

ESTIMATES COMMITTEE
(1969-70)

(FOURTH LOK SABHA)

HUNDRED AND NINETEENTH REPORT

MINISTRY OF RAILWAYS
DIESEL LOCOMOTIVE WORKS, VARANASI



LOK SABHA SECRETARIAT
NEW DELHI

March, 1970/Phalguna, 1891 (Saka)

Price : Rs. 1.30

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CORRIGENDA

To

Hundred and Nineteenth Report (Fourth Lok Sabha) on the Ministry of Railways - Diesel Locomotive Works, Varanasi.

- Page 1, line 7 from below, for "indegeneous" read "indigenous"
- Page 1, line 7 from below, for 'case' read 'core'
- Page 23, line 6 from below, for 'forseable' read 'forseeable'
- Page 30, line 9 from below, for 'Project' read 'Projects'
- Page 36, line 12 from below, for '155' read '115'
- Page 40, line 8 from below, for 'shortage' read 'shortages'
- Page 42, line 23, for 'he' read 'we'
- Page 42, line 9 from below, for 'on' read 'in'
- Page 44, line 14, delete 'be' after 'not'
- Page 46, line 18, for 'it' read 'if'
- Page 47, line 22, for 'and' read 'any'
- Page 49, line 9, for 'shipment' read 'shipments'
- Page 68, line 6, delete 'Reply'
- Page 82, line 3, for 'not that according to the' read 'further hope that the tar-'
- Page 91, line 1, for 'ovr' read 'over'

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ESTIMATES COMMITTEE

(1969-70)

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INTRODUCTION

I, the Chairman, Estimates Committee, having been authorised by the Committee to submit the Report on their behalf, present this Hundred and nineteenth Report on the Ministry of Railways—Diesel Locomotive Works, Varanasi.

2. The Committee took evidence of the representatives of the Ministry of Railways, Ministry of Industrial Development, Internal Trade and Company Affairs (Department of Industrial Development) and the Ministry of Steel and Heavy Engineering on the 4th and 5th December, 1969. The Committee wish to express their thanks to the Financial Commissioner and Member, Mechanical, Railway Board, General Manager, Diesel Locomotive Works, Varanasi, Joint Secretary, Ministry of Industrial Development and Internal Trade and Company Affairs and Joint Secretary, Ministry of Steel & Heavy Engineering, and other officers of the Ministry of Railways for placing before them the material and information they wanted in connection with the examination of the estimates.

3. The Report was considered and adopted by the Committee on the 20th March, 1970.

4. A statement showing the analysis of recommendations contained in the Report is also appended to the Report (Appendix VI).

NEW DELHI;
April 4, 1970

M. THIRUMALA RAO,
Chairman,
Estimates Committee.

Chaitra 14, 1892 (Saka)

INTRODUCTION

A. Historical Background

As a result of the impact of the various plans, there has been a phenomenal growth of industry and expansion of economy in all the spheres of Nation's life. With the fast increasing traffic demands, the modes of transport had of necessity to undergo a change in order to satisfy the growing needs of industry and agriculture. Steam traction alone could not cope with these extraordinary and exacting requirements. Further for densities of traffic above a certain figure, diesel and electric traction is more economical than steam traction. During the third and subsequent plan periods, large scale dieselisation was indispensable for the reasons stated above. As the import of diesel locomotives would have meant a heavy drain on the country's foreign exchange resources, it was considered essential to expeditiously build up competence and adequate capacity for manufacture of diesel locomotives in the country.

Need for Dieselisation

1.2. As regards comparative economy of the steam and diesel tractions and the savings effected as a result of the introduction of diesel locomotives on the various routes, the Ministry of Railways have completed detailed studies regarding savings effected as a result of introduction of diesel tractions in three sections viz:

- (i) Agra-Jhansi-Bina Section of the Central Railway (BG).
- (ii) Phulera-Abu Road Section of the Western Railway (MG)
- (iii) Madras-Cochin Harbour Terminus Section of Southern Rly. (BG).

1.3. The savings in operating cost which has resulted through introduction of diesel traction is as follows:—

Name of the Section	Year	Volume of thorough Goods traffic in terms of trailing tonnes kms (Millions)	Expenses as it would have been under steam traction Rs. (000)	Actual expenses under mixed traction Rs. (000)	Savings Rs. (000)
Agra-Bina	1968-69	3003	16,524	13,941	2,583
Phulera-Abu Road	1968-69	2047.8	20,166.5	13,807	6,359.5
Madras-Cochin Harbour Terminus	1968-69	4633	36,450	26,170	10,280

1.4. In the above evaluation, certain operating costs like permanent way maintenance, carriage and wagon examination and maintenance, cost of marshalling yards, stations etc., which are independent of the type of traction have been excluded. Only those costs such as depreciation and interest charges on capital, maintenance cost (including cost of POH), fuel cost, operating crew cost etc. which are dependent on the type of traction have been considered.

1.5. The Committee note that in 1968-69 the Railway Board had undertaken detailed studies regarding savings effected as a result of introduction of diesel traction on three sections. As dieselisation is being introduced in more and more routes during Fourth Five Year Plan period, the Committee suggest that such studies should be undertaken as a regular feature on other routes also so that a clear picture may emerge regarding the benefits derived from the dieselisation keeping in mind the cost of dieselisation and consequent increase in capital in charge and proper utilisation of all locomotives. They also recommend that the future dieselisation policy of the Government should be moulded in the light of the experience gained.

1.6. In para 2.27 of Sarangapani's Report (1956), it has been stated that in the United States of America the replacement of steam locomotives by diesel locomotives has been in progress on a very large scale for some years. There was a case of an electrified section also being converted to diesel traction. It has further been stated in the Report that both these trends are now giving way to electrification. It is understood that this change in policy has been dictated by the rapid development of nuclear power.

In this connection attention is invited to the observation made by the Estimates Committee in their Seventieth Report on the Ministry of Railways—Railway Electrification Projects, that before any particular section of Railways is taken up for electrification the comparative economics of steam, diesel and electric tractions are gone into for that particular section and only after it is found that electric traction would be more economical, it is adopted.

1.7. The Committee note that in most of the countries, which were visited by Sarangapani Team, viz. United Kingdom, France, Germany, Sweden, Holland, Switzerland, Belgium and Italy, there is a programme to gradually replace steam traction by electric traction. The Committee hope that while switching over from steam traction to diesel traction the Government will not lose sight of these facts and will ensure that the manufacture of diesel locomotives is in accordance with the requirements of the country. The

Government should accordingly commence the preparation of perspective planning right from now and they must visualise what they have to do ultimately in the distant future, based on traction trends to go in for electrification and in this connection they should also take into account experience gained in the country in the matter.

Setting up of DLW, Varanasi

1.8. The Diesel Locomotive Works was installed at Varanasi in August, 1961 to ensure indigenous supply of diesel locomotives. It was planned to produce 150 broad gauge diesel locomotives or equivalent with fully established incentive working.

1.9. In setting up DLW, the primary consideration was to establish the facility in minimum time so as to effect maximum possible saving in foreign exchange cost of the dieselisation programme. The establishment of the DLW was accelerated by the fact that at the site now occupied by DLW works and township, another project, viz Locomotive Component Works had been taken in hand in 1956 for centralised manufacture of steam locomotive components. By 1961, when the decision was taken to set up DLW, considerable development of the site and construction had already taken place for the Locomotive Component Works. However, at this stage, with large scale dieselisation in sight, centralised manufacture of steam locomotives components was not considered necessary and opportunity was taken to incorporate the facilities created for the Locomotive Component Works in the DLW Project. This provided a substantial lead to DLW project. DLW got the benefit of all the artisan and supervisory staff that were engaged in LCW Project and with LCW's Technical School and Basic Training Workshop in operation, it became possible for the Government to train the balance of artisan staff and supervisory staff, in time to meet DLW's production requirements.

