

TWELFTH REPORT
STANDING COMMITTEE ON RAILWAYS
(1994-95)
(TENTH LOK SABHA)

MINISTRY OF RAILWAYS
(RAILWAY BOARD)

PRODUCTION UNITS OF INDIAN RAILWAYS

Presented to Lok Sabha on 14.3.95
Laid in Rajya Sabha on 15.3.95



सत्यमेव जयते

LOK SABHA SECRETARIAT
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Minutes of the First, Fourth, Sixth and Fifteenth sittings of the Standing Committee on Railways (1994-95) held on 12 May, 1994; 29 June, 1994; 6 September, 1994; and 25 January, 1995.

*Not Printed. One cyclostyled copy laid on the Table of each of the House and 5 copies placed in Parliament Library.

**COMPOSITION OF THE STANDING COMMITTEE ON RAILWAYS
(1994-95)**

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INTRODUCTION

1, the Chairman of the Standing Committee on Railways, having been authorised by the Committee to submit the Report on their behalf, present this Twelfth Report on "Production Units of Indian Railways."

2. In this Report, the Committee have examined exhaustively the issues pertaining to manufacture of rolling stock in Railways' Production Units. The Committee have noted that after the level of investment for Railways was pruned down from Rs. 45,600 crores to Rs. 27,202 crores for the Eighth Five Year Plan by the Planning Commission with the traffic level remaining the same, the Railways revised their requirement of locomotives from 1542 (650 electric and 892 diesel) to 1499 (750 electric and 749 diesel) locomotives. As the procurement programme of diesel locomotives was reduced drastically from 892 to 749 and electrification work not going on at the desired pace, the Committee have recommended that the Railways should rearrange their strategies taking into account the present pace of electrification and the resources available at their disposal for procurement of rolling stock etc.

3. As the Railways are using old technology for diesel locomotives and for electric locomotives of 1960 vintage and a negligible amount of their earnings is being spent on research and development, the Committee have *inter-alia* recommended that the Railways should chalk out a programme in close cooperation with Public Sector Undertakings/Research Institutes/IITs for developing new technologies. The Railways should also make some resources available to these institutions for the above purposes.

4. The Committee have also expressed their concern about the gross under-utilisation of the capacity in Integral Coach Factory, Perumbur, Madras and Rail Coach Factory, Kapurthala and suggested that the Railways should extensively explore the market abroad for securing more export orders for coaches and containers.

5. The Committee took evidence of the representatives of the Ministry of Railways (Railway Board) on 29th June, 1994 and 6th September, 1994 in connection with the examination of the subject. The Committee wish to express their thanks to the officers of the Ministry of Railways (Railway Board) for furnishing the material and information which they desired in connection with the examination of the subject and sharing with the Committee their views concerning the issues which came up for discussion during evidence.

6. The Report was considered and adopted by the Standing Committee on Railways on 25th January, 1995. The Minutes of the Sittings of the Committee held on 12.5.94, 29.6.94, 6.9.94 and 25.1.95 form Part II of the Report. For facility of reference, the recommendations/observations of the Committee have been printed in thick type.

NEW DELHI;
January, 1995
Magha, 1916 (Saka)

SOMNATH CHATTERJEE,
Chairman,
Standing Committee on Railways.

PART I REPORT

Introductory

The fleet of rolling stock, comprising of locomotives, coaches and wagons, constitutes a bulwark of the Railways. The adequacy of this fleet, together with its efficient upkeep and optimum serviccability are matters vital to the operation of the system. The efficiency of Railways depends largely on its good and efficient Rolling Stock. It needs to be augmented and upgraded constantly with modern and fuel efficient one to meet the needs of increasing traffic more effectively. The issue pertaining to manufacture of rolling stock in Railways Production Units has, therefore, assumed importance in the Committee's appraisal, investigation and deliberations.

2. The following table brings out the comparative position of rolling stock as at the end of 1950-51, 1991-92 and 1992-93:—

Item	Holdings in		
	1950-51	1991-92	1992-93
Steam Locomotives	8120	2492	1725
Diesel Locomotives	17	3905	4069
Electric Locomotives	72	1871	2012
Electrical Multiple Unit	460	3366	3444
Conventional Coaches	13109	29493	30322
Other Coaching Vehicles	6059	6491	6163
Wagons on Line	205596	346394	337562

3. While the requirement of wagons is met with largely by Public and Private Sector Units, the Indian Railways have the following six production units which meet their requirement of locomotives, coaches and components.

- (1) Chittaranjan Locomotive Works (CLW), Chittaranjan.
- (2) Diesel Locomotive Works (DLW), Varanasi.
- (3) Integral Coach Factory (ICF), Perumbur, Madras.
- (4) Rail Coach Factory (RCF), Kapurthala.
- (5) Wheel and Axle Plant (WAP), Bangalore.
- (6) Diesel Component Works (DCW), Patiala.

4. While the CLW and DLW are engaged in the manufacture of locomotives, ICF and RCF manufacture coaches for Railways. Wheel and Axle Plant, Bangalore caters to requirement of wheels and axles of Railways and DCW manufacture critical assemblies and spares for diesel locomotives and re-building of diesel locomotives.

5. The Committee will now deal with the current and perspective problems relating to production, maintenance, quality assurance, research and development in production units.

Railways Projection on requirement of Locomotives

6. The Railway Board had made the following two studies for their requirement of locomotives for the next 10 to 15 years:—

- (i) A Corporate Plan (1985—2000) was formulated which laid down the total requirement for locomotives as commensurate with traffic output envisaged in next 10 or 15 years including the strategies as to what should be done; and
- (ii) thereafter, a Working Group was set up in 1988 by the Planning Commission for formulating the Eighth Plan requirements. This Group did a comprehensive study as to what would be the number of locomotives (type-wise) which the Railways would require and also the strategies needed to procure as well as to maintain those locomotives.

7. As the Working Group Report was for the level of investment of Rs. 45,600 crores for the VIII Plan, the Ministry of Railways had planned to purchase 1542 locomotives-650 electric and 892 diesel locomotives. This requirement of locomotives was determined for a freight transport output level of 318.3 bntkm (billion net tonne kilometre) and for passenger traffic at 377.74 km. (billion passenger kilometre) to be achieved by 1996-97. However, after the level of investment was pruned down to Rs. 27, 202 crores by the Planning Commission with the traffic level remaining the same, the Railways had to revise their assessment of locomotives.

8. The Chairman, Railway Board during the evidence informed the Committee that in order to achieve it they had to change the strategies for dealing with traffic output. They changed the thrust towards electrification because electrification was giving them a little more output per locomotive on more heavy density routes. He added that they increased the requirement of electric locomotives to 750 and reduced the number of diesel locomotives to 749 which meant the total acquisition was reduced to 1499 locomotives, less by 43 locomotives from original assessment.

