of locos based on the latest 3-phase technology. However, it is only now that Railways have floated tenders for 40 high H.P. locomotives using 2-phase technology, supply of which might take a few years if the Railways' experience regarding import of 6000 H.P. locomotives is any indication. The Committee feel that excessive time taken to procure 3-phase locomotives would further delay the selection of a suitable high H.P. locomotive for series manufacture in India since the Railways are unlikely to be able to take a decision before evaluating the performance of 3-phase locomotives under Indian Conditions. The Committee at this stage can only hope that action would be taken to procure expenditiously these 3-phase traction motor locomotives.

[S.No. 16, Para 6.10 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

Tenders for 40 electric locos of 3-phase type both of freight and passenger version are under evaluation and order is expected to be placed in 1989.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15/9/89]

Further Information by Ministry of Railways

At a time when the evaluation of the tenders for 3-phase drive electric locomotives was in an advanced stage the Expert Group of the Planning Commission desired to have a study of the case. Meanwhile the validity of the offers expired on 31.3.1990, whereupon the Asian Development Bank suggested revised bids to be obtained. The matter is being pursued in close coordination with the Asian Development Bank.

[Ministry of Railways (Railway Board) O.M. No. 88-BC-PAC/VIII/123 dt. 21-8-90]

Recommendation

The Committee would like to be apprised as to why Railways could not bring about any improvement indigenously in the technology of the current design of electric locos all these years. Since production of high H.P. Locos based on thyristors or AC 3 phase technology is likely to take a few more years, it is necessary that efforts are made, if not already initiated, at the earliest in this direction. There should not be much of a difficulty in the process as the Committee understand that CLW has the capacity to

uprate the current design of electric locos upto atleast 5000 H.P. with the existing resources and infrastructure. They would like to be apprised whether any progress has since been made in this regard. Further, with a view to ensuring satisfactory working of existing fleet of electric locos, the Railways are stated to have taken steps to improve the traction motor and bogie, the two main problem ridden equipments, by import of technology. The Committee consider that other parts of the locos such as transformer, convertor and invertor should also be improved upon either indigenously or by importing the latest technology so that the existing fleet of electric locos could be totally revamped and made more efficient and economical. The committee further desire that in all these activities as well as for effecting improvements in the fixed installation the RDSO Locknow should be actively associated. There should be a close and constant interaction between the production and the research wings of the Railways so that the problems of crucial importance are tackled in an effective and conclusive manner. The activities of RDSO should be intensified to enable it to keep abreast with the latest available technology all over the world so as to build up its confidence and strength enabling the Railways to develop latest technology expeditiously.

[S.No. 17, Para 6.11 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

It may be mentioned that emphasis on technology development of Electric Locos in 1970s had been to achieve self sufficiency to the extent of total capability to manufacture indigenously most of the equipment/ components to reduce import content. CLW & RDSO concentrated their efforts on transfer, adoption and absorption of technologies of equipment of electric locos. Later on efforts were concentrated to effect design modifications to suit local conditions. This resulted in substantial reduction in import content. Upgradation of technology had been limited to critical areas of traction motors, cables of superior technology and circuit breaker of latest design of vaccum type.

Upgradation of locomotive is a continuous process. Electric Locomotives in last twenty years have been upgraded from horse power of 2800 to 3460 to 3900 horse power, keeping in view requirements of traffic and technological base then available indigenously & restricting import to minimum. Action on conceptual design for upgradation of existing 3900 horse power locomotive to 5000 horse power has been initiated. Total system design is being studied jointly by RDSO & CLW. Major equipment of higher rating and better technology required are traction motors, bogies, transformers, convertor and control. Traction Motors technology for 5000 horse power locomotive has already been obtained. Global tender for high adhesion bogies, suitable for 5000 horse power has been opened and is under evaluation. For development of suitable transformer, indigenous firms are working on prototypes. For other items RDSO & CLW are

jointly examining the feasibility of optimising the equipment and system design.

Observations of Committee that activities of RDSO should be intensified to enable them to keep abreast with latest available technology have been noted. Indian Railways have also initiated action to restructure scope and strategy for RDSO. Emphasis in RDSO will be to keep abreast of new technology, understand know-how and know-why modern technology for Railways, work on specific projects with mission oriented approach so that RDSO develop capability to employ modern technology with assistance of growing indigenous industrial base to meet future requirements.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd.)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15-9-89]

Recommendation

The Committee are of the opinion that simultaneously steps should be taken to develop the track and strengthen repair and maintenance organisation as the maintenance work is not at a level where it should be.

[S.No. 18, Para 6.12 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

On important routes the track is being strengthened and modernised to enable it to meet increasing demands of both passenger and freight traffic. The track modernisation programme consists of provision of better and stronger track structure and adoption of improved methods of maintenance of track, with a view to minimising both maintenance and operational costs and, at the same time, making rail travel safer and more comfortable, even at the high speeds contemplated for the future. For increased mechanised maintenance 30 more high capacity tamping machines are being added to the existing 86 on-track tamping machines, which are presently maintaining about 14,000 km. of high speed and heavy density routes. Apart from this, for further modernisation of the track maintenance methods, the following machines are in order:—

(1) Ballast cleaning machines — 7

(2) Ballast regulators — 7

(3) Switch and crossing tampers — 10

(4) Rail grinding machine — 1

(5) Self-propelled ultrasonic rail flaw testing (Spurt) Car — 1

(6) Dynamic Track Stabilizer — 1

This has been seen by Audit.

[Ministry of Railways (Rly. Bd.)'s O.M. No. 88-BC-PAC/VIII/123 dt. 24-10-88]

Recommendation

From the foregoing paragraphs the Committee are inclined to conclude that the planning and execution of Waltair-Kirandul section was casually and ineptly handled which was further aggravated by delayed decisions. Consequently there was delay of six years in completion of the project and 120% increase in the project cost. The delay in execution of the project not only resulted in non-achievement of anticipated savings (Rs. 15.90 crores) in working expenses but also in avoidable expenditure on account of payment of compensation to OHE contractors (Rs. 45.75 lakhs) and MPEB (Rs. 56.34 lakhs) and in establishment charges (Rs. 182.23 lakhs). [S.No. 19, Para 7.13 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

Considering this technical complexities of the project and other circumstances, some delays were unavoidable. However, the Committee's observations have been noted.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15-9-89]