1.10. Diesel-Electric locomotives that were already operating on Indian Railways had been supplied by ALCO Products of USA, who had become familiar with the Indian environment and Indian Railways' Service requirements. DLW entered into collaboration with ALCO Products for supply of designs and related engineering data and for the production of the same types of locomotives. This eliminated the time interval otherwise required to 'prove' a locomotive design in service before taking up regular manufacture.

1.11. While the Project was in the process of development, several teams of engineers and technicians were sent to the Collaborator's Works in USA to familiarise themselves with the type

of work involved in diesel locomotive production and thereafter to make their contribution in planning and development of the works. Simultaneously, seven technicians from the Collaborator's Works came on deputation to DLW to assist in 'on the jobs' training of DLW personnel. However, no such staff is presently employed at the Works.

1.12. The first locomotive from the Diesel Locomotive Works, Varanasi, was turned out on the 3rd January, 1964 and precisely three years later, the 100th locomotive was commissioned on the 3rd January, 1967. Till 1968-69, 252 diesel locomotives were manufactured in the Works.

1.13. The Committee note that the decision to set up the Diesel Locomotive Works was taken in 1961 and by January, 1964, the first locomotive was turned out. While there was no technical know-how available with the Diesel Locomotive Works at the time of setting up the Works and foreign technicians had to be called to impart the necessary technical know-how, the DLW are now self-sufficient in the matter of technical know-how and there are no foreign technicians working with the DLW now. The Committee are glad to note that our own technicians were trained and found efficient in displacing foreign technicians completely. They however, hope that this would not lead to complacency on the part of the DLW and that they will conduct continuous research to improve design, manufacture and effect reduction in operational cost etc.

Capital Investment

1.14. Capital investment in the project is Rs. 19.57 crores whose break-up is as follows:—

(In crores of Rs.)

	Indigenous	Imported	Total	Percentage
Buildings and Roads etc. in Workshop	4.36	..	4.36	22.3
Machinery and Plant	3.69	6.00	9.69	49.5
Electrical Installation	1.39	..	1.39	7.1
Township	4.13	..	4.13	21.1
	<u>13.57</u>	<u>6.00</u>	<u>19.57</u>	<u>100.00</u>

1.15. Regarding percentage of capital investment in township in similar undertakings, the representative of the Ministry of Railways stated during evidence that "we can only talk about the position in Railways. In Integral Coach Factory, Paramburi, it is 19.7

per cent. In CLW, it is 35.2 per cent. In DLW, it is 21.1 per cent. This is because we take into account the availability of accommodation in the neighbouring cities. For instance, Chitteranjan was a completely new locality and hence we had to build more houses. In Banaras and Madras, people could come from the cities and hence we have fewer quarters".

1.16. The Committee note that as against the investment of 50 per cent in plant, machinery and electric installations of DLW, there has been investment of 21.1 per cent in township and 22.2 per cent in building and roads. They feel that this is appreciably higher than the norms prescribed by the Bureau of Public Enterprises. The Committee would like to stress the imperative need for husbanding resources and would suggest that the Government should concentrate on the core of the project so that it may yield the maximum production, the other infra-structure being provided as resources become available.

1.17. The Committee recommend that in future whenever a new factory or an undertaking is to be set up by the Railways, they should plan ahead keeping in view the essential requirements and reducing the expenditure on townships to the barest minimum and keeping a check over avoidable expenditure on luxurious buildings such as swimming pools, big bungalows etc. The Government should ensure that the buildings constructed in the township are cheaper in cost, utility-oriented and not luxurious. They should plan as to how much is to be invested in plant and machinery and how much is to be invested in buildings and townships so that the investment may yield the maximum return.

B. Organisational set-up

1.18. The Diesel Locomotive Works, Varanasi was established under a notification issued by the Ministry of Railways (Railway Board) on 27-10-61 as a new organisation. It is a Departmental Production Unit of the Ministry of Railways (Railway Board) and it functions in accordance with broad policy decisions taken by the Railway Board at appropriate level and communicated through the various authorities in Railway Board from time to time according to the subject matter under the overall authority of the Railway Board, except the day to day functions of the Works which are regulated under the overall control of General Manager in accordance with the powers delegated to him by the Railway Board.

Manufacturing Facilities

1.19. Diesel Locomotive Works incorporates two self-contained divisions viz. engine division and locomotive division. The loco-

tive division includes a sub-division for application of electric traction equipment. Engine Division occupies an area of about 2,50,000 sq. ft. and it is equipped with highly sophisticated machinery and plant valued at more than Rs. 4 crores (pre-devaluation). The locomotive division occupies a covered area of about 3,50,000 sq. ft. and has equipment valued at about 2.2 crores (pre-devaluation). To support manufacturing operations in engine and vehicle division, the works have a well equipped tool room and plant maintenance facilities. Other auxiliary facilities are control and testing laboratory, precision measurement centres and non-destructive testing facilities provided at different locations in the Works. The Works are also provided with a data processing centre employing an IBM computer.

1.20. In a written note furnished by the Ministry of Railways, the Committee have been informed that "the Diesel Locomotive Works enjoy autonomy in so far as its day to day working is concerned. The powers of the General Manager both financial and otherwise, are exactly the same as that enjoyed by the General Managers of Indian Government Railway and these are contained in the General Code, Vol. II". Regarding need for delegation of more powers to the General Manager, the Committee have been informed that "This matter is under constant review and powers are delegated to General Manager, Diesel Locomotive Works, Varanasi as and when necessary".

1.21. Regarding delegation of powers to General Manager, the representative of the Ministry of Railways stated during evidence that "it is continuous process. We keep on delegating the powers. . . . It is really the question of financial powers being upgraded because the cost of materials and things are going up. We keep on delegating and there is constant review of the matter".

1.22. The General Manager, Diesel Locomotive Works is assisted in his functions by other officers like Financial Adviser and Chief Accounts Officers, Deputy Chief Personnel Officer, Secretary to General Manager who also acts as Vigilance Officer, Chief Mechanical Engineer, Deputy Chief of Stores etc. who in turn are assisted by other officers and staff. The total number of officers and staff as on 31-3-1969 was 5,760 including casual workers.

1.23. The Committee note that the Diesel Locomotive Works, Varanasi, enjoys autonomy in its day to day working. They further note that the question of delegation of powers to the General Manager is under constant review of the Government and that more powers are delegated to General Manager as and when necessary.

The Committee are not however, aware if the Railway Board have made any study regarding granting different sets of powers to General Managers of Production Units as compared to the General Managers of various Zonal Railways, so that the General Managers of these Production Units may enjoy real autonomy in the day to day working. The Committee fail to understand why the powers of the Production Units like the Diesel Locomotive Works are retained by the Railway Board as compared to the autonomy enjoyed by Public Sector Undertakings, since such concentration of power is likely to lead to delay due to red-tape. The Committee recommend that the Railway Board should examine the question of devolution of power keeping in view the efficiency and profitability of the Unit.

CHAPTER II

FINANCIAL RESULTS AND REASONS FOR LOSSES

According to the Balance Sheet of the Diesel Locomotive Works, Varanasi for the year 1968-69, the DLW had suffered a cumulative loss of Rs. 1,23,00,000 till the 31st March, 1969. Out of these, the losses till 31st March, 1968 accounted for Rs. 66,22,000 and the remaining loss of Rs. 56,78,000 occurred during the year 1968-69.

2.2. Asked to state the reasons for the progressive losses, the Ministry of Railways informed the Committee in a written note that "It is pertinent to point out here, how the selling price of a locomotive produced at DLW is fixed in order to appreciate the apparent loss in its proper perspective. The selling price of a diesel electric locomotive produced by DLW has been fixed at Rs. 21 lakhs with effect from 1-4-67. This price is based on the assumption that the cost of imported equipment after devaluation would be about Rs. 15 lakhs and the cost of indigenous content would be about Rs. 6 lakhs. The cost of production at Diesel Locomotive Works, however, is higher than this, resulting in the accumulation shown in the Balance Sheet as on 31-3-1969. This amount merely represents the extent to which the actual cost is higher than the selling price fixed on consideration of various factors and cannot be deemed as "loss" in the commercial sense".