9. The original assessment, the revised assessment and shortage of locos is given in the following table:

(i) Plan assessment of locomotives at the estimated demands of Rs. 45,600 crores for 8th Plan	Electric locos —	650
	Diesel locos —	892
	Total	<hr/> 1542 <hr/>

(ii) Revised assessment of locomotives on reduction in allocation to Rs. 27,202 crores for the Plan	(i) Electric locos— (ii) Diesel locos—	750 749
	Total	1499
(iii) Difference between (i) & (ii)	(1542—1499)	43

10. The Ministry of Railways have however informed the Committee that the allocation for electrification for the Eighth Plan was reduced to Rs. 1350 crores from Rs. 1709 crores consequent on the reduction in the Plan size. As a result, the target for electrification for the VIII Plan fixed for 3000 route kms. was also reduced to 2700 route kms. The target and achievements made for electrification during the 1992-93; 1993-94 and 1994-95 are as under:—

	Target	Achievement
1992-93	500	479
1993-94	600	505
1994-95	500	—

11. The Committee during the evidence enquired whether the requirement of diesel locomotives would be more with slow progress of electrification, the Chairman, Railway Board stated:

“We are not really slowing down electrification, but resource constraint is causing a problem. Every year, the cost is going up. We are not able to electrify at the same cost at which it was done earlier.”

12. The Committee wanted to know the electric and diesel locomotives procured in the first 2 years of Eighth Plan and that planned for the next three years of the plan from different sources, the Ministry of Railways in a written note informed as under:—

Type	1992-93	1993-94	1994-95 (Planned)
Diesel locomotives	167 { CLW-30 DLW-137	139 DLW	137 DLW
Electric locomotives	137 { CLW-125 BHEL 12	152 { CLW-140 BHEL-12	170 { CLW 150 BHEL 20
6 more locomotives manufactured by BHEL in 1993-94 placed on lines after 1.4.94.			

13. As regard procurement of locomotives planned for 1995-96 and 1996-97, the Ministry stated that Annual Plan 1995-96 and mid term review of Eighth Plan 1992-97 are under finalisation. The acquisition of Rolling Stock *i.e.* locomotives, coaches, EMUs etc. would be known only after its finalisation. However, the Chairman, Railway Board informed the Committee during evidence that it should be possible to procure another 600 locomotives during the next two years. He also stated that Railways could get another 40 locomotives from BHEL.

14. The Ministry of Railways had in their Explanatory Memorandum on Railway Budget, 1994-95 under 'Targets and Achievements' stated that the Railways procured/manufactured 181 diesel locomotives in 1992-93 as against the target of 175 locomotives and for the years 1993-94 and 1994-95 targets have been fixed for 150 and 135 locomotives respectively.

15. When asked to clarify the position, the Ministry have stated that the figures of diesel locomotives furnished in the written note for 1992-93 and 1993-94 indicate the procurement of diesel locomotives for the Railways during these years. In addition 14 diesel locomotives were manufactured by DLW for Non-Railway Customers during 1992-93 and 13 diesel locomotives during 1993-94.

16. Inquired if the total demand of 1499 locomotives required during 8th Plan would be met and that there would be no shortage, the Chairman, Railway Board stated:

"The position is that at the end of the 8th Plan, we may have a marginal shortage of about 41 diesel locomotives and about 114 electric locomotives".

17. The Committee were informed that the shortage of 41 locomotives would be met by manufacturing locomotives of higher capacity within the next two and half years.

18. On being pointedly asked about the import plan, if any, of the locomotives, the witness informed:

"On the diesel side, at present, we are not thinking of any import. Regarding electric locomotives, it is a different technology which is being imported."

19. When enquired about the number of locomotives so far imported, the witness stated "It has not yet been imported. The first ABB locomotive will be shipped in 1995. The total number is 30 locomotives".

"The decision was in favour of ABB Locomotives".

20. The Committee were informed during evidence that a team had gone to Switzerland for considering the transfer of technology and that the CLW would be gradually built up to absorb the technology. As

regards the arrangements made by the Railway Board to absorb and to utilise this technology, the witness informed the Committee :

“We have already initiated that action. The team is there. We hope that the CLW would be able to manufacture the first locomotive somewhere in 1996-97. The position is that once we start manufacturing the locomotives, all the features will be built into the locomotives”.

Chittaranjan Locomotive Works (CLW) at Chittaranjan

21. The Chittaranjan Locomotive Works is the oldest production unit of the Indian Railways. It was established in 1948 for the production of steam locomotives and production was started in 1950. The unit commenced production of Electric Locomotives in 1961 and Diesel Hydraulic Locomotives in 1967-68. The Chittaranjan Locomotive Works stopped the production of Steam Locomotives in 1971 and Diesel Locomotives in 1993-94.

22. As against the capacity of 150 Electric/Diesel Locomotives, the number of locomotives manufactured by CLW during the last 4 years was as follows :

	Year			
	1990-91	1991-92	1992-93	1993-94
(a) Electric locomotives	110	115	125	140
(b) Diesel locomotives	44	45	30	—

23. The Committee were, however, informed, during evidence that the target of CLW for manufacture of Electric Locomotives for 1994-95 was fixed at 140 but was being further revised to 150.

24. During the evidence the Committee enquired the reasons for altogether stopping the production of Diesel Locomotives at CLW. The Members (Electrical) stated :

“Diesel Locomotives manufacture was stopped for two reasons. One was that we wanted to establish a capacity of 150 locomotives and the second was that the locomotives that we were manufacturing were of 700 HP and we found them to be outdated”.

25. When the Committee enquired about idle capacity in CLW and whether there was a scope for increasing the existing capacity, the Chairman, Railway Board stated :

“We have in the course of last few years built up the manufacturing capacity of CLW. This year is the first year when we hope that they will manufacture 150 locomotives. And at the level of

150, induction of new technology will take place. If we consider that the new locomotives will be of 6000 horse power capacity as against the normal built locomotives of 4000 horse power capacity, then the output will be approximately, 1.5 locos”.

Types of locomotives manufactured by CLW Technology used in CLW

26. The CLW are manufacturing three types of locomotives viz. WAG-5 4000 HP and WAG-7 5000 HP for freight services and WAP-4000 HP for passenger services.

27. The Ministry of Railways in their written note on the technology used in CLW have stated :

“The electric locomotives, presently manufactured at CLW for freight as well as for passenger are six axle, 3900 horse power with conventional tap changer control and DC series motors. The speed potential and hauling capacity of freight locomotives is rather low. The technology of these locomotives is of 1960 vintage and basic design of indigenous components/sub-components has generally remained frozen without any significant development in critical areas and the reliability as well as availability of these locomotives is comparatively lower than the locomotives of modern design abroad. The maintenance needs of these locomotives are also higher. Modern locomotives with reliable, solid state electronic components and equipments of present day design require much less maintenance, have better power to weight ratio, higher haulage capability and speed potential and are more energy efficient.”

28. When the Committee enquired about the reasons for not having made any significant development in critical areas even after 34 years, the Member (Electrical) stated:

“We got tap changer based technology from European group in the early 1960s. We initially manufactured 2,900 HP locomotive by using this technology. Since then, R&D wing at RDSO and whatever developed at Chittaranjan, there was upgradation of this technology. Tap changer technology has remained the same. But the locomotive horse power, which was 2,900 to start with earlier became 4,000. And today we have made it to 5000. We have exploited fully well the available infrastructure.”

29. Explaining about the efforts made for development of new technologies, the Member (Electrical) stated:

“.....When you want to develop thyristor, or three phase technology, that is developed in conjunction with production units in the private sector or may be in the public sector. We did not make an effort to develop and change it to thyristor because its output cannot be increased beyond 5000 HP. That is the limit. So, we tried to develop thyristor. We tried it with BHEL, we tried it with ECIL and we tried

it with one more company but it has not been a very successful venture. If we want to develop a technology like 3-phase, it takes about ten years of research. Somehow that type of a well knit industrial set up in our country has not come up. We are making efforts in that direction but so far it is not in existence. So we could not develop on our own."