Recommendation

Though some delay was expected due to provision in system design for OHE, sub-stations and signalling and tele-communication circuits as a result of implementation of optimisation survey report and for which the target date was duly revised to March 1976 from March 1975, the ultimate delay of about six years in energisation of the section was certainly not unavoidable. The paucity of the funds as one of the main reasons for the delay is unacceptable on two counts, first, the project authorities could not utilise the funds made available to them during each of the first 10 years and secondly, the delay would have taken place even otherwise due to Railway's lack of proper planning and anticipation of certain/inevitable/ Developments. For example, the Railways allowed the dispute of compensation with MPEB to arise and remain unresolved for quite a long period with the result that when they asked for the power supply for Phase I (Jagdalpur-Kirandul) from June 1979, MPEB insisted for the compensation and did not agree to supply of power. The issue was resolved ultimately in August 1980 and the precious 15 months were lost on this count. Again due to delay in finalisation of telecommunication design system, the telecommunication cables could be laid in Jagdalpur-Kirandul and Jagdalpur-Katavalsa sections in 1978-79 and 1981-82 respectively. Further, the delay on account of non-availability of locos for trial purposes had nothing to do with availability of adequate funds and in fact highlights Railway's failure to provide matching facilities with the different stages of project execution. It will not be out of place to mention here that full number of electric locos required for working on the line was not coordinated and got ready

for use with the completion of electricfication in December, 1982 with the result that diesel traction could not be discontinued on the section till September, 1985. The delay on account of failure of indigenous suppliers to deliver cables and insulators could have been tackled by timely action on the part of the Railway Administraction. The explanation that there were technical and logistic problems in execution of project due to inaccessible mountaineous terrain of the section is also unconvincing as they were already aware of the nature of the terrain before embarking upon the project and laying down the completion target.

[S.No. 21, Para 7.15 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The observations of the Committee have been noted.

Instructions have been issued to Central Organisation for Railway Electrification/Allahabad and R.E. projects for avoidance of slippages/lapses in regard to procurement of material, and to the open line Railways for maximum utilisation of electric traction on the electrified section.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O. M. No. 88-BC-PAC/VIII/123 dt. 15-9-89]

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
No. 85/RE/122/1
New Delhi, dated 6-9-1989

The General Manager,
All Indian Railways.

&

The General Manager,
Railway Electrification,
Allahabad.

SUB: *Maximum utilisation of electric traction on electrified sections.*

In their hundred & twenty third Report on Railway Electrification, Public Accounts Committee (PAC) have adveresly commented on the non-utilisation of electric traction to the maximum extent on sections electrified in Indian Railways.

Primarily the reasons for non-utilisation of electrified sections and non-realisation of expected benefits to the maximum extent are:—

(a) Delays in planning and procurement of critical materials for the field electrification units;

(b) Continuation of dual traction due to lack of required infrastructure in the form of staff & maintenance spares for electric traction assets.

Railway Electrification Units at Allahabad may please immediately review their system of material scheduling and their ordering. Based on the past experience, ordering schedule for all long delivery items should be changed so that the sections get completed in all respects and handed over to the Open Line as and when the contractors complete their work for Overhead Equipment and substations. PERT Charts may be re-drawn to identify the critical items and their availability arranged for not only smooth execution of work but immediate handing over of sections in part to Open Line.

Maintenance staff required for OHE & Electric locomotives should be evaluated for complete operation of sections likely to be energised. Required trainee posts may be created so that adequate number of maintenance staff is available to ensure speedy change over of traffic haulage by electric locomotives. Similarly, the locomotive driving staff training should be initiated 12 to 18 months in advance so that change over is not held up on account of shortage of electric locomotive drivers.

Please acknowledge receipt and advise action taken. (K.R. VIJ)
Exe. Director Railway Electrification Railway Board.

Recommendation

The Committee expect the Railways to draw appropriate lesson from the execution of the project with a view to avoiding time and cost overrun in the future projects and would take appropriate steps to strengthen project planning and implementation. The Committee desire that the Railways should re-examine the methodology of prediction of traffic and devise suitable technique so as to avoid infructuous expenditure in creating capacity which does not subsequently materialise.

[S. No. 23 Para 7.17 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

Comprehensive guidelines exist in the Indian Railways Code for Engineering Department for preparation of a detailed project report, which should help in the planning and implementation of the projects. To further improve the project planning and implementation on the Railways, supplementary guidelines have been issued from time to time. In May 1988, through a demi-official letter from Member Engineering, the General Managers have been advised to follow in letter and spirit the existing guidelines regarding approval of works and sanction of estimates and to

ensure that the works are executed expeditiously and strictly according to the sanctions. All material modifications above Rs. 15 lakhs are to be got approved by the Board after careful review.

Guidelines have also been issued to carry out periodic reviews and monitor implementation of the projects through PERT Charts. For projects costing over Rs. 10 crores each, monthly progress report in regard to milestones achieved or slipped are received in Railway Board's office.

The methodology for projection of traffic is detailed in the Chapter-III of the Indian Railway Code for Engineering Department. Railway Convention Committee (1980) in the 12th Report on Track Expansion Programme, had advised to carry out an indepth study of the estimation parameters and technique of traffic survey with a view to revising them so as to give realistic traffic projections. This was with particular reference to the surveys for the new railway lines. A Committee of three senior Railway officers was nominated for the review and based on the recommendations of this Committee, amendments to the relevant paragraphs of the Engineering Code have been issued in January 1988.

Railway electrification projects are normally undertaken on portions of the existing Railway network which are already being heavily utilised and have been in operation for a considerable period. For such projects, past trends often give reasonable guidance in the matter of forecast of traffic. Even here, specific streams of traffic that may be expected to be generated because of any industrial or mineral project coming up, are separately accounted for. However, when a project is solely dependent on a mining or industrial project, as in the case of K-K line, the Railways have to depend necessarily on the information supplied by the user agency, which is normally another Government Department or undertaking. Some of the Railway investments suffer on account of the delays which the implementing agency of the mining/industrial project concerned face because of resource constraints, inadequate demand for products, or such other problems. Periodic liaison is maintained and funding of railway project is generally regulated to see that the investments on the railways match the expected growth of traffic.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15-5-89]

Recommendation

Execution of Vijayawada-Gudur Section is another instance of delay, cost escalation and lack of proper planning by the Railways in Electrification projects. Apart from delay of four and a half years in energisation of the Section in December 1980 instead of March 1976 and resultant non-realisation of expected savings in working expenses (Rs. 10.41 crores), there has been considerable escalation (70%) in project cost. The oft-

repeated plea of funds constraints is hardly convincing as the Railways themselves had spread the scarce resources on far too many projects. Delay in procurement of critical material and approval of prototypes by RDSO point towards project organisation's/CORE's lack of planning and coordination with the concerned Deptts./Agencies in this regard. Diversion of critical materials to other on-going project when this Section was nearing completion is indicative of bad planning particularly when this was a priority-project on the Delhi-Madras trunk route and the funds from other projects (Waltair-Kirandul) were diverted to this project. Futher, the quantum of work involved in the project does not seem to have been properly gauged at the project estimate stage as the Railways had to increase the scope of work in April' 76 and again 7 material modification works costing Rs. 2.87 crores had to be sanctioned from May 1980 to August 1981. Thus, the delay and cost escalation in the project could have been curtailed, if not altogether eliminated, had, there been proper planning and timely anticipation of difficulties involved in procurement of critical materials.