2.3. Asked to state how the price of diesel locomotive manufactured at Diesel Locomotive Works is determined, the Ministry of Railways have informed the Committee in a written note that, "The base price of a complete locomotive as given in the contract with ALCO (our Collaborators) forms the basis for determining the price of a diesel locomotive manufactured at Diesel Locomotive Works, Varanasi. The Diesel Locomotive Works use imported components as well as indigenous components in the manufacture. From the base price of components given in the contract the present day

landed cost of the import portion is worked out applying the post-devaluation rate of exchange." The details of arriving at this price of Rs. 21 lakhs are given below:—

	1966-67	1967-68 (from 1-4-67)
1	2	3
1. Contract price of a diesel loco [made up of (2) & (4)]	\$ 2,56,000*	\$ 2,56,000*
2. FAS value of imported components	\$ 1,77,000	\$ 1,50,000
3. Landed cost of imported components after adding sea freight and customs duty	\$ 2,69,482	\$ 2,00,812
4. Indigenous content [Item (1) minus (2)]	\$ 79,000	\$ 1,06,000
5. Add 10% increase in the cost of manufacture of indigenous content	\$ 7,900	\$ 10,600
6. Cost of indigenous content	\$ 86,900	\$ 1,16,600
7. Total cost of diesel loco [item (3)+(6)]	\$ 3,56,382@	\$ 2,00,812** + \$ 1,16,600@
8. Rupee equivalent of diesel loco cost	Rs. 16.97 lakhs@ or Rs. 17 lakhs	Rs. 15,09,865** + Rs. 5,55,238@ Rs. 20,65,103 or Rs. 21 lakhs.

* Includes a price increase of \$ 11,000 for traction equipment.

@ The dollar is converted into rupee value at the conversion rate in force prior to devaluation of the rupee viz. at 0.21 dollars per rupee.

** At the conversion rate applicable after the devaluation of the rupee viz. 0.133 dollar per rupee.

2.4. As regards the actual cost of manufacture of a diesel locomotive, the Committee have been informed that "The average cost of manufacture of diesel electric locomotives produced in 1968-69 (turned out upto November, 1968) worked out to Rs. 22.64 lakhs. Included in the above is the batch turned out in October-November 1968 where the average cost worked out to Rs. 21.8 lakhs per loco. Inclusive of proforma charges the average cost given above will come to Rs. 26.24 lakhs while the cost of the batch turned out in October-November 1968 will be about Rs. 25.4 lakhs".

2.5. Asked to state the reasons for fixing the price at Rs. 21 lakhs when the cost of manufacture was much more, the Committee have been informed in a written note by the Ministry of Railways that "In the initial stages of any line of production, especially sophisticat-

ed items like diesel electric locomotive due partly to teething troubles arising out of lack of sufficient experience in the manufacture of such highly complicated components and partly due to longish periods required to reach optimum production, the cost of production is likely to be higher than the landed cost of similar products. As it will not be expedient to fix the selling price based on such high initial cost of production and also with a view to set a target for the Management, for making efforts to bring down the cost below such target, the selling price of any new line of production is fixed, in the initial stages, on a par with landed cost of similar product (wherever available) so as not to burden the allottee Railway with the excess cost of indigenous production. As the production of the new line gets stabilised at the optimum level and with the increased experience and knowledge gained gradually, the cost of manufacture is expected to come down even below the landed cost of similar product. This has been the experience of the Railways in the manufacture of steam locomotives at Chittaranjan Locomotive Works where initially the cost of manufacture was very high as compared to the landed cost, but progressively the cost decreased to a level well below the landed cost.....The difference between the selling price so fixed initially on par with the landed cost and the actual cost of production is held temporarily under a suspense account of the Production Unit and the selling price is revised to correspond to the actual cost of production when the cost of production as explained above decreased to a level below the landed cost and when the accumulations in the said suspense account have been wiped off."

2.6. Asked when the Diesel Locomotive Works was expected to be able to produce diesel locomotive at Rs. 21 lakhs per locomotive i.e. selling price, the Committee have been informed in a written note by the Ministry of Railways that "The Work's efforts on the locomotive being limited to only about 1/3 and the other 2/3 of the locomotive being for purchase items the cost is basically dependent on rate at which such purchased items are available. In regard to the imported items taken in the fixation of selling price their indigenisation should not cost more than landed cost assumed in such fixation. * * * * In view of the rising trend in the price structure of both imported and indigenous supply, the only source on which some control can be exercised is in regard to overheads and we can say that this can be brought out by an increase in the quantum of production. It is also apprehended that the indigenisation of the remaining key items still on the import list may not be possible to be achieved even at the landed cost assumed in the selling price. * * * * The proposal for revision of the selling price is, therefore, under consideration of administration."

2.7. Asked if a proposal to raise the selling price of a locomotive manufactured in Diesel Locomotive Works was under consideration of the Railway administration, the representative of the Ministry of Railways stated during evidence that "There is no change in the price structure in 1969-70"*

2.8. Asked if no provision is made for rise in the cost of raw material, the representative of the Ministry of Railways stated "We have, in the costing. We revised it but it so happened that the cost in 1969-70 was a little lower than that of 1968-69."*

2.9. Asked when the DLW, Varanasi would be able to reach the break-even stage and be in a position to realise a 6 per cent return on its investment, the representative of the Ministry of Railways stated during evidence "In one sense I will say that it does not arise because we are not charging anything on whatever we are producing, we are charging the Railways only the actual cost. For what is produced in our kitchen, we do not charge any profit. Only the actual cost has to be taken into account." When asked what is the actual price of a diesel electric locomotive manufactured at DLW, the representative of the Ministry of Railways stated "Diesel electric locomotive is manufactured only for the Railways. Their cost comes to Rs. 22.5 lakhs without proforma overhead charges. With such charges, mainly dividend, it comes to 26 lakhs. We charge the Railways only Rs. 21 lakhs. The benefit passed on to the General Revenue is 6 per cent on capital. Whatever the cost of production, the entire cost of production is paid."

2.10. Asked why the DLW was not being treated as a separate unit and profitability and cost of manufacture etc. determined, the representative of the Ministry of Railways stated before the Committee, "We are keeping the accounts separately and we are also arriving at the cost of the product for each batch of production for each year. We are keeping an account of all the expenditure and these accounts are audited by C & AG but we are not keeping the sale as such. The production unit is not a separate organisation. DLW is a part of the Railways."

*At the time of factual verification, the Ministry of Railways have stated as follows:—

"The quotations mentioned in paras 2.7 and 2.8 are not factually correct. It is regretted that these inaccuracies were overlooked when the verbatim record was sent to this Ministry for verification. The quotations may be corrected to read as follows:—

Para 2.7 : There is a proposal under consideration to revise the selling price.

Para 2.8 : The latest available cost report relating to one batch in 1968-69 indicates a lower cost of production than the cost in the other batches in the year."

2.11. The Committee note that the Diesel Locomotive Works, Varanasi had suffered cumulative losses amounting to Rs. 1,23,00,000 till 31st March, 1969. The Committee also note that the main reason for the loss as explained is that while the sale price of a diesel locomotive manufactured at D.L.W. is Rs. 21 lakhs, the cost price of a locomotive comes to nearby Rs. 26 lakhs. It was also stated to the Committee that with the production getting stabilised at the optimum level and with the increased experience and knowledge gained gradually, the cost of manufacture is expected to come down even below the landed cost. The Committee have dealt with the delay in reaching the target set for optimum production and the rising trend in the price structure of both imported and indigenous supply of locomotive purchase items in Chapters III and IV. The Committee note that the ex-factory price of a diesel locomotive manufactured at Diesel Locomotive Works, Varanasi which comes to about Rs. 26 lakhs is much higher than the ex-factory price of a diesel locomotive manufactured at the Collaborators etc. The Committee hope that the DLW would make every possible endeavour to bring down the cost of production below the landed cost at the earliest. The Committee need hardly stress the necessity of cutting down the overhead expenses and greater utilisation of the installed capacity of the D.L.W. to achieve this objective.