30. On an enquiry on the import of 6000 HP thyristor locomotives by Railways, the Member (electrical) informed the Committee that they had imported 18 of them which are being used on Waltair-Kirandul section.

31. Explaining further, the Member (Electrical) stated:

"There is a provision that in case the trials are successful and they are fit for adoption universally, we will go ahead with it. It is not part of a deal. At that point number of changes were there. These locomotives were procured in the eighties. At that point of time there was a sort of situation which was dynamic. It was kept as provision. As I said this Thyristor technology has now become obsolete. We are importing the latest one. It is being universally adopted."

32. The Ministry of Railways informed the Committee in a written note that the Indian Railways are importing 3 phase AC 6000 HP electric locomotives alongwith simultaneous transfer of technology from M/s ABB, Switzerland and these locomotives shall be manufactured indigenously at CLW with absorption of technology. The Ministry further informed the Committee that the collaboration period is for 10 years and the supplier shall supply necessary technology to Indian Railways to enable to manufacture of new class of electric locomotives. Giving details of the indigenisation programme of locomotives envisaged, the Ministry informed the Committee as under:—

- (i) Indigenisation of 50% value of electric locomotives in 5 years.
- (ii) Indigenisation of 75% value of locomotives in 7 years and 6 months.

33. The collaboration period provides for training of Indian Railways personnel in design, manufacturing testing, maintenance, operation etc. The experts of the supplier shall also visit India to train Indian personnel in the new technology.

Diesel Locomotives Works, Varanasi

34. Diesel Locomotive Works was set up in 1961 with collaboration with M/s ALCO of USA for the manufacture of Diesel Locomotives. The DLW is manufacturing 2600 HP WDM 2 locomotives and 1350 HP WDS 6 shunting locomotives.

35. The number of locomotives manufactured by DLW during othe last 3 years was as follows:

1991-92	1992-93	1993-94
150	151	152

36. For 1994-95 the total programme with DLW is for manufacture of 150 Diesel locomotives.

37. On capacity utilisation in DLW, the Chairman, Railway Board during the course of evidence *inter-alia* stated:

“We are utilising the DLW to its fullest capacity. We are currently going through a reorganisation programme in DLW to bring up their total cylinder manufacturing capacity. This reorganisation programme is already underway. I will just give you the figures. In the Product mix which we are planning for DLW, we have increased its capacity to 2280 from 1920.”

He also added “We are satisfied that the DLW is working at its production capacity fully.”

38. As regards the technology used in manufacture of diesel locomotives, the Ministry of Railways stated:

“The technology acquired by DLW for manufacture of WDM-2 locomotives has become severely out-dated. These locomotives in comparison of modern designs are highly fuel inefficient and also suffer from inherent drawbacks of lower availability, reliability and higher maintenance costs.”

39. As regards technology upgradation in DLW, the Ministry have in a note stated:

“For bridging the technology gap, RDSO have been pursuing research and development efforts aimed at modernising and upgrading the capabilities of the WDM 2 locomotives. Pursuant to these efforts, in 1985-86, Indian Railways imported one fuel efficient ALCO 251 Engine alongwith 3 extra Kits. Earlier in 1982, 10 locosets of electrics comprising of GTA 11 Alternator and GE Traction motors were imported from GE Canada. Based on the aforesaid experience earlier this year, RDSO has modified one WDM 2 locomotive to improve the specific fuel consumption, enhance the rating to 3100 HP.”

40. In this connection the Ministry of Railways in reply to an Unstarred Question in Lok Sabha on 2.8.1994 about Commercial production of 3100 HP diesel locomotives stated:

“A new 3100 HP diesel locomotive has been developed and the first locomotive is about to be turned out from Diesel Locomotive Works, Varanasi. This is more fuel efficient than existing diesel locomotive of Indian Railways but less efficient than state of the art locomotives produced abroad.”

41. In reply to another Unstarred Question on 9.8.1994 in Lok Sabha on Railways capability on developing a technology suitable for diesel traction in the 21st century, the Ministry of Railways have stated:

“Diesel locomotive technology embraces different areas namely- Diesel engines, transmission, auxiliaries, bogies, brake systems,

controls etc. In the next century, diesel traction is likely to undergo substantial technological changes. Microprocession based control systems, SMART Sensor, 3 phase Drive etc. will find large scale use in diesel locomotives. Development of state-of-art technology *ab-initio* in all these facets involves considerable gestation period, financial inputs and sophisticated infrastructural facilities. While efforts would continue to develop appropriate technologies in relevant fields, it may be necessary to supplement the indigenous efforts with induction of technologies from abroad."

42. When the Committee enquired about the improvement programme in DLW, the Chairman Railway Board added:

"We are improving the capacity to 2280 cylinders per year. In addition, we are also bringing about a qualitative change in the product mix. They have produced 3100 HP mixed locomotive only in August and that is a representation of qualitative improvement in the product which they are manufacturing."

43. On enquiry as to whether all the machines in DLW were being fully utilized and no part which could be manufactured in-house was being purchased, the Ministry, in their written note, stated that all efforts were made to ensure optimal utilization of machinery and plant at DLW. They also confirmed that no part for which spare machinery and infrastructural facilities are available is being purchased from outside.

44. The Committee enquired on the re-organisation plans of DLW Staff, the Chairman Railway Board, stated:

"Sir the reference will be taken from the point of view of production. In DLW, there is a group, which would be directly related to the manufacture of diesel locomotives. There would also be a component which is giving certain supportive services. I will give the Committee little more details on this, about a particular group, where we have done the adjustments so that this matter can be clarified."

45. However, the Ministry of Railways, in a subsequent note on the subject, stated that there was no plan for reorganization of DLW staff for the present.

46. Comparing the performance of Diesel Locomotives with electric locomotives, the Chairman, Railway Board stated during evidence:

"Diesel locomotive is capable of hauling much lesser tonnage. Its present capacity is 2, 600 HP. Recently, in August this year, we have increased it to 3,100 HP. We felt that some upgradation was possible."

Research & Development in Locomotive Units

47. The Railway Reforms Committee (RRC) who made a study of the research activities of Indian Railway had observed that emphasis on research and development in the entire technology spectrum of the railway net-work had been inadequate.

48. In view of the quantum jump in the traffic expected by the turn of century, RRC had recommended modernisation of equipment and rationalization of systems extensively and they had also pointed out that "in the long term no modernisation effort can be sustained by dependence on imported technology." According to them, therefore, the Railways will "have to strengthen their own base or research and development", as also "intensively take research and development projects both of short and long term perspectives." The need for modern and up-to-date equipment and the induction of highly qualified personnel had been underscored.

49. The Corporate Plan (1985—2000) of Indian Railways on future direction for Research & Development has laid down as under:

"With the proposed plan for rapidly up-dating railway technology, R&D efforts will have to be substantially stepped up. In the short term, the emphasis would be on absorption & assimilation of new technology, and its indigenisation. However, in the long term, the Railways would have to selectively undertake further development of the acquired technology, and also participate in development of the new railway technology."

50. Though the production units of Indian Railways have their own captive R&D sections, the research in railway technology in the country is done by Research, Designs and Standards Organisation (RDSO) under the Ministry of Railways.