[S.No. 24, Para 7.32 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

The observations of the Committee have been noted.

Instructions have been issued to Central Organisation for Railway Electrification/Allahabad and R.E. projects for avoidance of slippages/lapses in regard to procurement of material, and to the open line Railways for maximum utilisation of electric traction on the electrified section.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15-9-89]

Recommendation

The fact that the project cost had to be revised from Rs. 45.05 crores to Rs. 113.85 crores just three years after the sanctioning of the estimate on account of escalation due to inflation and general charges (100% increase) and changes in specification and increase in scope of work (52% increase) leads the Committee to conclude that proper estimates of work and expenditure involved had not been made before commencement of the project. Sanctioning of such under estimated projects create financial constraints subsequently as the actual demand for funds from such projects is usually more than that envisaged in the original estimates and the Railways have to allot the limited funds at their disposal on too many such sanctioned projects. Consequently the projects get less allotment than necessary and the period of their execution gets prolonged. For example, due to these reasons the Phase II (Mathura-Jhansi) of the project targetted to be completed in March 1984 was eventually completed in March 1987. Since cost has been revised in other electrification projects also, the Committee consider that there is urgent need to curb the persistent

tendency to underestimate the work and the cost of these projects. This is essential to ensure that Railways accord sanctions to such number of projects as could be comfortably executed with the expected limited resources available to them in a particular period of time even though certain unforeseen increase in expenditure take place during execution of the project.

[S.No. 26, Para 7.32 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

Comprehensive guidelines for preparation and sanction of estimates have been given in the Indian Railways Code for the Engineering Department. To improve the system further, supplementary guidelines have been issued from time to time. Recently, in May 1988, Member Engineering, Railway Board in a D.O. letter has advised the General Managers to follow the existing system in letter and spirit and to furnish the anticipated cost in Works Programme only after preparation of plans and estimates. Detailed formats for submission of revised estimates and an explanatory memorandum for the increase in cost have also been prescribed. Cases revealing failures in project formulation, schedule of execution and avoidable cost over-runs are taken up with the Zonal Railways and, in some cases, even individual responsibility is fixed. With these measures, the cost estimation of new proposals has improved considerably and the results would be visible in the next few years, when these works get completed.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15-5-89]

Recommendation

The Committee recommend that the clause 1.2.21 of the Tender paper for OHE contracts may be amended so that for effecting recoveries of the cost of the materials supplied to the contracts it is brought in conformity with the provision in the Engineering Code and the financial interests of the Government are duly protected.

[S.No. 27, Para 7.32 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The observations of the Committee have been noted.

Instructions have been issued to the General Manager, Central Organisation for Railway Electrification to modify clause 1.2.21 of the Tender Papers for OHE, as recommended by the Committee.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15-9-89]

No. 85/RE/122/1. New Delhi, Dated 6-9-1989

The General Manager,
Central Organisation for
Railway Electrification,
ALLAHABAD.

Sub: Recoveries of Materials supplied to the OHE contractors—Clause 1.2.21 of the Tender papers for OHE.

Vide para 7.37 of their Hundred and Twenty Third Report on Railway Electrification, Public Accounts Committee have recommended as under:—

para 7.37

The Committee recommended that the clause 1.2.21 of the tender papers OHE contracts may be amended so that for affecting recoveries of the cost of materials supplied to the contracts it is brought in conformity with the provision in the Engg. Code and the financial interest of the Government are duly protected.

The above recommendation of the PAC has been accepted by the Board. Board desire that clause 1.2.21 of the OHE Tender papers may be suitably amended as desired by the Public Accounts Committee. Board further desire that a copy of the modified clause may be submitted to them for their information.

This may please be treated as "MOST IMMEDIATE".

Sd/-
(K.R. VIJ)
Exe. Director Railway Electrification
Railway Board.

Recommendation

The Committee conclude that if the electrification of Ahmedabad-Sabarmati section had been completed earlier (1974) it would have resulted in saving of operating cost by eliminating detention due to change of traction at Ahmedabad for loads from Bombay side during the period 1975-1982. Further, if the electrification of Ahmedabad Sabarmati Section was dependent upon the electrification of Godhra-Anand and Vadodara-Ratlam section, the Committee are unable to understand how the former was taken up on urgency certificate and completed in the year 1981-82 whereas Anand-Godhra section was energised later in 1983-84 and Vadodara-Ratlam section was energised still later in 1986-87. At this stage, the Committee only hope that adequate care would be taken by the Government in future in planning and implementation of projects of large financial value so that Government is not subjected to avoidable expenditure due to lack of proper planning. It is imperative that realistic project

plans are prepared and there is intensive monitoring through periodical monitoring system so that effective remedial measures are taken with due promptitude.

[S.No. 28, Para 7.40 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The observation of the Committee has been noted.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd.)'s O.M. No 88-BC-PAC/VIII/123 dt. 24-10-88]

CHAPTER III

OBSERVATIONS/RECOMMENDATIONS REPLIES TO WHICH HAVE NOT BEEN ACCEPTED BY COMMITTEE AND WHICH REQUIRE REITERATION

4.10 On the other hand an important priority 'A' project viz. Itarsi-Bhusawal does not seem to have been given due priority. Delhi Jhansi section is targetted to be energised by December 1988. Bhusawal to Bombay is already electrified. The Itarsi-Bhusawal when energised would complete the electrification of Delhi-Bombay trunk route via Central Railway. Though Itarsi-Bhusawal (projected traffic density 35.5 million GTKm/RKm/annum and IRR 12.7%) was approved in 1982-83, the expenditure incurred thereon upto March 1987 was only Rs. 8.52 crores against the sanctioned cost of Rs. 77.13 crores. It is now targetted to be completed by 1990-91. Thus, for atleast 27 months, if not more, the electrification of Delhi-Bombay route (via Central Railway) would remain incomplete. Delay in taking up this section is incomprehensible particularly when sections (Balharshah-Wardha and Jhansi-Nagpur) with lesser traffic densities and I.R.R's and approved at the same time were taken up earlier. If financial constraints was one of the reasons for the delay, that perhaps could have been avoided by deferring the work on the four priority 'B' sections taken up in Seventh Plan and allotting the funds earmarked to them to this project. At this stage the Committee can only express the hope that the Government would be careful in future in giving approval to projects which are financially viable and also in overal interests of the country.