2.12. The Committee note that the cost of production of diesel locomotive manufactured at Diesel Locomotive Works in the batch turned out in October/November, 1968 has already shown a downward trend. The Committee would like to be informed of the cost of manufacture of locomotives produced in subsequent batches. The Committee feel that the price of the diesel locomotive manufactured at D.L.W. should have been fixed after setting off freight and custom duties and every possible endeavour should have been made to reduce the import content to the barest minimum. They would like to add that since D.L.W. is manufacturing largely one standard type of locomotive, the price of the diesel locomotive manufactured at Varanasi should be most competitive and should compare favourably with the ex-factory price of the similar locomotives manufactured by the collaborators/foreign manufacturers. In this connection, the Committee would like to stress the importance of DLW exploring export possibilities from now onwards so as to derive advantage of economy of large scale production and gain foot-hold in foreign markets.

Deferred Expenditure

2.13. In the Balance Sheet of the Diesel Locomotive Works, Varanasi for the year 1968-69, an amount of Rs. 67,25,000 has been

shown as 'Deferred Expenditure'. Regarding details of the amount and the reasons for treating the same as deferred, the Committee have been informed in a written note by the Ministry of Railways that "The Deferred Expenditure of Rs. 67.25 lakhs primarily represents the expenditure on premanufacture developmental activities like training of personnel including apprentices in the Technical Training School, the designs and drawing activities and part of other administrative and General Department expenses during such developmental period amounting to Rs. 35.72 lakhs for the Diesel Locomotive Works and Rs. 31.53 lakhs of similar nature for the period upto 31st March, 1962, relating to the earlier locomotive component works."

2.14. Asked as to how this amount shown as 'Deferred Expenditure' is finally intended to be met, the representative of the Ministry of Railways stated during his evidence "In the earlier years when production was very small we did not absorb the full overhead. Now we have stabilised. We will include more in the sale price and absorb it. We will wipe it out in the next five or six years."

2.15. The Committee note that an amount of Rs. 67,25,000 has been appearing in the Balance Sheet of the DLW as 'Deferred Expenditure' which relate to pre-manufacture developmental activities and the same is intended to be wiped out in the next five or six years by including it in the sale price. The Committee need hardly point out that this can be done by reducing overheads to the maximum extent, achieving economy all round, reducing cost and by providing sufficient surplus to absorb the deferred expenditure.

CHAPTER III

MANUFACTURE OF DIESEL LOCOMOTIVES

A. Collaboration Agreements

For putting up the D.L.W. project in gear quickly, a collaboration agreement with Alco Products Inc., U.S.A. was entered into by the Railway Board in February, 1962. D.L.W. has four separate agreements with Alco or their subsidiaries as under:—

- (1) Technical association for the manufacture of diesel locomotives—with Alco Products Incorporated.
- (2) Technical association for the manufacture of diesel engines—with Alco Products Incorporated.
- (3) Supply of technical personnel for the manufacture of diesel locomotives/engines—with Transworld Services.
- (4) Purchase and Inspection of material and equipment for the manufacture of diesel locomotives/engines to be obtained from U.S.A.—with Overseas Diesel Corporation.

3.2. All these four agreements came into force on 12th February, 1962, and they are valid for a period of ten years with an option for extension. An appreciation with regard to each of these agreements may be seen at Appendix I.

3.3. Asked to intimate the circumstances under which Diesel Locomotives Works entered into a Collaboration Agreement with M/s. Alco Products Inc., U.S.A. and whether global tenders were invited in this regard, the Committee have been informed in a written note by the Ministry of Railways that "For the purpose of establishing manufacture of locomotives in the country, it was essential to import a number of locomotives in a knocked down condition and later components thereof. The Collaboration also required the payment of technical fees and royalties in foreign exchange. Funds for these purposes were available only from U.S. i.e., loan from the Development Loan Fund (now known as AID) and loans from the U.S. Export—Import Bank. The choice of collaborator in the manufacture of diesel locomotives in either case became limited to U.S.A.

3.4. There are three leading manufacturers of diesel electric locomotives in the U.S.A. viz. (a) General Electric (b) General Motors and (c) Alco. The high powered locomotives manufactured by General Electric had not been sufficiently tried and proved in service and therefore that concern was not considered suitable for the purpose of Collaboration. Out of the remaining two, General Motors did not evince sufficient interest in the Collaboration and failed to submit any concrete proposals. Therefore, discussions were held on Alco's proposals for Collaboration and finally a Collaboration Agreement with Alco was entered into."

3.5. Asked if any tender was given by General Motors also and if so, what was the reaction of the Railway Board thereto, the Committee have been informed in a written note that "M/s. General Motors initially communicated their willingness to collaborate for manufacture of locomotives/engines. However, they failed to submit any concrete proposal for Collaboration in spite of repeated requests and appeared to be interested only in securing orders for completely assembled locomotives. As such Alco alone was left in the field and after discussing the full terms and conditions, the Collaboration agreement was finalised with them in February, 1962."

3.6. From the correspondence exchanged between the General Motors and the Ministry of Railways in the matter, it appears that initially in their letter of 7th September, 1961, General Motors indicated their willingness to collaborate for manufacture of complete locomotives and engines. They were requested to depute their team for discussions and submission of proposals. General Motors, However, advised that their willingness to collaborate was subject to placement of an order with them for 40 locomotives under ICA financing for which they had earlier submitted their offer. However, after evaluation of the offer received against the tender issued for procurement of 40 locomotives, it was decided by the Railway Board in September, 1961 with the concurrence of DLF authorities, to place the order for these 40 locomotives on Alco. General Motors were accordingly advised that in view of the Railway Board the Collaboration Agreement should be dealt with separately and on its own and not necessarily linked up with placing of orders for these 40 locomotives. General Motors, however, reiterated that they considered the order for the 40 locos under D.L.F. financing and 25 locos under ICA financing as an essential part of the Collaboration scheme. As the General Motors continued to remain firm on their stand, the Railway Board finalised the collaboration agreement with M/s Alco Products in February, 1962.

3.7. Asked about the consideration for rejecting the other tenders and coming to an agreement with M/s. Alcos, the representative of the Ministry of Railways stated during evidence "Only the U.S.A. firms are advanced in the manufacture of diesel electric locomotives. There were three firms available from U.S.A., one was M/s. Alcos, and the others were M/s. International General Electric and M/s. General Motors. M/s. International General Electric were rather new in the field of manufacture of powerful locomotives i.e., locomotives in the range of 2400 and 2600 H.P. Naturally their locomotives being not sufficiently tried, we did not want to go in for them. M/s. General Motors had a good reputation but we found that they were not enthusiastic about collaboration in the manufacture in India. They wanted us more to be assemblers than be manufacturing the parts ourselves. The only party whom we found willing to collaborate in the manufacture of this was M/s. Alco Pvt. Ltd. Then we negotiated terms with them."

3.8. The Committee note that a Collaboration Agreement was signed by the Railway Board with M/s. Alco Products Inc., of U.S.A. in February, 1962. The Committee also note that as funds for the purpose of importing diesel locomotives in a knocked down conditions and for payment of technical fees and royalties were available only from US. aid, the possibility of collaboration was limited to M/s. General Motors and Alco Product of U.S.A. As the former did not evince sufficient interest in Collaboration, there was no alternative but to enter into an agreement with M/s. Alco Products. The Committee have found another case when for entering into a Collaboration Agreement for the production of diesel shunters, the choice for Collaboration became limited to two firms in West Germany only as the same was to be financed through the K.L.W. (German) Loan. They feel that this policy of limiting the choice of collaboration to a particular country is not in the best interest of the country in the long term since this limitation of choice does not allow the authorities to ensure that the best possible terms for collaboration have been entered into.