51. Defining the role of RDSO, the Chairman, Railway Board stated during evidence:

"The role of RDSO as well as the research and design wings which we have created at the two production units has a particularly well defined objective. RDSO's major objective is that the design of the rolling stock is constantly reviewed on the basis of the feedback which is received from the user-railways about the reliability of the performance. The components are manufactured outside as well as within the Railways. They are to be constantly upgraded in order to ensure that they perform better and this is one of the major functions of RDSO. They look at it and they also look at the capability in the country to manufacture those components and also to inspect that quality parameters are met by the manufactures so that the assembled units perform equally well."

He also added that "as a result of the design facilities that we have in RDSO, now we have 3100 HP engine."

52. In reply to a question about the details of the achievements of R&D efforts, the Ministry of Railways, in their written note, furnished the following information:

"RDSO is engaged in development of new design to meet the challenges of continuous growth in freight and passenger traffic. Some of the important achievements of RDSO are given below:—

1. Introduction of Rajdhani Express trains.
 2. Introduction of Shatabadi Express at 140 Kmph.
 3. Introduction of 22 coaches Superfast trains.
 4. Design, development and testing of track and vehicle for Metro Railway, Calcutta.
 5. Development of AC two-tier coaches for BG & MG.
 6. Design and development of BOX'N Wagon.
 7. Design and development of pre-stressed concrete sleepers.
 8. Design of long span steel bridges.
 9. Design and development of WAP-3 electric locomotives for a speed of 160 kmph.
 10. Design and development of 3100 Horse Power WDM 2 diesel locomotives.
 11. Design and development of 5000 Horse Power Electric locomotives.
 12. Rail Bus for BG sections.
 13. Air Conditioned 3-tier coach.
 14. Development of high capacity Power Cars.
 15. Upgradation of Track Recording Cars.
 16. Chopper equipment for Metro Rolling Stock.
 17. Development of Solid State inter-locking system.
 18. Development of Train actuated Audio Warning System for Level Crossing.
 19. Indigenous development of Wheel Flange Lubricators.
 20. Development of Solid State Axle counter block system for double line electrified section.
 21. Development of main line parcel van with payload of 24t.
53. The following important major projects are in progress at RDSO at present:—
1. To develop technology for operation of passenger services at 160 kmph. on mixed routes.
 2. Design improvements for augmentation of safety and reliability.
 3. Development of Track and Bridge Maintenance systems to achieve economy by optimum utilisation of track and bridge maintenance resources and renewal investments.
 4. To develop suitable Diesel Multiple Units, for meeting demand of fast inter-urban passenger traffic on non-electrified sections and also for uneconomical low density branch line services hauled by steam locomotives.
 5. Design improvements for optimising maintenance schedules of equipment and assets.
 6. Design of heavy axle-load wagons.

54. When the Committee enquired whether RDSO had the research facilities to reach the advanced technology, the Chairman, Railway Board replied:

“The whole thrust of RDSO and the research design facility which are there in the workshops is only to maximise the output from the technology which we have and the quality of manufacture which we have.”

Explaining it further he stated.

“RDSO cannot be doing original research for designing of a diesel locomotive.

The main function is to settle certain problems that we come across in our functioning. They will have to carry out the design. Test it, and make out detailed engineering drawings as to how it could be translated into action.”

55. However in the Working Group's Report on Railway Programme for VIII Five Year Plan it has been stated that all production units were required to develop design & development facilities to leave the RDSO to concentrate more on research.

Expenditure on R&D

56. The Committee wanted to know the money asked for by Railways for R&D in the draft Eighth Five Year Plan and the amount actually allotted. The Chairman, Railway Board stated:

“The total projection that we made for research was Rs. 150 crores, out of which an amount of Rs. 25 crores has been given. For the first two years, that is upto now, we have spent Rs. 11 crores on research. This year our projection is Rs. 11 crores. So by the end of this year, we would have spent Rs. 22 crores on this.”

57. Giving details of expenditure on R&D efforts, the Ministry in a written note stated:

Year	Expenditure on Research, Design & Development (Rs. in crores)
1989-90	10.01
1990-91	9.85
1991-92	11.13
1992-93	12.01
1993-94	13.64
1994-95 (Budget)	15.61

58. The Committee enquired the percentage of expenditure incur-

red by Railways on R&D as a proportion of gross earning during VIII Five Year Plan. The Ministry in a written note furnished the following information:

“The percentage of expenditure on R&D as a proportion of gross earning during 1992-93, 1993-94 and 1994-95(Budgeted) are as below:

(Rs. in crores)

Year	Gross Earnings by Railways	Expenditure R&D	% Expenditure
1992-93	16013	12.01	0.075
1993-94	18505	13.64	0.073
1994-95*	20269	15.61	0.077

*Budgeted Figures

The percentage of expenditure on R&D as a proportion of gross earnings during the balance period of VIII Plan (1995-96 & 1996-97) is expected to be at the same level as in the first three years of the Plan.”

59. However, it has been stated in the Corporate Plan (1985-2000):

“The Railways expenditure on R&D as a proportion of gross earnings has been about 0.2%. This proportion has been declining marginally over the last few years. This would need to be stepped up to atleast 0.5%. At the same time, requisite capital investment for development of R&D facilities would also be made.”

60. The Committee enquired about the amount spent on development component of the Budget of Railways. The Ministry of Railways in their written note stated:

The details of Plan and Non-Plan Expenditure of RDSO of Ministry of Railways during the last five years are as under:

Year	Plan Exp. (Rs. in cr.)	Non-Plan Exp.* (Rs. in cr.)
1989-90	13.28	21.08
1990-91	5.45	20.74
1991-92	5.98	23.43
1992-93	9.11	25.30
1993-94	2.74	28.74
1994-95 (Budget)	10.95	32.88

*inclusive of staff salary.

Industrial Relations in CLW-DLW

61. In Production Units, unlike in Zonal Railways, there is a mechanism of staff councils which take up matters relating to service conditions

and other issues of common interest connected with the working of the unit with the Administration.

62. On an enquiry why Railways do not give recognition to unions in Production Units, the Ministry of Railways in their written note stated:

“In CLW/DLW there is a concentrated labour force and all workers are located at one place. They are in constant touch with the Management to get their grievances redressed, directly or through their representatives in the Staff Councils who they directly elect. Most of the issues, being local in nature generally get resolved through the mechanism of Staff Council meetings with the General Manager. Very few issues which remain unresolved at local level are discussed in the periodical meetings of Staff Council with the Railway Board. This arrangement has been working satisfactorily as it provides a direct and easier communication/linkage between workers and management, thereby obviating the need for recognition of other staff unions.”

63. During evidence, the Member (Staff) further elucidated:

“Whatever problems, which they are not able to resolve at the local level, they can bring them up in the annual meeting of the Railway Board. The NFIR and AIRF have been able to do this.”

64. When Committee enquired about the frequency of meetings of the Staff Council with the Railway Board, the Ministry in their written note stated:

“Meetings of the Staff Councils are not to be held more often than once every 2 months or less often than once every 4 months. Generally, Staff Council of each Production Unit has a meeting with the Railways Board once in a year. In DLW such meetings were held in 1989, 1991, 1992 and 1993. The functioning of Staff Council in CLW has however been stalled due to Court injunctions.”

65. During the evidence, the Committee pointed out that the staff Council of CLW has not been functioning for decade due to Court injunction. The Member (Staff) informed the Committee that injunction against holding of elections of a Staff Council had since been vacated (an year ago) and the local administration of CLW had been advised to make efforts for holding elections so that Staff Council be reconstituted.