[S.No. 8, Para 4.10 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

Electrification of Itarsi-Bhusawal section was initially given low priority due to the diversion of 57 kilometres of track due to construction of Punasa Dam, now designated Indira Gandhi Dam in Madhya Pradesh. It has now been decided to take up electrification of this section on the existing track by sand CORE foundations so that most of the materials can be retrieved after the track has been diverted finally. OHE contracts have been awarded and electrification is in progress and the work is expected to be completed in VIIIth Plan.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd.)'s O.M. No 88-BC-PAC/VIII/123 dt. 15-9-1989]

Recommendation

The Committee find that during 1974-75 to 1979-80 (4 years of truncated Fifth Plan and 2 years of Rolling Plan) the Railways were allotted Rs. 122 crores by Planning Commission for electrification out of which Rs. 120 crores were spent by them. However, they could energise only 728 RKms during this period against the target of 1800 RKms set by them for Fifth Plan (1974-79) for which a plan outlay of Rs. 120 crores (later reduced to 101 crores) was made. Serious inflation following the oil crisis has been cited by the Railways as the main cause responsible for the shortfall in achievement. Again, while the expenditure in Sixth Plan was 94% of the Plan outlay and 98% of the budget allocation, only 1522 RKms were energised against the target of 2800 RKms. According to Railways the project estimates are framed at the current prices and do not contain any element of future inflation. However, it is difficult to accept that the Railways could have achieved the targets during the Fifth and Sixth Plan periods even if they were allotted Rs. 175 crores and Rs. 642 crores as demanded by them during each of the years of these plans respectively perhaps taking inflation aspect also into account. The Committee are, thus inclined to conclude that Railways failed to exercise proper control over the timely execution of the projects in these plan periods leading to considerable cost escalation and resultant increase in cost of electrification/ RKm.

[(S.No. 9, Para 5.12 of 123rd Report of PAC (1987-88) VIII Lok Sabha)]

Action Taken

Progress of electrification projects during the Vth and VIth plan periods was adversely affected due to constraint of resources and funds. The first oil crisis of 1973-74 contributed considerably to sharp escalation of prices. Mid-term appraisal of the Vth plan proposed investment resulted in a low priority for electrification thereby the on-going electrification projects of Tundla-Delhi, Madras-Vijayawada and Waltair-Kirandul then in progress were delayed.

As regards the VIth Five Year Plan, in pursuance of the recommendations of the Working Group of Energy Policy of the Planning Commission (June 1980), it was decided to accelerate the pace of electrification on Indian Railways at the beginning of the VIth Five Year Plan and electrification of 2800 RKms. in the VIth Five Year Plan was envisaged. For this accelerated electrification programme, infrastructure had to be created and strengthening of the electrification organisations on the Railways and Ministry as well as at RDSO was also considered necessary. Large number of electrification projects were sanctioned and were commenced during the VIth Plan period so that these would mature in the VIIth Plan (1985-90), where the energisation of about 3400 RKms. was

planned, for which procurement of long lead critical items was to be taken up immediately and the building of the organisational infrastructure to be commenced at the same time. With the improvement in resources position in VIIth Plan and sufficient funds allotment being made available in the last year of the plan, target set for the VIIth Plan would be achieved.

It may be mentioned that within the resource, constraints every endeavour was made to monitor the execution of the various projects taken in hand.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd.)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15-9-89]

Recommendation

Improper planning seems to be the main cause for the dealy in completion of the electrification projects. For example, while the target for Sixth Plan was to energise 14 sections including 7 spill over sections as many as 20 new sections were sanctioned during the plan period. Consequently, the Budget allocation of Rs. 437 crores against the plan outlay of Rs. 450 crores, got distributed over 27 sections, instead of concentrating the Budget allocation on 14 targetted sections. While there may be justification to sanction fresh works in order to maintain the shelf 'pipeline' and avoid its running 'dry' but it should be ensured that incurring of expenditure there on does not result in shortage of funds for the targetted projects. If so many new works were sanctioned with a view to stepping up the pace of electrification w.e.f. Sixth Plan onwards, then it was necessary to ensure the availability of sufficient funds for the same. The Committtee would like to be informed whether all the fresh works were sanctioned in consultation with the Planning Commission and if so, the reasons why Planning Commission could not make availabe sufficient funds for the same eventually.

[S.No. 10, Para 5.13 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

Out of 20 new electrification projects sanctioned in the Sixth Plan, 17 were major schemes and were sanctioned after obtaining prior approval of the Planning Commission. Remaining 3 works viz. (i) Fast pass. & Goods lines between Madras-Arakkonam, (ii) IIIrd line between Villivakkam-Patabiram, and (iii) Kharagpur-Midnapur involving small outlays, varying from Rs. 1.8 crores to Rs. 3.6 crores, were extensions of the existing electrified network , and were sanctioned under Railway Administration's powers on operational consideration. However Planning Commission were fully informed of these sanctions through Annual Plans.

Fresh works on Electrification were sanctioned generally on the basis of the electrification programme envisaged at the time of formulation of the

6th Five Year Plan and operational necessities. While the programme and outlays fixed up for the Five Year Plan serve as a guide the year to year allocation are determined at the time of formulation of Annual Plans, based on position of resources and inter-se-priorities between the different sections on the basis of plan objectives. However during the Sixth Plan priority had to be given for replacement of overaged assets and creations of capacity to meet the project traffic. As a result allocations for electrifications programme had to be on a restricted scale.

Specific Comments of the Planning Commission Obtained as Desired by Audit are Reproduced Below:

Fresh works on Electrification were sanctioned generally on the basis of the electrification programme envisaged at the time of formulation of the Sixth Five Year Plan and operational necessities highlighted by the Railways. While the programme and outlays fixed up for the Five Year Plan serve as a guide, the year to year allocations are determined at the time of formulation of Annual Plans, based on position of resources and inter-se-priorities between the different sections. The available outlays for the Railways are judiciously allocated for different needs on the basis of the plan objectives. However, during the Sixth Plan priority had to be given for replacement of overaged assets and creation of capacity to meet the projected traffic.

As a result allocations for Electrification programme had to be on a restricted scale. Electrification programme is a continuous process and allocation of funds is determined on the basis of availability of funds. Care is, however, taken to inpress upon the Railways to utilise the available funds for progressing the priority projects and not spreading these thinly over a large number of projects, sanctioned to keep ready a reasonable shelf of projects.

This had been seen by Audit.

[Ministry of Railways (Rly.Bd)'s O.M.No. 88-BC-PAC/VIII/123 dt-15.9.89]

Recommendation

Another aspect of improper planning is evident from the fact that at the end of Sixth Plan 18 sections were spilled over but only 12 of these are targetted to be completed during the Seventh Plan. On the other hand 6 new sections have been approved so far in the current plan and 4 of them are targetted to be completed during the plan period. It is needless to say that the best the Railways could do was to fix the target for completion of 14 of the 18 spill over sections on which they had started incurring expenditure in the Sixth Plan itself.