The Committee need hardly emphasise that before entering into Collaboration Agreements, the Government should call tenders on Global basis and take a final decision in this regard only after evaluating such tenders with due reference to the need for setting up most modern and economic manufacturing unit consistent with the availability of foreign exchange and other constraints on resources. In the present case the Committee are not satisfied that such evaluation had been done as the manufacturers from countries other than U.S.A. were not considered. Even from the U.S.A.:

tenders from firms other than M/s. General Motors and M/s. Alco Products were not considered.

Clause restricting Export of Locomotives

3.9. It has been noticed from the Collaboration Agreement entered with M/s. Alco that clause 7 of the Agreement provides that "The Government also has a right to export products manufactured under this Agreement, prior intimation to Alco being necessary. If such export violates any regulation of law in the U.S.A., Alco shall advise the Government in writing and such export shall not be carried out."

3.10. Asked why the above clause was inserted in the Collaboration Agreement and whether this provision was not an unnecessary restriction on the rights of the D.L.W. to export their products to other countries, the representative of the Ministry of Railways stated during evidence, "This is a statutory obligation for manufacturers in the U.S.A. You are aware that many of the well established foreign manufacturers put in a condition banning export altogether when they are entering into Collaboration with Indian firms—whether in the public or private sector. That is a kind of an extreme condition which they used to put in. Now the policy of the Government in the past few years is that we should not accept any such condition. We would rather not have an agreement at all than having an agreement with a condition banning exports altogether. So far as U.S.A. is concerned, companies are required under the Law to ensure that they do not collaborate in the establishment of ventures abroad which will ultimately export their products to certain countries. I may submit that this was a theoretical matter. As it is, we are not able to export our locomotives outside the country because our own needs are greater. The Indian Railways require as many of the Diesel Locomotives as can be manufactured. Perhaps the question of export may arise at the end of the Fourth Plan period when our need would be met substantially if not fully. Then the question of exports may arise. But after 1972 there is no restriction. We can export locomotives to any country."

3.11. The Committee regret that a clause was included in the Collaboration Agreement which restricted the right of export of diesel locomotives manufactured at Diesel Locomotive Works to other countries. The Committee, however, note that recently the policy of the Government has been not to accept any such condition. The Committee hope that this policy will be adhered to and such restrictions would not be allowed in future agreements.

B. Targets and Actual Production

3.12. The following table gives the targets of production, as per Project Report prepared by the Collaborators for D.L.W. upto 1969-70 in terms of broad gauge locomotive type WDM-2 and actual production during the same period:—

Year	Target	Actual Production		WDM-2 or equivalent total
		WDM-2	WDM 4	
1963-64	3	4	..	4
1964-65	26	18	..	18
1965-66	54	39	..	39
1966-67	108	55	..	55
1967-68	150	66	..	66
1968-69	150	60	10 (Counted as 14 WDM-2)	74
1969-70	150	65	25 (Counted as 25 WDM-2)	90
	641	307	35 (Counted as 39 WDM-2)	346

3.13. Regarding reasons for the shortfall in production, the Committee have been informed in a written note by the Ministry of Railways that "Locomotive production at D.L.W. is primarily Governed by availability of foreign exchange for import of balancing components which are required to match the progress of indigenisation from year to year. Upto date, foreign exchange has been released to D.L.W. for 387 sets of BG components and 65 sets of MG components. Production of these locomotives has been planned to be completed by the end of March, 1971. The last release of foreign exchange for 49 sets of BG components and 5 sets of MG components was made in March 1969. Procurement cycle for imported components from date of release of foreign exchange to availability of matched sets at D.L.W. is about 18 months so that conversion time available to D.L.W. for these locomotives would be about 6 months which is the bare minimum. It would be, therefore, observed that D.L.W.'s locomotive production has kept pace with availability of foreign exchange for imported balancing components."

3.14. Asked when the target of producing 150 locomotives yearly was expected to be achieved, the Committee have been informed by the Ministry of Railways that "It is expected to achieve the optimum production equivalent of 150 broad gauge locomotives in the last year of Fourth Five Year Plan. This is on the assumption that foreign exchange required for import of balancing raw materials and semi-finished/finished components would be forthcoming in time."

3.15. Regarding reasons for shortfall in production, the representative of the Ministry of Railways stated during evidence that "The production plan is dependent on two very vital factors—one is the availability of foreign exchange for some of the components which are still being imported and the other is the availability of indigenous items of components which are not manufactured in D.L.W. For example we are entirely dependent on Bhopal for the supply of electrical equipment." He further stated "The limiting factor in the production of D.L.W. at Varanasi has been the availability of foreign exchange. It mainly hinges on this. During 1965 and further upto 1967, there was some recession, as you know in the general development of the country and therefore, the requirements of the Railways themselves came down. So we went slow in our production targets. That is why we did not come up to this figure".

3.16. In a subsequent note submitted to the Committee, the Ministry of Railways have stated "The production of 641 Diesel locos during the period 1963-64 to 1969-70 was based on the undertaking that the capacity of D.L.W. would be built up to 150 locos per year in the shortest possible time. The production target, however, had to be revised due to the slow growth of traffic in the Third Plan period followed by recession, as well as due to the difficult position of foreign exchange during this period. The introduction of the incentive system which would have accelerated the pace of production had, therefore, to be deferred and the loco outturn was adjusted to suit the availability of foreign exchange and the Railway requirements. Within these restraints, Diesel Locomotive Works was able to produce upto the end of December, 1969, 283 BG and 30 MG locomotives, making a total of 313 locos of both types".

3.17. Regarding the targets of production and steps taken to achieve the same, the Committee have been informed by the Ministry of Railways that "The target production of 150 locomotives is planned to be reached in the last year of the Fourth Five Year

Plan. The production plan that has been laid down for the Diesel Locomotive Works is as follows:—

	BG	MG	Total
1969-70	65	25	90
1970-71	80	30	110
1971-72	90	45	135
1972-73	95	58	153
1973-74	100	60	160
	430	218	648

3.18. The following steps have been taken to achieve these production targets:—

- (1) Incentive scheme is being introduced to increase productivity so that a higher output may be achieved with the present strength of staff.
- (2) Adequate foreign exchange will be allotted to obtain the imported components at the appropriate time.
- (3) A special organisation has been set up to ensure that the supply of indigenous equipment conforms to the specifications and is available at the time when it is required.
- (4) The organisational and managerial set up in Diesel Locomotive Works is being strengthened to ensure optimum results.

3.19. The Committee note that according to the Project Report DLW was expected to produce 641 locomotives till 1969-70 and from 1967-68, the DLW was expected to manufacture 150 locomotives every year. The Committee, however, find that the DLW can manufacture only 346 locomotives till the end of 1969-70 and the target of manufacturing 150 locomotives every year is expected to be attained in the last year of the Fourth Five Year Plan only and this is also subject to the availability of foreign exchange.

While the Committee realise the difficulties of the Government in the matter of non-availability of foreign exchange and lack of demand because of recession etc., the Committee are constrained to observe that it is not a sound policy of drawing up certain targets

and building up requisite capacity without visualising that the targets may not be achieved due to certain common factors such as non-availability of foreign exchange and lack of demand. The Government should have speeded up the programme of indigenisation once they could detect that there would be difficulty in getting foreign exchange. The foreign exchange position was not sound even in the years 1961 and 1962 when this Project was set up. Therefore, the Government should have taken all precautions to eliminate foreign exchange hurdles by adhering to a programme of quick indigenisation.

3.20. The Committee are constrained to observe that the targets laid down for the DLW should have been more realistic and the indigenous programme of manufacture particularly in related public undertakings should have been coordinated in advance.