66. When the Committee enquired about the reasons for delay in holding elections when injunction was vacated one year ago, the Member (staff) stated:

“Actually, the local administration felt that they were able to solve the problems even without the Staff Councils. The feedback we got from the local administration was that they were able to resolve their problems mutually. We had advised the General Manager to arrange holding of elections. They have some apprehension that it may not be possible to hold free and fair elections. They had their own local

reasons. We have told him that inspite of that they should make all out efforts to conduct elections.”

Production of Coaches

67. The Coaches are manufactured in two Production Units under Ministry of Railways viz. Integral Coach Factory, Perumbur, Madras, and Rail Coach Factory, Kapurthala. Railways also procure coaches from Bharat Earth Movers Limited and Jessops & Company Limited, Calcutta.

Integral Coach Factory, Perumbur, Madras

68. Integral Coach Factory was set up in First Five Year Plan as a production unit under the Ministry of Railways for manufacture of all-welded, stainless steel, light weight integral coaches with antitelescopic end construction, in collaboration with M/s Swiss Car and Elevator Manufacturing Corporation, Switzerland. The production from the Unit commenced in 1955. Although the factory was originally set up to manufacture only 350 shells per annum, the installed capacity has been progressively expanded with additional inputs to turn out 750 fully furnished coaches per annum by March 1979, 850 coaches by March 1989 and 1000 coaches by March 1991.

69. Giving details of no of coaches, EMUs manufactured by ICF during the last 3 years, the Ministry of Railways have in their written note stated:

Unit	1991-92	1992-93	1993-94
ICF, Madras	1016	1023	1038

70. As regards order placed for 1994-95 the Ministry have stated :

“Owing to the reduction in demand of the coaches by IR, an order for 775 coaches including 270 EMUs and Main line EMUs, 63 Diesel Multiple Unit (DMU) and 110 AC coaches is being placed on ICF.

Rail Coach Factory—Kapurthala

71. Rail Coach Factory, Kapurthala was set during VII plan Period with a capacity to manufacture 1000 coaches. The unit commenced production during March 1988. The number of coaches manufactured by RCF during the last 3 years was as follows :

Unit	1991-92	1992-93	1993-94
RCF/ Kapurthala	915	1115	1025

72. As regards orders placed for 1994-95, the Ministry in a written note have stated:

“A programme for manufacture of 775 coaches has been given to Rail Coach Factory, Kapurthala during 1994-95 including 150 AC coaches. In order to utilise the balance capacity an order for manufacture of 80 containers has been secured”.

Utilization of Idle Capacity in ICF & RCF

73. When the Committee asked about the diversification plan to utilise the idle capacity in both RCF and ICF, the Chairman Railway Board explained the position as under :

“On ICF our orders are for 818 coaches including those 15 for exports. This include non-AC 330 coaches, AC 112, EMU 150 and DMU 63. There is an increase in the programme of manufacture of mainline EMU coaches by 120. This brings it to a total of 775. We add to this 15 for exports, 7 OHE inspection cars and 21 coaches for Palace on wheels which we supply to Rajasthan Government. It will come to 818 coaches. For RCF it continues to be 775. Since basically it is a sheet metal work, we gave orders for manufacturing containers. Both RCF and ICF have orders for manufacture of containers, 250 containers would be manufactured by ICF and 330 by RCF. This work of diversification was done by RCF in a matter of three months. They change the technology and they have got a world-wide acceptable certificate that the containers manufactured are fit qualitatively for international use. Now I have asked them to go in for marketing them abroad.”

74. The Chairman, Railway Board also informed the Committee that they just got an export order from Vietnam and they were going to export 10 air conditioned coaches and 5 non-AC coaches to Vietnam.

75. The Committee wanted to know whether with all these efforts there may be excess capacity of the production units, the Chairman Railway Board stated “Not this year. But yes, we will have to take this into account next year”.

76. The Ministry in their note on this point stated:

“Capacity utilization in coach manufacturing unit depends on the product mix of coaches/EMUs being manufactured and not on the overall quantum. During 1994-95, sufficient load exists on ICF and RCF to utilize the available work force fully in the Railway Production Units.

The capacity of the coach building units of the Indian Railways would be utilized by the following means during VIII plan, in case the coach orders reduce:

- (i) Efforts for securing export orders for coaches.
- (ii) Manufacture and export of containers.
- (iii) Increasing the number of Mainline Electrical Multiple Units and Diesel Multiple Units which are required by the Indian Railways in larger number and are man power intensive in its manufacture.”

Requirement of Coaches during Eighth Five Year Plan

77. When the Committee enquired about the total requirement of coaches during the Eighth Five Year Plan by Railways, the Chairman, Railway Board replied during evidence:

“In the Rs. 45,000 crore (VIII Plan) we had proposed that we will procure 12,000 coaches and 1,400 EMUs. When we finalised the Plan at the level of Rs. 27,202 crore, this programme was slightly brought down to 9,100 coaches and 1265 EMUs. Against this we have uptill now procured 5,530 coaches”.

78. The Ministry in a written note furnished the following information regarding break up of different type of coaches procured during 1992-93, 1993-94 and that planned for 1994-95.

	1992-93	1993-94	1994-95	Source
Conventional Coaches (AC & Non-AC)	2479*	2205	1217	ICF-442 RCF-775
EMUs	180	277	210	ICF-150 Jessop-51 BEML-9
MEMUs	—	1	120	ICF-120
DMUs	—	6	63	ICF- 63

*includes 25 coaches manufactured additionally by BEML against 1993-94 programme.

The Ministry further informed the Committee that Annual Plan 1995-96 and Mid-term Review of Eighth Plan 1992—97 is under finalisation.

Master Plan for Coaches

79. The Committee were informed during evidence that Railways were attempting to draw a master plan for coaching services so that the requirement of coaching stock is put on a more rational basis. On further being asked about it the Chairman, Railway Board stated:

“I am only saying that this year we have formulated a plan that all cities having more than 10 lakh population would be given a much superior faster service to take care of people who are living in mofussil areas to come to the city and go back the same day or *vice-versa*. That is our attempt when we do the planning part of it, presently we are watching as to what particular level conventional coach should be developed or should we go in for EMUs or diesel pull push. There will be qualitative shift in the manufacturing of coaches which of course, our Production Units are quite capable of making that change”.

80. The Ministry in a subsequent written note informed the Committee that the Master Plan had been made. Enumerating the objectives of Master Plan, the Ministry stated as follows:

- (A) Introduction of new Rajdhani/Shatabadi type services;
 - (B) Increase in frequencies to make the services mentioned in (A) daily;
 - (C) Introduction of other mail/express trains;
 - (D) For 17 metropolitan cities in the country where the demand for suburban services is developing, the following is the plan:
 - (i) Introduction of main line EMU services in electrified areas.
 - (ii) Introduction of diesel multiple units (DMUs)/Push pull services for areas where electrification does not exist.
 - (iii) In branch lines where the traffic is not heavy, introduction of rail bus.
 - (F) Introduction of BG services on Gauge Conversion sections and new lines.
81. In addition the following objectives have also been incorporated:
- (a) Phasing out of I Class Coaches.
 - (b) Introducing of II AC sleeper coaches.
 - (c) Introduction of AC III Tier coaches.