[S.No. 11 Para 5.14 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

Electrification of only 6 sections, as under, is expected to spill over to the VIIIth Plan:—

Section	Year of approval
Itarsi-Bhusawal	1982-83
Bhopal-Nagda	1982-83
Kazipet-Sanatnagar	1982-83
Bina-Katni	1984-85
Katni-Bilsapur	1984-85
Jolarpettai-Bangalore	1984-85

As explained in reply to para 4.10 of the Committee's Reports electrification of Itarsi-Bhusawal section was given low priority due to diversion of tracks arising out of construction of Punasa Dam. As regards other projects, which were sanctioned in 3rd year (2Nos) and 5th year (3Nos), of the Sixth Plan have been given low priority in the VIIth Plan period due to emphasis on early completion of electrification of trunk routes. However, these projects will be completed in the Eighth Plan.

This has been seen by Audit.

[Ministry of Railways (Rly. Bd.)'s O.M.No 88-BC-PAC/VIII/123 dt-15.9.89)]

Recommendation

The Committee further note that the enthusiasm with which the Railways took decision in January 1981 to step up the pace of electrification appears to have been cooled down while formulating the target for Seventh Plan. Against 5049 Rkms as envisaged at that time for the Seventh Plan, the Railways programmed to energise only 3400 Rkms which even fell short of 4522 Rkms comprising of spill over on 18 sections from Sixth Plan. The reduced target is stated to have been fixed to ensure a match in locomotive availability and keeping in view the availability of resources. If this was the constraint in setting up higher target, it is not clear on what consideration the Railways had decided in January 1981 to achieve energisation of about 1000 Rkms every year from Sixth Plan onwards.

[S.No. 12 para 5.15 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The working group on energy policy was appointed in 1977. In their report of 1979, group focussed attention on the pressing need of restricting the consumption of petroleum products and encourging consumption of alternative fuels and suggested that all possible ways should be examined by which the consumption of oil could be restricted only to uses where it cannot be substituted.

As a follow up of the recommendations of the Working Group of Energy Policy of the Planning Commission, the Committee of Secretaries

in their meeting of 11.6.80, identified electrification as one of the items to conserve consumption of high speed Diesel oil in India. In July 1980, the committee decided that as a follow up, on priority basis planning should be made for Railway Electrification at 1000 route kilometres per year. further, the Cabinet Committee on energy which was formed on 29th October, 1980 presided by the Prime Minister had directed in their meeting on 19.12.80 that the Secretaries Committee on energy should monitor and review the implementation of its decision on a regular and continuing basis and report back to the Cabinet Committee from time to time. The Secretaries Committee on Energy requested the Ministry of Railways in March, 1981 to review its programme of energisation in the VIth and VIIth plans.

On a review of this programme and considering the lead time for various steps, it was found that the pace could not be made faster. It was, therefore, reiterated to the Secretaries' Committee that although there was no possibility of achieving 1000 RKMs per annum earlier than 1984-85, the programme of electrification of 2800 Rkms during the Sixth Plan and 5000 Rkms in the Seventh Plan as advised to the Committee would be adhered to. Also, during the VIth plan priority had to be given for replacement of overaged assets and creation of capacity to meet the projected traffic.

As a result, allocations for electrification programme had to be on a restricted scale. Electrification programme is a continuous process and allocation of funds is determined on the basis of their availability from time to time. Care, is, however, taken to utilise the available funds for progressing the priority projects and not spreading these thinly over a large number of projects sanctioned to keep ready a reasonable shelf of projects.

This has been seen by Audit.

[Ministry of Railways (Rly.Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt.15-9-89]

Recommendation

The Committee are now informed that the Railways require Rs. 1020 crores against the Plan out lay of Rs. 830 crores for achieving the target of 3400 Rkms in the current plan. Considering the expenditure incurred and the number of Rkms energised so far, the Committee apprehend that the Railways may have to spend much more than Rs. 1020 crores. The Committee hope that the Planning Commission would allot the necesary funds to the Railways during the current plan to enable them to achieve the target.

[S.No. 13 Para 5.16 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The allocation of funds for the Railways is determined during the formulation of Annual Plans on the basis of overall availability of resources. The available funds for the Railways are distributed over different requirements on the bais of the objectives and priorities of the Plan. During the Seventh Plan also, substantial funds had to be provided for replacement of overaged assets, creation of capacity to meet the projected demand for traffic and strengthening of the maintenance infrastructure. As a result, allocations for electrification programme could not be increased to take care of escalations and fulfil the envisaged targets.

The progress of electrification vis-a-vis allocation of funds during the current plan is indicated as under:—

Years	Allocation (in crores)	Rkms electrified
1985-86	167.8 Actual	461
1986-87	177.7 Actual	573
1987-88	194.6 Actual	681
1988-89	180.3 Allotted	743
1989-90	210.0 Allotted	750 Target
	929.9	3208

As regards allotment of adequate funds during the VII Plan period for achieving target set for electrification project, Planning Commission have been duly apprised of the hopes of the Public Accounts Committee.

Specific Comments of the Planning Commission obtained as desired by audit are Reproduced below:—

The allocation of funds for the Railways is determined during the formulation of Annual Plans on the basis of overall availability of resources. The available funds for the Railways are distributed over different requirements on the basis of objectives and priorities for the Plan. During the Seventh Plan also, substantial funds had to be provided for replacement of overaged assets, creation of capacity to meet the projected demand for traffic and strengthening of the maintenance infrastructure. As a result allocations for electrification programmes could not be increased to take care of escalations and fulfil the envisaged targets. It was also considered necessary to scale down the electrification targets in view of the emerging shortage of electric locomotives. However, it has been impressed upon the Railways to use the available funds judiciously to progress the priority projects.

This has been seen by Audit.

[Ministry of Railways (Rly.Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt.15-9-89]

Recommendation

There was 15 months delay on the part of the Railway Board in directing the Railway Administration to carry out a survey and make recommendations for optimising capacity of this section keeping in view the expected movement of 12 million tonnes of traffic as indicated by Ministry of Steel; 6 months delay in consideration of the recommendations of this survey Report and a further $3^1/_2$ years' delay in sanctioning the revised estimate submitted by Railway Administration.