3.21. Now that the targets of production of diesel locomotives have been revised, the Committee hope that the new targets would be strictly adhered to. The Committee further hope that shortage of foreign exchange would not allowed to come in the way of achieving the revised targets.

3.22. The Committee further hope that the targets and achievements would be kept under continuous review to achieve optimum results.

3.23. The Committee note that the introduction of the incentive scheme in the DLW which would have accelerated the pace of production was deferred in view of the lower demand of the diesel locomotives due to recession. The Committee cannot but come to the conclusion that this is indicative of over staffing in DLW. The Committee would like to point out that incentive system should be built into the staff norms right from the very beginning so as to obviate overstaffing and lay proper emphasis on production.

C Diversification programme

3.24. In the initial phase, DLW was geared for production of BG locomotives type WDM-2 and during the five year period 1963-64 to 1967-68, 182 WDM-2 locomotives were produced. However, in July, 1965, it was decided to diversify the production at DLW to include metre gauge locomotives type WDM-4, as well. Preparatory work for the diversification took about two years. The diversification was achieved in 1968-69 and the first metre gauge locomotive was inaugurated in November, 1968. Ten MG locomotives were built during 1968-69 and 25 more are programmed to be produced at DLW during the current year (i.e. 1969-70). Total number of metre

gauge locomotives programmed to be produced at DLW during the Fourth Plan period is 218.

3.25. For the purpose of diversification in May, 1966, DLW obtained design, specifications and related engineering data in respect of MG locomotive type YDM-4, from the Collaborators at a cost of \$ 60,000 and special cells for processing diversification were created at DLW in the divisions concerned.

3.26. There are 2367 uncommon shop manufactured MG items of components against the total of 3716 BG and BG/MG common items. Thus MG diversification involved an increase of 64 per cent in the number of items produced at Diesel Locomotive Works. Initial requirement of jigs and fixtures for MG locomotive was assessed at about 400 Nos. Alco had given an estimate of \$ 6,10,000 as cost of these jigs and fixtures excluding prove-out, packaging and freight charges. However, DLW imported jigs and fixtures worth \$ 88,000 or only 14.4 per cent of Alco's estimates. The balance valued at \$5,25,000 were produced indigenously, about two-thirds were manufactured at DLW itself and one-third procured from other sources in the country. Design development work pertaining to all the indigenously produced jigs and fixtures was undertaken at DLW. Against \$ 88,000 cost of imported jigs and fixtures for MG locomotive, the corresponding cost of the jigs and fixtures and special tools for the BG locomotive was of the order of \$ 12,75,000.

3.27. In November, 1967 a team of 8 Engineers and Technicians was sent for training in Montreal Locomotive Works, Canada who were an associate concern of Alco and who were at that time executing orders for metre gauge locomotives and components for Indian Railways. On return, this team played an important role in establishing metre gauge locomotive production at Diesel Locomotive Works.

3.28. Indigenous content of the first MG locomotive produced in November, 1968 was 56 per cent in value. This would exceed the level of 80 per cent in locomotives produced next year with Heavy Electricals (India) Ltd. electric traction equipment, at par with indigenous content of the BG locomotives.

Self-Sufficiency in the Manufacture of MG locomotives

3.29. From the figures of diesel locomotives imported during the years 1966, 1967, 1968, it appears that 12 MG locomotives were imported from Canada during 1967 at a cost of Rs. 1,68,53,951 and 26

MG locomotives were imported from Canada during 1968 at a cost of Rs. 3,67,29,824.00. The requirements of MG diesel locomotives of the Railways during the Fourth Five Year Plan (1968—70 to 1973—74) have been estimated at 218 locomotives, 108 to meet requirements of additional traffic and 110 to meet requirements of replacement. As the total number of metre gauge locomotive programmed to be produced at Diesel Locomotive Works during the Fourth Plan period is 218, the requirements of the Railways during the Fourth Plan period are expected to be met by manufacture at DLW, Varanasi, thus obviating the need for imports. The planned targets laid down for DLW, Varanasi in respect of manufacture of MG locomotives is as follows:—

1969-70	..	25
1970-71	..	30
1971-72	..	45
1972-73	..	58
1973-74	..	60

3.30. The Committee note that although Diesel Locomotive Works was geared for production of BG locomotives, a diversification programme was taken up later on and since 1968, MG locomotives are also being manufactured. The Committee further note that the requirements of the Railways of MG locomotives during the Fourth Five Year Plan period are expected to be met by production at Diesel Locomotive Works thus obviating the need of imports. The indigenous content of the first MG locomotives produced in 1968 was 56 per cent which is expected to reach 80 per cent in the near future. The Committee feel that since the Indian Railways consist of both Broad Gauge and Metre Gauge, the Collaboration Agreement as well as the Works at Varanasi should have provided for the manufacture of BG and MG locomotives right in the beginning thus obviating the need of undertaking the diversification programme at a subsequent stage. The Committee hope that the target of production laid down for MG locomotives during the Fourth Five Year Plan would not only be achieved but exceeded and the Diesel Locomotive Works would be in a position not only to meet the domestic requirements but will also be able to export MG locomotives to other countries in the foreseeable future.

D Quality Control and Performance of locomotives

3.31. It has been stated by the Ministry of Railways that from the beginning, particular emphasis has been laid on Quality Control at DLW. This applies equally to materials and components purchased from about 600 different vendors and manufacturers of

components, welded fabrication, fittings and assembly work undertaken at DLW itself. In addition, the assembled engines/locomotives are subjected to comprehensive performance testing on well instrumented test stands, where services conditions can be stimulated. It has been claimed that after performance testing at DLW, no further "run in" period is necessary and locomotives can be employed on regular train service directly after being turned out from the works.

3.32. The inspection organisation at the DLW has also a crucial role in indigenous production. The organisation maintains intimate liaison with the vendors concerned and gives them a precise idea of quality implications at each stage of development, feeding back vendors problems to the design division. In consultation with design, it has to develop suitable test schemes for all important components that are indigenised. It has been stated by the Ministry that in this manner, apart from ensuring satisfactory quality of components fitted to DLW built locomotives, the Organisation has helped to create quality consciousness among D.L.W.'s vendors.

3.33. The inspection organisation at the D.L.W. also maintains intimate liaison with User Railways with regard to performance of individual components. It has been stated that any defects, that are reported, are promptly investigated and necessary feed-back is given for corrective action to design, material control or production division, as may be concerned. Complete records of inspection and tests carried out are maintained and for each locomotive turned out detailed history sheets are maintained to keep track of service performance, in particular service performance of trial fittings.

3.34. It has been claimed by the Ministry of Railways that "effectiveness of quality control at DLW is proved by performance of DLW built locomotives. Thus far, no major complaints have been received in respect of service performance of D.L.W. locomotive placed on line during the last 5½ years. As a matter of fact, several defects that appeared in an epidemic form on imported locomotives of the same design have been successfully controlled in D.L.W. built locomotives".

3.35. With regard to complaints of manufacturing defects in the locomotives, the Committee have been informed in a written note that "The Inspection organisation at DLW maintains detailed history sheets for every locomotives turned out of the works to keep track of its service performance, in particular, the service performance of trial fittings. An analysis of defects reported by User Railways has revealed that in majority of cases, the defects were due

to intrinsic design features or defects on vendor items. Cases of defective workmanship have been rare”.

3.36. As regards performance of locomotives manufactured at DLW *vis-a-vis* imported locomotives, the representative of the Ministry of Railways has stated during evidence before the Committee, “There is no separate study made of DLW locomotives. But the locomotives that are being produced at Varanasi are entirely and strictly conforming to the specifications of Alco. There is a rigid procedure for ensuring that the engine that is produced is given the characteristic performance required of it. We carry out 24 hours’ test when the engine is ready. When a locomotive is ready, all the various aspects of it are compiled and a history is made of the locomotive. The figure of output is checked with the original figure which is expected of an Alco locomotive. The specifications are strictly conformed to the specifications and performance characteristics laid down by Alco. When an engine comes out of the factory, a test is carried out to see whether the specifications and performance characteristics are correct as laid down by the manufacturer”.