82. The Ministry further stated the yearly requirement of coaches as per the Master Plan for the remaining two years of the Eighth Plan would be as under:

Introduction of new Trains	500
Gauge Conversion	500
Increase in Frequency	150
Augmentation of Trains	100
Improving Punctuality	100
MEMU	250
DMU	250
Replacement Account	100
Total	1950

83. When the Committee enquired about the approach for the increase in the passenger traffic during the current (Eighth) Plan period the Chairman, Railway Board informed the Committee that it was expected that the passenger traffic would grow at the rate of 2% per year.

84. On being further asked whether there would be a gap in the supply and market demand, the Chairman, Railway Board replied:

"I would like to put it this way that as far as the passenger traffic and its total satisfaction is concerned, it is something very difficult to assess because of the particular feature of overcrowding element. We can try this as an attempt that we will be able

to provide seats for all the passengers, how much place should be provided and therefore what level of services it would require”.

The Chairman, Railway Board further informed:

“We can make a very reasonable estimate as to what would be our requirement. But if you want a very categorical statement that your Coach-procurement programme would satisfy all the need, I would say, it will never take place”.

Condemnation of Coaches

85. The Committee wanted to know the criteria applied for condemning a railway coach. The Chairman, Railway Board stated:

“There is a very standard procedure. First is age. We call it code and life. It is 25 years. After that, there may be repair which is uneconomic. That is, corrosion level is such that repairs cannot be done and therefore the coach would be unsafe in service. Then we have to withdraw it from service and it is withdrawn”.

86. When the Committee enquired about the periodical survey done about the condition of coaches, the Chairman, Railway Board stated:

“This is a stock which is maintained with a great deal of efforts. We have got coaching sick line where after doing a number of trips, coach is subjected to examination, both for running gear, safety as well as internal fittings. Then it is given, what is called POH, periodical overhaul. At regular interval, it goes to the workshop. This cycle goes on repeating. We are now thinking of introducing one more intermediate life rebuild programme”.

87. When the Committee enquired about the condemnation of coaches done in the first two years of VIII plan period, the Ministry in their written note informed as under:

The following condemnations have been carried out during the first two years of VIII Plan viz. 1992-93 and 1993-94.

	1992-93	1993-94
BG	942	1051
MG	950	1061
NG	53	86

Wheel and Axle Plant, Bangalore

88. Wheel and Axle Plant, Bangalore was commissioned in September, 1984. The unit undertakes manufacture of wheels for Box 'N' stock, coaching stock and all types of axles for Indian Railways.

89. The Committee were informed that existing capacity of Wheel and Axle Plant is 77,000 Wheels and 48,000 Axles in Box 'N' units. The production performance of WAP during the last 3 years has been as under:—

	Board Target		Actual production	
	Wheels	Axles (in Box 'N' units)	Wheels	Axles (in Box 'N' Units)
1991-92	66,000	35,600	69,767	43,470
1992-93	77,000	47,500	80,129	49,503
1993-94	68,000	47,000	69,484	47,698

The difference between supplies during 1992-93 and production is due to the fact that WAP was asked to manufacture 5000 wheels during 1992-93 in addition to the supplies which were made during 1993-94. For 1994-95, a programme to manufacture 71,000 Wheels and 39,000 Axles have been given to WAP.

Requirement and Shortfall of Wheel and Axles in Railways

90. The Ministry of Railways, giving their requirement of wheels and Axles in a written note, have stated:

"The approximate" current requirement of wheels/wheel-set in terms of wheels based on tentative wagon production at the level of about 12,000 FWs Units. Coach and EMU Production at level of about 1600 and Loco production at about 300 Nos. in 1994-95 and that of Axles is as below:—

Requirement of Wheels			Requirement of Axle		
Prod.	Maint.	Total	Prod.	Maint.	Total
60,000	50,000	1,10,000	30,000	12,000	42,000

91. The requirement of wheels and Axles by Railways is met mainly by Wheel and Axle Plant, Bangalore. In addition, Durgapur Steel Plant (DSP) and TISCO also supply wheels & axles to Railways. The rest is met by importation. Wheel and Axles are procured by Railways on assembled form as wheel sets consisting of two wheels and one axle, as also loose items.

92. Giving details of procurement of wheels & axles from different sources in 1992-93 & 1993-94, the Ministry have furnished the following information:

1	2	Quantity procured in	
		1992-93	1993-94
		3	4
1.	Wheel-sets		
	<i>Source of Supply</i>		
i.	Wheel & Axle Plant, Bangalore,	36,155	32,040
ii.	Durgapur Steel Plant, Durgapur	621	1,922
iii.	M/s Strojexport, Czech Republic	1,420	nil

		<i>Quantity procured in</i>	
		<i>1992-93</i>	<i>1993-94</i>
iv.	M/s Di Apollo, Sri Romania	10,920	nil
v.	M/s Kolmex, Poland	2,000	nil
		51,116	33,962
2.	Wheel		
	<i>Source of Supply</i>		
i.	Wheel & Axle Plant, Bangalore,	4,048	12,470
ii.	Durgapur Steel Plant, Durgapur	522	8,647
iii.	M/s Mafersa/ Brazil	13,963	7,934
iv.	M/s Strojexport, Czech Republic	1,608	5,318
v.	M/s Di Apollo, Romania	9,000	10,739
vi.	M/s Lovere Sidermeccanica, Italy	3,444	1,502
vii.	M/s Construcciones Y. Auxillar De, Spain	205	nil
viii.	M/s Sumitomo Corporation, Japan	7,500	nil
ix.	M/s Lucky Godstar, South Korea	nil	3,600
x.	M/s Gerrostall, AG, Germany	nil	1,336
Total		40,020	51,546
3.	Axles		
	<i>Source of Supply</i>		
i.	Wheel & Axle Plant, Bangalore,	10,506	11,824
ii.	Durgapur Steel Plant, Durgapur	2,913	1,744
iii.	TISCO	5,474	1,684
Total		18,893	15,252

93. As regards approximate requirements of wheelsets, wheels and axles for 1994-95 to be procured from different sources, the Ministry have stated:

<i>Item</i>	<i>Source</i>	<i>Quantity (Approx.)</i>
1.	Wheel sets	
	i. Durgapur Steel Plant, Durgapur	2,000
	ii. Wheel & Axle Plant Bangalore	28,000

<i>Item</i>	<i>Source</i>	<i>Quantity (Approx.)</i>
2. Wheels	i. Durgapur Steel Plant, Durgapur	20,000
	ii. Wheel & Axle Plant, Bangalore	17,000
	iii. Import (of loco wheels & EMU wheel centre)	10,500
3. Axles	i. TISCO	1,200
	ii. Wheel & Axle Plant, Bangalore	8,000

94. The Ministry have further stated the requirements of wheelsets, wheels and axles during the remaining 2 years of VIII Five Year Plan will depend upon the production plan of locos, coaches and wagons in the respective years which is finalised annually in consultation with Planning Commission. For this reason, the specific quantities required in these 2 years are not known and hence are not being furnished. However, the likely sources from which wheelsets, wheels and axles will be procured are as under:

<i>Source</i>	<i>Items</i>
i. Wheel & Axle Plant (WAP), Bangalore	(a) Entire Requirements of wheelsets/wheels for wagons. (b) Requirements of cast wheelsets/wheels for coaches. (c) Axles
ii. Durgapur Steel Plant (DSP), Durgapur	(a) Requirements of forged wheelsets/wheels for coaches. (b) Part requirements of loco wheels presently under development. (c) Axles, if entire requirements cannot be met by WAP
iii. Imports	(a) Locomotive wheels to the extent requirements are not met by DSP. (b) EMU wheel centres.