[S.No. 20, Para 7.14 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The execution of the electrification of Waltair-Kirandul section got delayed due to the following reasons:—

i) The optimisation study by S.E. Railway (Dec. 72. Report) called for a fresh examination of the project system design in respect of OHE and traction sub-stations to be suitable for running heavier trains upto 7200/ 9000 tonnes, the award of contracts for OHE and sub-station was possible only after re-examination and finalisation of system design. The contracts could be finalised only after decision on the optimisation study was taken and prolonged negotiations with tenderers for the higher size of the contract wire were concluded.

ii) The 1973-74 oil crisis led to an extraordinary heavy inflation and marked reduction in funds availability. With the funds squeeze, funds had to be diverted to higher priority on going projects like-Tundla-Delhi and Vijayawada-Gudur electrification. As a result, funds availability for Waltair-Kirandul project was inadequate.

iii) Because of the higher currents in the OHE, design of S&T and telecommunication cabling circuits had to be rechecked by RDSO. Fresh consultants were also engaged. The system design parameters were finalised after detailed and field tests in June 1979. Further, because of failure of Hindustan Cables Ltd., to supply cables, import through global tenders had to be resorted to leading to delay in project execution.

iv) Indigenous suppliers of insulators failed to deliver the materials in time. Finally shortages had to be made good by imports which led to delay.

v) Madhya Pradesh Electricity Board (MPEB) delayed release of electric power because of dispute in payment of compensation/minimum guarantee charges.

The investment, due to resource constraints, was made over a much longer period than that originally contemplated. Hence, expected savings

could start accruing to the Railways only from a correspondingly later date, after commissioning of the project.

This has been seen by audit.

[Ministry of Railways (Rly.Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt.15-9-89]

Recommendation

Another disquieting feature of the project has been the poor volume of traffic on the electrified route which varied between 5.38 and 6.73 million tonnes during 1980-81 to 1983-84 against the anticipated figure of 10 million tonnes. Thus, optimisation capacity work; involving increased project cost and the resultant delay, carried out as a result of optimisation study has been entirely infructuous. The Committee would like to be apprised as to why the traffic as projected in optimisation survey report has not materialised even after 7-8 years of the target date (March 1976).

[S.No. 22, Para 7.16 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action Taken

The need for optimisation of section capacity and throughout on Kirandul-kottavalasa-Waltair line was felt primarily against the increased commitment of export of iron ore and the future requirement of iron ore for the proposed steel plant at Visakhapatnam. According to the contract signed with Japan in 1971 India was committed to export over 61 million tonnes of iron ore from Bailadila range of mines during a period of about 10 years starting from 1971-72. The anticipated yearwise despatches of iron ore for export against the above export contract were as follows:—

Years	Wet Long tons
1971-72	49,18,456
1972-73	52,32,400
1973-74	52,32,400
1974-75	75,34,656
1975-76	80,57,896
1976-77	80,57,896
1977-78	81,62,544
1978-79	81,62,544
1979-80	81,62,544
1980-81	5,86,029
Total	640,06,765

The Steel plant with rated capacity of 2 million tonnes per annum was also proposed at Visakhapatnam and at that stage the source of iron ore for this project was also Bailadila mines. It was indicated that the iron ore traffic for the steel plant would start moving by the second half of 1978-79.

Hence, taking all these aspects into consideration and also the fact that the Visakhapatnam Steel Plant would go into production towards the end of 79-80, an optimisation study to carry the traffic on the K-K line was considered extermely essential. In fact the movement pattern which was expected to materialise was as under:—

(Figure in million tonnes)

Years	Export	Steel Plan	Total
1973-74	4.5	-	4.5
1974-75	6.0	-	6.0
1975-76	7.5	-	7.5
1976-77	8.5	-	8.5
1977-78	8.5	-	8.5
1978-79	8.5	-	8.5
1979-80	8.5	1.70*	10.20
		2.50**	11.00

Export Ore:

Despite MMTC's indication that the export would go up from 4.5 million tonnes in 1973-74 to 8.5 million tonnes in 1979-80, the actual despatches have been as follows: —

Years	Shipment
1973-74	4.087
1974-75	3.595
1975-76	4.692
1976-77	5.003
1977-78	6.009
1978-79	5.977
1979-80	5.362

* Completion of first Blast Furnace Complex of Steel Plant with two million tonnes capacity.
** Completion of first Blast Furnace Complex of Steel Plant with three million tonnes capacity.

The drop in movement of iron ore for export was mainly due to non-materialisation of the projected exports. The despatches in the subsequent years are also given below:-

Years	Shipment
1980-81	5.47
1981-82	6.40
1982-83	5.69
1983-84	5.07
1984-85	5.71
1985-86	6.02
1986-87	6.52
1987-88	5.64

Decision on the setting up of the Visakhapatnam steel plant which was initially expected to be commissioned by 1979-80, was taken by the Government only in 1979, with an annual production capacity of four million tonnes. The steel plant is yet to be commissioned and according to the latest indication, the Blast furnace may start functioning only by the end of the financial year 1988-89 or early next year.

Basically due to the slippages in the export commitment as well as delay in commissioning of the Visakhapatnam steel plant, the movement of Iron Ore over the K-K line could not reach 11 million tonnes as had been project earlier.

However, the traffic will definitely go up once the Steel Plant gets into full 'swing.

This has been seen by Audit.

[Ministry of Railways (Rly.Bd)'s O.M. No. 88-BC-PAC/VIII/123 dt.:15-9-89]

Recommendation

Apart from non-realisation of expected benefits for 4½ years, the electrified section remained unutilised fully even after its completion in November 1980. Despite non-materialisation of anticipated traffic the Railways operated some passenger services on the section with diesel locos for destinations reached *via* Gudur-Renigunta (unelectrified section) druing 1981-82 to 1984-85 which entailed extra expenditure of more than Rs. 63 lakhs. The Railway's plea that total locomotives required would have been larger if the traction was changed at Vijayawada is unacceptable as there should not have been any problem as such since the diesel as well as electric locos were surplus continuously from 1977-78 to 1983-84. Operation of diesel locos on the electrified section could have been avoided by providing change of traction arrangements at Gudur and, if that was not feasible, electrification of Gudur-Renigunta section (completed in 1984) should have been advanced by 2-3 years and synchronised with that of Vijayawada-Gudur. The Committee rocommend that detailed reasons

leading to this lapse should be investigated and effective remedial measure taken to obviate recurrence of such lapses in future. They would also like to be informed of the action taken in this regard.

[S.No. 25 Para 7.27 of 123rd Report of PAC (1987-88) VIII Lok Sabha]

Action taken

Diesel traction had to be resorted to only when it was inescapable during the said period as indicated below:

(i) **Super Fast and other important Express trains**

Since these trains were already running with diesel traction, and change of traction at Gudur and Vijayawada would have resulted in extra detention to the trains, without any saving in diesel engines, it was considered advisable to continue with diesel traction for these trains. This was also done in the case of all trains which were terminating at Tirupathi on the Gudur-Renigunta-Tirupathi section since this section was also not electrified during the period under review.