3.37. In a note furnished to the Committee regarding the comparative performance of the diesel locomotives manufactured at DLW and imported locos, the Ministry of Railways have stated that “2500 H.P. Alco diesel locomotives were first imported by the Indian Railways during August, 1962. In the beginning, these locomotives gave considerable teething troubles partly because of the lack of experience of the staff who were handling them and partly because of certain inherent design defects. These difficulties were overcome with the help of the manufacturers and these locomotives are working satisfactorily. With the experience gained from the operation and maintenance of the imported locomotives, we were able to overcome similar defects in respect of the locomotives manufactured by DLW. Although no separate figures of the comparative performance of these locomotives have been kept, the general experience has been that the performance of the locomotives built from Varanasi has been as satisfactory as that of the imported ones.” The Committee have also been furnished with some typical examples of the improvements in designs, manufacturing processes, maintenance, repairs and safety which may be seen at Appendix II.

3.38. In a subsequent note submitted to the Committee, the Ministry of Railways have stated that “Detailed statistics are maintained for all classes of locos used on the Indian Railways. But where a particular class or type of locomotive has been imported in the past and is now manufactured indigenously, the statistics

are not separately maintained for indigenous and imported locomotives. It has, however, been possible to segregate the statistics of maintenance and performance in respect of some imported and some DLW built locomotives. The statistics so analysed are detailed below:—

	Total No. of failures on impor- ted loco- motives	No. of failures per 100 imported locomotives	Total No. of failures D.L.W. built loco- motives	Failures per 100 D.L.W. built loco- motives
April, 1966 to March, 1967	177	50	36	31
April, 1967 to March, 1968	208	59	45	25
April, 1968 to March, 1969	286	81	95	37

Number of engine days lost as a result of locomotives being out of commission for more than 10 days —

Period	Out of Commis- sion days for impor- ted loco- motives	Out of Commis- sion days per 100 imported locomotives	Out of Commis- sion en- gine days for DLW built locos	Out of Commis- sion en- gine days per 100 DLW built locos
April, 1966 to March, 1967	2680	761	390	336
April, 1967 to March, 1968	3150	896	550	302
April, 1968 to March, 1969	4270	1213	1310	512

3.39. The increasing trend in the number of out of commission days per 100 locomotives has been mainly due to the fact that with increased age of the locomotives, heavier schedules of repairs requiring more than ten days, have to be carried out. During 1968-69 there were some locomotives, which had suffered extensive damage as a result of accidents, requiring heavier repairs and greater number of out of commission days.

3.40. The expected life of both imported as well as the locos built by DLW is 30 years with the original power pack. By installation of new Power Packs, the life of the locos can be extended to 40 years for the imported as well DLW built locomotives".

3.41. The Committee note that although in the beginning, locomotives built in the Diesel Locomotives Works gave some teething troubles, the same have been largely overcome and these locomotives are now working satisfactorily. The Committee also note that several steps have been taken for effecting improvements in the locomotives and that the performance of the locomotives built at Varanasi has been as satisfactory as that of the imported ones. The Committee hope that Diesel Locomotive Works would continue to keep in touch with the latest technological development in the field of diesel locomotive manufacture and continue to effect improvements so that it may achieve its objective of developing a faster and more powerful locomotive and be able to meet the needs of an expanding economy and also to be able to reduce the operational cost to the maximum possible extent. The Committee need hardly emphasise that as the Railways are in the red and showing deficit, there is need for utmost efficiency and economy in traction.

3.42. The Committee further note that the Railway Board is not maintaining separate statistics in respect of imported and DLW built diesel locomotives. The Committee suggest that in order to make a comparative study of the performance of DLW built locomotives vis-a-vis imported locomotives, detailed statistics in respect of engine failure, engine days lost number of breakages, repairs etc. may be maintained separately for the Diesel Locomotive Works built locomotives and imported locomotives.

3.43. The Committee note that an analysis of defects reported by User Railways had revealed that in majority of cases, the defects were due to intrinsic design features or defects on vendor items. The Committee stress that steps should be taken to remove such defects in future.

CHAPTER IV

MANUFACTURE OF COMPONENTS

A. Indigenisation of Imported Components

As stated in Chapter I of the Report the Diesel Locomotive Works, Varanasi was set up to avoid the necessity of continued import of completed locomotives with the consequent drain on the foreign exchange resources. Viewed against this background, the setting up of the Diesel Locomotive Works, Varanasi was in itself an effort at import substitution. Whereas complete sets of components for the first 12 locomotives were imported from the U.S.A., marked progress has since been made in the manufacture of various parts and fittings at D.L.W. and at other centres at the private and public sector in the country. Aggregate indigenous content of the first locomotive produced by D.L.W. was 2 per cent in value whereas such content in current production of broad gauge locomotives exceeds 80 per cent in value. This level of indigenous content is expected to materialise in respect of metre gauge locomotive also by next year. At the end of Fourth Five-Year Plan, indigenous content of both broad and metre gauge locomotive is calculated to be of the order of 90 per cent.

4.2. Asked what steps had been taken to minimise the imports and for the indigenisation of the imported components, the Committee have been informed in a written note by the Ministry of Railways that "With a view to minimise imports and save foreign exchange, Development Cells have been set up in the Ministry of Railways/Production Units. These Cells function in very close co-ordination with one another and also with the Ministry of Industrial Development, Internal Trade and Company Affairs and other Government Departments. All-out efforts are made by these cells to develop indigenous manufacture of the railway equipment. Very close watch is exercised by these cells on import proposals and as a result thereof import content is being progressively reduced.

The Ministry of Railways have also set up Indian Railway Equipment Advisory Committee and its Regional Committees at Bombay, Calcutta, Madras and New Delhi which continue to pursue indigenous development of hitherto imported items. In addition, a Diesel Sub-Committee has been set up to give special attention to the items

which are at present being imported for the manufacture of diesel locomotives.

Reviewing Committees have also been set up for DLW and other Production Units. These Committees hold periodically meetings and pursue the question of eliminating/substituting or deferring imports.

With a view to assist and encourage the entrepreneurs to take up the development of items which are being imported, show-rooms were set up at Bombay, Calcutta, Madras and New Delhi in early 1966 for exhibiting samples of the items being imported or in short supply. These, it was stated proved extremely useful.

Ministry of Railways have published a booklet "Rough Estimates of requirements of important Railway Stores imported or in short supply." This booklet is of considerable value in placing before the entrepreneurs, information regarding those items of Railway Equipment which are either imported or in short supply from the indigenous industries. It is a priced publication and is issued to the prospective manufacturers on demand.

The RDSO which is a technical wing of the Railway Ministry have also been assisting the Railways/Production Units with regard to import substitution. As a result, considerable success has been achieved resulting in saving of foreign exchange.

Thus, it has been stated that a vigorous drive has already been launched for indigenisation in the manufacture of diesel locomotives at Diesel Locomotive Works. Except for some proprietary/specialised and 'hard core' components and raw materials, Diesel Locomotives are likely to be completely indigenised by 1973-74. Such items would, however, continue to be imported but their value will be relatively small.

4.3. The results of the efforts made as detailed above are mentioned below:

Year	No. of locos manufactured Main Line			Percentage of total cost of locos (BG Main Line)	
	BG	MG	Shunters	Import	Indigenous
(1)	(2)	(3)	(4)	(5)	(6)
1963-64	4	..	..	98%	2%
1964-65	18	..	..	83%	17%
1965-66	39	..	..	75%	25%
1966-67	55	..	..	71%	29%
1967-68	66	..	2	51%	49%
1968-69	60	10	17	20%	80%

4.4. The Committee have further been informed that "The Reviewing Committee for Diesel Locomotive Works, which works under the Chairmanship of Additional Member (Mechanical) reviews the indigenisation process periodically with special stress to utilise indigenous materials and to develop indigenous capacity for imported items. Such reviews are a continuing process".