95. The Ministry of Railways in their written note to the Committee have stated that the following steps have been taken to meet the gap between requirement and actual production of wheels and axles:

- (i) Proposal to increase the existing production capacity of Wheel and Axle Plant, Bangalore from 77,000 to 95,000 wheels by the end of 8th Plan.
- (ii) Durgapur Steel Plant (DSP) have indicated the increase in level of production from 25,000 to 79,000 wheels per annum.

- (iii) To meet the requirement of diesel/electric loco wheels a proposal to set up a plant in private or public sector is under process.

96. The Committee wanted to know the impact on procurement of Wheels and Axles since Railways have scaled down the acquisition of wagons. The Chairman, Railway Board replied:

“You are linking two different issues, Sir. One is the capacity and the other is the production. Production is on the basis of the need and the orders you place. The point which you have mentioned is right. That is in case you scale down orders for wagons, there would be a correspondingly less requirement. The question will only, be how do we phase out the supplies. Therefore, to what extent can we keep the capacity better utilised. The second issue is the perspective planning. That is, while we might have had a set back last year and a year before when the traffic did not grow to a particular anticipated extent. Today, we are faced with surplus capacity. This situation will not remain stagnant. There will be growth. When there will be growth, then we assess our requirement. Therefore, the capacity is generated. So, the point is, what is the contingency requirement. What is the capacity which has to be generated, if you scale down the requirement? We will have to import. There will be another solution. We have built up this capacity and we will try to load whatever we can and give it to them, so that the same is utilised. If you do not have orders then take up the programme for rebuilding the coaches. I will cover it in the note, Sir.”

97. The Ministry of Railways in their subsequent written note or load likely to be given to Wheel & Axle Plant in view of reduced wagon orders have stated:

“Wheel & Axle Plant was set up primarily for manufacture of freight stock wheels and wheel sets. To deal with the fluctuation in the demand of freight stock wheels, WAP has been asked to develop capability for coaching wheels.”

Diesel Component Works—Patiala

98. Diesel Component Works (DCW) was set up to provide maintenance support to the fleet of about 3500 Diesel Locomotives of Indian Railways through manufacture of components and sub-assemblies as spares, rehabilitation of components for diesel locomotives and midlife rebuilding of diesel locomotives. The Committee were informed during 1993-94, DCW manufactured components and carried out repairs to components worth Rs. 53.28 crores. It also rebuilt 68 locomotives against a capacity to

rebuild 72 locomotives. During 1994-95, DCW has been given a programme to undertake midlife rehabilitation of 72 BG Diesel Locomotives.

99. The Working Group on Railway Programme for the 8th Five Year Plan have suggested:

"The present capacity of 450 traction motors and 78 traction generators need to be increased to 900 and 1150 respectively. The capacity of 72 locomotives rebuilding will require augmentation to 100 keeping in view the increased projected rolling stock holdings."

Suggested Corporatization of Production Units

100. A Committee set up by Ministry of Railways (Railway Board) to study Organisational structure and Management Ethos of Indian Railways under the Chairmanship of Shri Prakash Tandon, former Chairman, N.C.A.E.R. have recommended selective and progressive corporatization of production units. They have *inter-alia* stated:

"Setting up these captive units by Railways was necessary at a time when others were not willing to invest in such activities, primarily because there would be a single customer. Some of these units have in the past shown their capability also to meet export demands. However, of late if there has been little effort in this area, it is primarily because the quality level required now by importers abroad appear unattainable. Technology and designs have also by and large remained stagnant owing to the assured Indian Railway orders and an undemanding customer. One can trace this to the buying and selling organizations being the same entity *i.e.* Indian Railway. There is need therefore to separate the production units from the Railways and establish a more formal relationship between the two. The potential for export and supply to other Indian customers can help the production units to attract capital, thus relieving it of the need for further funding by Railways. A selective and progressive corporatization of production units is recommended. The owners, Indian Railways would of course have priority in acquiring the products according to the quantity and the quality desired by them. However, the units would be free to expand and diversify to fulfill orders from future customers both Indian and foreign, provided they are able to raise the necessary resources on their own and make a profit."

The Committee asked the reaction of Ministry of Railways on the above recommendation. The Ministry stated that the matter was under consideration.

OBSERVATIONS AND RECOMMENDATIONS

101. The fleet of rolling stock comprising of locomotives, coaches and wagons constitutes the bulwark of the Railways. The adequacy of this fleet, together with its efficient upkeep and optimum serviceability are matters vital to the operation of the system. The efficiency of Railways depends largely on its good and efficient rolling stock which needs to be augmented and upgraded constantly with modern and fuel efficient one to meet the needs of increasing traffic more effectively. With locomotives having better fuel efficiency, higher haulage capacity and more speed and coaches with better spacious design and lesser weight, it is possible to meet in a better way the ever increasing transport demands while saving substantially on fuel.

102. The Committee note that the total number of locomotives with Railways in 1991-92 was 8268. At the level of investment of Rs. 45,600 crores as envisaged by the Ministry of Railways for the VIII Plan, it was planned to procure, 1,542 locomotives (650 electric and 892 diesel). This requirement of locomotives was determined for a freight transport output level of 318.3 billion net tonne kilometre and for passenger traffic at 377.74 billion passenger kilometre to be achieved by 1996-97. However, after the level of investment was pruned down to Rs. 27,202 crores by the Planning Commission with the traffic level remaining the same, the Railways revised their requirement of locomotives to 1499 locomotives (750 electric and 749 diesel). In reply to the question as to how the Ministry of Railways has assessed to move the original level of freight and passenger traffic with 1499 locomotives, as against their requirement of 1542 locomotives, the Committee were informed that one of the strategies to meet the original traffic demand with the reduced number of locomotives was by giving more thrust to electrification as it would be giving them a little more output per locomotive. However, the Committee find that there has been a reduction in allocation for electrification in the revised plan from Rs. 1709 crores to Rs. 1350 crores and that the target for electrification for the first two years (1992-93 & 1993-94) of the Eighth Five Year Plan fixed at 500 & 600 Kms. respectively has not been met as the sections electrified during 1992-93 & 1993-94 were 479 Kms. & 505 Kms. only. The Committee note that the procurement programme of diesel locomotives was reduced drastically from 892 to 749 with the reduction in size of investment plans. With electrification not going at the desired pace, the Committee apprehend that this situation will lead to shortage of diesel locomotives in the near future. Apparently the strategy adopted by the Railways has not served the purpose. They, therefore, recommend that the Railways should re-arrange their strategies taking into account the present pace of electrification and the resources available at their disposal for procurement of rolling stock etc.

103. The Committee are constrained to note that the Railways are still

using technology for electric locomotives of 1960 vintage. Though this technology has been upgraded over the years to increase the horse power to 5000, the technology has its own limitations. The Railways could not adopt the Thyristor technology inspite of the fact that they had imported 18 electric locomotives in 1988. The Ministry of Railways have informed the Committee that the Thyristor technology in the present world scenario has become obsolete and they have therefore now decided to introduce 3 phase AC Drive Locomotives in the Country. Even after presentation of report by the Railway Convention Committee on 'Purchase of Electric Locomotives from M/s. ABB, Switzerland by the Indian Railways' the Ministry of Railways have decided to import 30 ABB locomotives with the transfer of technology which would be gradually absorbed at Chittaranjan Locomotive Workshop where first locomotive would be manufactured by 1996-97. The Committee hope that the necessary infrastructure facilities would be provided at the Chittaranjan Locomotive Workshop at an early date so that the above target for production of 3 Phase AC Drive Locomotive at that workshop could be achieved.