(ii) **Pilots to important stations with unwired goods sheds and other siding receiving regular traffic**

When electric traction was introduced in 1980, goods sheds/ hot axle sidings and shunting necks at 25 out of 34 stations on Gudur-Vijayawada section were not electrified, in addition to a number of lines in the Vijayawada yard itself. In the circumstances, inward traffic for goods sheds and sidings served by stations like Krishna Canal, Tenali, Padugupadu, Hellore, Tanguturu, Ongole, Ammanabrolu and Chinnaganjam, which received regular inward traffic, use of diesel engines for placement and removal of wagons was unavoidable. This was possible only by taking diesel trains through.

(iii) **Running of diesels received via Renigunta-Gudur section upto Bitragunta for change of traction**

Since electrification of Gudur-Renigunta-Arakkonam section was on the cards, no additional arrangements were made at Gudur for change of traction. In the circumstances, diesel trains had to be taken through to the Bitragunta yard for change-over to electric engines. Bitragunta was also the crew changing point. This was envisaged in the scheme of electrification itself.

(iv) **Overflow of traffic which could not be cleared by available electric locos.**

There is a confluence of two major streams of traffic from Northern and Eastern India at Vijayawada Yard. On account of fluctuations in receipt of traffic, on a number of occasions, to avoid regulation of stock short of Vijayawada in all directions, it was considered necessary to permit diesel engines to be utilised for clearing traffic ex-Vijayawada towards Madras. This was done on a day-to-day basis depending upon the traffic to be cleared.

(v) **Running through Kazipet diesels received with bye-pass stock via Gudur-Renigunta section**

B.G. Diesel goods operation on S.C. Railway is managed by engines located at Kazipet and Gooty. The engines from both the sheds were permitted to operate on Central and Southern Railways, in addition to S.C. Railway. Kazipet diesels, returning from Southern Railway *via* Renigunta-Gudur, either due or overdue schedule, had also to be pulled through from Gudur to Vijayawada on the electrified route so as to make them available for schedule at Kazipet shed. In addition, diesel engines which were being sent to Golden Rock for maintenance schedules were also being brought back on this route. Depending upon the exigencies of traffic, diesels had to be taken occasionally by the shorter route between Gudur and Vijayawada for balancing the requirements on Vijayawada and Secunderabad Divisions.

Diesel GTKMs on the electrified section constituted only 6.36% of the total GTKMs between Dec. 80 to June 84 which cannot be considered abnormal in the circumstances detailed above. There were only 83 electric locomotives homed at Vijayawada. 46 locos were of WAM-4 type which were new, while 37 locos were of WAG-1 type which were 20 to 25 years old. The engine KMs per day per engine in use on this Railway from 1980-81 to 1983-84 are as under:—

1980-81	441
1981-82	496
1982-83	525
1983-84	536

Engine KMs per engine day in use for all services during 1980-81 to 1983-84 are as under:—

Year	S.C. Railway	All Locos for Vijayawada Shed
1981-82	645	426
1982-83	656	409
1983-84	657	433

Two types of engines have been alloted to S.C. Railway *viz.* WAM-4 and WAG-1. WAM-4 are new engines while WAG-1 are old ones, being more than 20 years old, transferred from South Eastern Railway. The prescribed ineffective percentage for locomotives is 12.5% for heavy repairs and 10% for servicing. The ineffective percentage on WAM-4 has been well below the prescribed target, whereas in the case of WAG-1, it has been above the target on account of age and condition of locos. No engines have been kept on spare duty continuously.

At every point where there is change of traction, engines of either traction will have to wait for the synchronisation of load and passage. This effect is more particularly felt for movement on the Vijayawada-Gudur electrified section which deals with two streams of passenger carrying trains coming from North and East India, with four passenger blocks of 3 hours each. The practice for goods trains at Vijayawada is to call for the electric engine and crew into the traffic yard only when both the loads and passage available. The period elapsing between the time and engine is actually ready for traffic in the loco shed and the time engine is called out into traffic as counted as spare under extant instructions. Even if the engines are moved out into traffic yard when ready in loco shed, the engines will have to wait in traffic yard for load or passage and not retained as spare on a standby basis.

In conclusion, the holdings of electric locomotives were fully justified on the basis of passenger links and anticipated goods traffic.

This has been seen by Audit who have stated that their comments will follow.

[Ministry of Railways (Rly. Bd)'s O.M. 88—BC—PAC / VIII / 123 dt. 15-9-89.]

Further Information by Ministry of Railways

In subsequent electrification schemes the issue of change of traction is being critically examined and, wherever found warranted, necessary facilities are being created. It has also been decided to provide electrification of siding and major yards alongside the electrification of main line section thereby eliminating the need for diesel traction in siding / yards. With a view to deriving full advantage of electrification a decision has been taken that all private / assistant siding falling on the electrified routes should also be electrified by extending incentives to siding owners to the tune of 50% of the cost being shared by the Railways.

[Ministry of Railways (Rly. Bd.)'s O.M. No. 88-BC-PAC/VIII/123 dt. 15.9.1989].

CHAPTER IV

OBSERVATIONS / RECOMMENDATIONS REPLIES TO WHICH HAVE NOT BEEN ACCEPTED BY COMMITTEE AND WHICH REQUIRE REITERATION

-NIL-

CHAPTER V

OBSERVATIONS / RECOMMENDATIONS IN RESPECT OF WHICH GOVERNMENT HAVE FURNISHED INTERIM REPLIES

-NIL-

NEW DELHI;
23 August, 1990

1 Bhadra, 1912 (Saka)

SONTOSH MOHAN DEV
Chairman,
Public Accounts Committee.

PART-II

MINUTES OF THE SITTING OF THE PUBLIC ACCOUNTS COMMITTEE HELD ON 23RD AUGUST 1990 IN COMMITTEE ROOM NO. 50, PARLIAMENT HOUSE

The Committee sat from 1500 hrs. to 1730 hrs.

PRESENT

Shri Sontosh Mohan Dev—*Chairman*

MEMBERS

2. Shri Ramesh Bais
3. Shri Nirmal Kanti Chatterjee
4. Shri Manjay Lal
5. Shri M.S. Pal.
6. Shri Shantilal Purushottamdas Patel
7. Shri H. Hanumanthappa
8. Shri Kamal Morarka
9. Shri Vishvjit P. Singh
10. Shri Rameshwar Thakur

SECRETARIAT

1. Shri G.L. Batra—*Joint Secretary*
2. Shri G.S. Bhasin—*Deputy Secretary*

REPRESENTATIVES OF AUDIT

1. Shri R. Parameswar, Dy. C&AG
2. Shri S.B. Krishnan, Principal Director (Reports)
3. Shri K. Jayaraman, Dy. Director (Railways)
4. Shri V.A. Mahajan, Director General of Audit (P&T)
5. Mrs. Ajanta Dayalan, Director of Audit (P&T)
6. Shri Dharam Vir, Pr. Director of Audit ICR New Delhi
7. Shri A.K. Menon, Director General of Audit (Defence Services)
8. Shri R.P. Singh, Director of Audit (Defence Services)

2. The Committee considered the following draft Reports and adopted the same subject to certain modifications and amendments as indicated in Annexures—II.