104. The Committee find that the Railways have drawn 10 years programme in regard to transfer of 3 Phase AC Drive Technology from M/s. ABB, Switzerland. Keeping in view the rapid advancement in technology, the Committee feel that the period for transfer of technology should be reduced so that even this technology does not become obsolete.

105. The Committee also find that although the Railways are producing diesel locomotives of 3100 HP by improving fuel efficiency, yet they still lag behind in the technology used world over. The Committee desire that the Railways should take immediate steps to acquire latest technology for diesel locomotives in Diesel Locomotive Works, Varanasi and assimilate the same in the shortest possible time so as to produce the locomotives of the quality comparable with the world standards.

106. From the material submitted to the Committee, they note that against their plan to acquire 1499 locomotives during the Eighth Five Year Plan, the Ministry of Railways have been able to procure only 595 locomotives upto 1993-94 and it is proposed to procure another 307 locomotives during 1994-95. During evidence the Chairman, Railway Board informed the Committee that it would be possible for them to procure another 600 locomotives during the remaining two years of the Eighth Five Year Plan. However, he admitted that there would be shortage of about 155 locomotives (41 diesel and 114 electric locomotives) by the end of the Plan. The Railways propose to meet this shortage by manufacturing higher capacity locomotives. The Committee are not satisfied with this assurance as no concrete proposal has been placed before them so far nor they have been informed of any final plan or programme to manufacture higher capacity locomotives. The Committee desire that the Ministry of Railways should take necessary steps to manufacture the required number of locomotives

both diesel and electric within the plan period from its own production units so as to achieve the target fixed for freight and passenger traffic.

107. The Committee also recommend that necessary steps should be taken on priority basis to raise the present capacity of Diesel Components Works for locomotives re-building from 72 locomotives per year to 100 locomotives as suggested by the Working Group on Railway Programme.

108. Research and Development efforts for Indian Railways are undertaken by the Research, Designs and Standards Organisation (RDSO). Its major objective is to constantly review the design of the rolling stock on the basis of the feed back which is received from the user Railways about the reliability of the performance. During evidence, the Chairman, Railway Board admitted that "RDSO cannot be doing original Research for designing of locomotives and the whole thrust of it is only to maximise the output from the technology which we have."

109. The Committee have, therefore, come to the conclusion that RDSO has essentially become an Organisation devoted to absorption of technology and not towards its development. They feel that RDSO should be revamped and more encouragement and incentives should be given to its personnel to do the original Research work in this Organisation. The objectives of RDSO may also be changed to that effect. In this connection, the Committee are in agreement with the suggestions/recommendations made by various Committees time and again that RDSO should carry out Research work for development of new technology only and that the work relating to designs and development etc. should be left to R&D Division of respective Production Units which need to be further strengthened.

110. The Committee also find that against Railway's demand for Rs.150 crores for VIII Five Year Plan only a meagre amount of Rs.25 crores (.09% of plan outlay) has been allocated to RDSO for its Research work etc. The Ministry of Railways have spent hardly .075%; 073% and .077% of their gross earnings during 1992-93, 1993-94; and 1994-95 on Research and Development. The Committee were informed during evidence that Railways cannot do Research work alone and it has to be done in conjunction with Public Sector and other Research Institutions. They are constrained to observe that no initiative has so far been taken by the Railways to involve such Institutions in their Research and Development work. The Committee, therefore, recommend that a programme should be chalked out immediately in close co-operation with Public Sector Undertakings/Research Institutes/IITs for developing new technologies. The Railways should also make sufficient resources available to these Institutions for the above purpose.

111. The Committee find that the two Coach manufacturing production units viz. Integral Coach Factory, Madras and Rail Coach Factory, Kapurthala were placed with lesser order for coaches than those placed during the last three years. As against 1016, 1023 and 1030 Coaches/EMUs manufactured by ICF during 1991-92, 1992-93 and 1993-94 respectively, an

order for 775 coaches and 110 AC Coaches has been placed for 1994-95. Similarly Rail Coach Factory, Kapurthala has been given an order of 775 Coaches as against 915, 1115 and 1025 coaches manufactured by it during the years 1991-92, 1992-93 and 1993-94 respectively. The Chairman, Railway Board stated during evidence that Railways were preparing a Master Plan about the requirement of coaching stock, which would indicate the strategy for utilization of coaches. Further in order to utilize idle capacity in the two coach manufacturing units, they have diversified their production capacity to manufacture containers and have also secured export orders.

112. The Committee feel that the gross under-utilization of capacity of these units needs to be viewed seriously. The export orders secured by Railways are not adequate. The Railways should extensively explore the Market abroad to secure more orders for coaches and containers. Further as brought out by the Tandon Committee Report also there is a need for the Coach manufacturing units to improve the quality level of these coaches so as to bring it at par with the international level.

113. The Committee are distressed to find that a proper perspective plan has not been prepared by the Railways to meet the demands for adequate rolling stock and their maintenance. Inadequacy of funds should not lead to adoption of ad-hoc measures. The nation cannot afford any slackness or slippages in this vital sector. Adequate funds will have to be provided together with adoption of steps for proper utilization in a time-bound frame and there should be vigorous efforts to do away with imports consistent with the Country's interest.

114. Further, due attention and importance has to be paid to the maintenance of the existing rolling stock. The Committee cannot but express its great distress at the failure of the Railways in this regard. The Committee strongly recommend adoption of strict measures for the upkeep and maintenance/replacement of the rolling stock, particularly the coaches.

115. The Committee find that the Railways propose to raise the installed capacity of Wheel & Axle Plant, Bangalore from 77000 to 95000 wheel per annum by the end of Eighth Plan. However, with the reduction of acquisition of wagons by Indian Railways even the existing capacity has not been fully utilized during the last two years. The Ministry of Railways have informed the Committee that the WAP has been asked to develop capability for coaching wheels so that fluctuation in demand for freight wheels could be dealt with. The Committee are unhappy to note that even after 10 years of its existence, WAP has not been able to develop capability for coaching wheels. They, therefore, recommend that before going in for raising the capacity of WAP, the Railways should make all out effort to develop the capability for making coaching wheels and locomotive wheels which are hitherto being imported.

116. The Committee have also been informed that the Railways do not

recognise unions in production units. There is a mechanism of redressal of the grievances of Staff through Staff Councils. The Committee are unhappy to note that the Staff Councils are not working satisfactorily. The election of Staff Council in Chittaranjan Locomotive Works is yet to be held, although the Court injunctions for holding of Staff Council elections, imposed a decade earlier, had already been vacated more than a year back. As the Staff Councils are the only means through which the workers can bring their problems to the notice of management, the Committee strongly feel that Railway Board should ensure that Staff Councils are properly constituted in all the production units.

117. The Committee are distressed to learn that the meetings of Staff Council with Railway Board to be held once a year, are not being held at the stipulated time. They therefore desire that such meetings should be held at regular intervals as scheduled & the Staff Councils must be made effective to deal with staff grievances.

118. The Committee also suggest that Railways policy not to recognise unions in Production Units should be changed so as not to deny the exercise of fundamental rights by the workers and employees.

NEW DELHI;
January 25, 1995

Magha 5, 1916 (Saka)

SOMNATH CHATTERJEE,
Chairman,
Standing Committee on Railways.