(i) *** *** *** ***

(ii) *** *** *** ***

(iii) *** *** *** ***

(iv) Draft Report on action taken on 123rd Report of PAC (8th LS) re. Railway Electrification.

(v) ** ** ** **

(vi) ** ** ** **

3. The Committee authorised the Chairman to finalise these draft Reports in the light of verbal changes and minor modifications / amendments arising out of factual verification by the audit and present the reports to the House.

The Committee then adjourned.

ANNEXURE II

MODIFICATIONS / AMENDMENTS MADE IN THE DRAFT REPORT ON ACTION TAKEN ON 123RD REPORT OF PAC (8TH LOK SABHA)

Page	*Para*	*Line(s)*	*Modification / Amendment*
4	7	6	*For* "as compared to" *Substitute* 'than'
4	7	8	*Delete* the world "Scheme"
4	7	last	*For* "in view" *Substitute* "in view and utilise central generating stations for this purpose".

APPENDIX I

(i) Observations / Recommendations that have been noted / accepted by Government;

Sl. Nos. 1,2,3,4,5,6,7,14,15,16,17,18,19,21,23,24,26,27 and 28.

(ii) Observations / Recommendations which the Committee do not desire to pursue in the light of the replies received from the Government;

Sl. Nos. 8,9,10,11,12,13,20,22 and 25.

(iii) Observations / Recommendations replies to which have not been accepted by Committee and which require reiteration;

-NIL-

(iv) Observations / Recommendations in respect of which Government have furnished interim replies.

-NIL-

APPENDIX II

STATEMENT OF OBSERVATIONS / RECOMMENDATIONS

Sl. No.	Para No.	Ministry / Deptf. concerned	Observations / Recommendations
1.	7	Railways — Energy (Deptt. of power)	The Committee reiterate that with a view to reap the benefits of electrification and to reduce consumption of precious diesel oil, it is necessary that Railways are provided electricity at a reasonable price so that the electric traction does not prove to be costlier than diesel traction particularly when electrification for the Railways is most capital intensive. Although the electricity (Supply) Act, 1948 does not contain any provision which enables the Central Government to issue directions to the State Governments / State Electricity Board on the subject, the Committee feel that even without any formal directions from the Ministry of Energy, State Governments / State Electricity Boards should be impressed upon to fix the tariff for Railway traction at a reasonable level. The suggestion made by the Committee of Secretaries in August 1988 to the effect that the tariff for railway traction should not be higher than the high tension industrial tariff for other consumers is a reasonable one and should be acted upon. The Committee desire that the Ministry of Energy (Department of Power) should take necessary initiative in this regard and bring round the State Electricity Boards keeping the national perspective in view and utilise central generating stations for this purpose.

LIST OF AUTHORISED AGENTS FOR THE SALE OF LOK SABHA SECRETARIAT PUBLICATIONS

Sl. No.	Name of Agent

ANDHRA PRADESH

1. M / s. Vijay Book Agency, 11-1-477, Mylargadda, Secunderabad-500361.

BIHAR

2. M / s. Crown Book Depot, Upper Bazar, Ranchi (Bihar).

GUJARAT

3. The New Order Book Company, Ellis Bridge, Ahmedabad-380006. (T. No. 79065).

MADHYA PRADESH

4. Modern Book House, Shiv Vilas Palace, Indore City. (T. No. 35289).

MAHARASHTRA

5. M / s. Sunderdas Gian Chand, 601, Girgaum Road, Near Princes Street, Bombay-400002.
6. The International Book Service, Deccen Gymkhana, Poona-4.
7. The Current Book House, Maruti Lane, Raghunath Dadaji Street, Bombay-400001.
8. M / s. Usha Book Depot, 'Law Book Seller and Publishers' Agents Govt. Publications 585, Chira Bazar Khan House, Bombay-400002.
9. M&J Services, Publisher, Representative Accounts & Law Book Sellers, Mohan Kunj, Ground Floor 68, Jyotiba Fuele Road, Nalgaum-Dadar, Bombay-400014.
10. Subscribers Subscription Services India, 21, Raghunath Dadaji Street, 2nd floor, Bombay-400001.

TAMIL NADU

11. M / s. M. M. Subscription Agencies, 14th Murali Street (1st floor) Mahalingapuram, Nungambakkam, Madras-600034. (T.No. 476558).

UTTAR PRADESH

12. Law Publishers, Sardar Patel Marg, P.B. No. 77, Allahabad, U.P.

WEST BENGAL

13. M / s. Manimala, Buys & Sells, 123, Bow Bazar Street, Calcutta-1

DELHI

14. M / s. Jain Book Agency, C-9, Connaught Place, New Delhi. (T. No. 351663 & 350806)
15. M / s. J. M. Jaina & Brothers, P. Box 1020, Mori Gate, Delhi-110006. (T. No. 2915064 & 230936).
16. M / s. Oxford Book & Stationery Co., Scindia House, Connaught Place, New Delhi-110001. (T. No. 3315308 & 45896)
17. M / s. Bookwell, 2 / 72, Sant Nirankari Colony, Kingsway Camp, Delhi-110009. (T.No. 7112309).
18. M / s. Rajendra Book Agency IV-DR59, Lajpat Nagar, Old, Double Storey, New Delhi-110024. (T. No. 6412362 & 6412131).
19. M / s. Ashok Book Agency, BH-82, Poorvi Shalimar Bagh, Delhi-110033.
20. M / s. Venus Enterprises, B-2 / 85, Phase-II, Ashok Vihar, Delhi.
21. M / s. Central News Agency Pvt. Ltd., 23 / 90, Connaught Circus, New Delhi-110001. (T. No. 344448, 322705, 344478 & 344508).
22. M / s. Amrit Book Co., N-21, Connaught Circus, New Delhi.
23. M / s. Books India Corporation Publishers, Importers & Exporters, L-27, Shastri Nagar, Delhi-110052. (T. No. 269631 & 714465).
24. M / s. Sangam Book Depot, 4378 / 4B, Murari Lal Street, Ansari Road, Darya Ganj, New Delhi—110002.