4.5. As regards steps taken by the Ministry of Railways for the indigenisation of hard-core item, the Committee have been furnished a resume giving status of indigenous development of 'hard-core' items as on 30th September, 1969 (Appendix III). This resume also gives particulars of concerns participating in development of individual items.

4.6. The planned phase of indigenisation at the DLW was expected to achieve by 1970-71, a level of about 90 per cent in terms of the cost of the locomotive. It has been stated that despite numerous hurdles and set-backs, the DLW is expected to achieve nearly 87 per cent indigenisation by that time. The efforts of the DLW have already resulted in a saving of foreign exchange of about \$15 million and this saving can be deemed to have paid for the foreign exchange component of the investment made on imported machinery and plant. In future, every locomotive manufactured at DLW would yield a saving of over \$2,00,000 in foreign exchange. At the optimum production level of 150 locos per annum, the average recurring saving of foreign exchange would amount to the figure of \$30 million.

4.7. Regarding indigenisation of components, the representative of the Ministry of Railways, stated during evidence that the "production started by first getting components from the States and assembling them here and later on manufacturing most of those parts in Varanasi. The plan was that the chassis, the engine would be manufactured at Varanasi and the electrical equipment would be supplied from Bhopal". He added that "some of the components are still being imported and we are now busy trying to find out how these parts can also be indigenised either by some of the Public Sector Project or by private sector undertakings. These items require considerable amount of manufacturing skill and know-how, for example, things like crankshafts, pistons, governor, control gear etc., which are highly sophisticated. We have found some parties who are willing to undertake this, and we are hopeful that the content of the foreign exchange requirement for our diesel locomotives will gradually come down".

4.8. The Committee note that while the indigenous content in the first locomotive manufactured in Diesel Locomotive Works was

only 2 per cent, it reached the level of 80 per cent in 1968-69 and is expected to reach the level of 87 per cent by the end of 1970-71 against a target of 90 per cent. The components which still remain to be indigenised are highly sophisticated and 'hard core' items. The Committee feel that the indigenisation of these 'hard core' and highly sophisticated items pose a challenge to the technological skill of the country and should be accepted in that spirit by the Diesel Locomotive Works, the Railways Design and Standards Organisation and industry. The Committee stress that no effort would be spared in indigenously manufacture these parts at competitive prices with guaranteed quality and assured delivery to match the manufacturing programme for diesel locomotives. The Government should draw up a firm target date by the end of 1970-71 to manufacture all components imported at present indigenously.

B. Supply of Wheels and Axles for the DLW

4.9. On broad and metre gauge locomotives built at DLW, there are 12 wheels and 6 axles per locomotive. In the current year, 90 (65 BG+25 MG) locomotives are being produced at Diesel Locomotive Works. In the last year of the Fourth Five-Year Plan, 160 (100 BG+60 MG) locomotives are planned to be produced. Accordingly, 1080 wheels and 540 axles are required for current year's production. Requirement will progressively rise to 1920 wheels and 960 axles during last year of the Fourth Plan period.

4.10. Asked what was the supply position of the wheels and axles for the DLW and if steps were taken to ensure that the entire requirements were met by Durgapur Steel Plant, the Committee have been informed in a written note by the Ministry of Railways that "in December, 1963, an order was placed on Durgapur Steel Plant for 630 wheels and 315 axles. This was followed by another order in February, 1965, for 1928 wheels and 964 axles. Against these orders, the total supply from Durgapur has been 587 wheels and 66 axles. Out of the 587 wheels received, 221 have been used and 121 rejected for material defects. Out of the balance 235 wheels, some more are likely to be rejected when preliminary machining and ultrasonic testing is completed. Out of the 66 axles received, 42 have been used and 24 rejected for material defects. Durgapur Steel Plant later on intimated that they would not be in a position to supply any more axles. Even the wheels that they are supplying are rough-forged and not rough machined, as is the case with imported wheels.

4.11. With failure of supplies from Durgapur, efforts were made to develop TISCO as a source of supply for BG axles. At the same time, orders for imports were also placed to the extent foreign

exchange could be made available. Subsequently, developmental orders for BG axles were also placed on HEC, Ranchi. TISCO supplied BG axles to DLW for a period of 2 years between April, 1966 to March, 1968, at an average rate of 20 usable axles per month which catered for about 50 per cent of requirements. However, from March, 1968 onwards, serious defects developed in TISCO axles in an epidemic form which TISCO have not yet been able to control. In the circumstances, TISCO as a source of supply for axles has ceased for the time being.

4.12. Supply of axles from Ranchi commenced in August, 1968, who have now reached a level of 40 axles, per month, the average supply from January, 1969 being 27 axles per month. Quality of these axles is upto the required standard. HEC, Ranchi is expected to develop as a satisfactory source for supply of both BG and MG locos. Balance of DLW requirements are still being imported.

4.13. With regard to BG/MG wheels, developmental orders have recently been placed on TISCO and prototype supplies are awaited. For the time being, while indigenous supply of wheels and axles for DLW is not adequate to meet the requirements, balancing imports of these components are unavoidable."

4.14. As regards production of wheels and axles at the Durgapur Steel Plant, the representative of the Ministry of Steel and Heavy Engineering stated in evidence "Regarding Durgapur it is a fact that when they drew up the Project Report for Durgapur Steel Plant at one million ton and put up an Axles Plant to produce and supply the BG and HG wheelsets, they had estimated at 45,000 wheelsets and in them 38,800 would be for the BG and 6,200 would be for the MG. Then for 1.6 million tonnes, it was to go to 75,000". The performance, however, has been of the following order:—

1963-64	18,500 wheelsets
1964-65	23,000 and odd
1965-66	23,000 and odd
1966-67	16,000 and odd
1967-68	15,000
1968-69	12,000.

For the first 6 months of this year, it is only 4,500. The performance has been very poor compared to the Project Estimates. The basic reason for the shortfall—compared to the Project Report and even compared to the actual performance of about 24,000 in 1964-65,

is the labour trouble and industrial unrest. We have been trying to get them come to an agreement, and there is no improvement. Incentive scheme was also drawn up in the light of the Pandey Committee and in spite of incentives, they are not willing to accept."

4.15. The representative of the Ministry of Steel and Heavy Engineering added that "I think the Durgapur Plant accepted an offer to manufacture wheels and axles for the diesel locomotives in October, 1964. As regards the orders for 630 wheels and 315 axles, I would say that the entire supply of wheels had been completed by March, 1969 although it has taken quite a lot of time..... The difficulties that we have gone through are not unknown to Railways. In spite of it, we have been able to fulfil whatever orders were taken."

Price of axles supplied by HEC, Ranchi.

4.16. Regarding price being charged by the Heavy Engineering Corporation for the axles being supplied by them to the DLW, the representative of the Ministry of Railways stated before the Committee, "The landed cost of imported axle is Rs. 1,670. The tentative price of TISCO axle is Rs. 1,850. Past price of H.E.C. was Rs. 2,044. and their price for future order is Rs. 1,950, which is now revised to Rs. 2,750. We are still negotiating with them as this price is very high." Asked to state the price of axles being charged by Heavy Engineering Corporation, the representative of the Ministry of Steel and Heavy Engineering stated during evidence "According to my information, the present price is Rs. 1,950 and I have no information about any request for higher prices. These are normally settled by Units among themselves."

4.17. In a subsequent note furnished by the Ministry of Railways relating to the price of the axles supplied by HEC, the Committee have been informed that "The Heavy Engineering Corporation agreed to supply Broad Gauge Diesel Locomotive axles as per details given below:—

	Order dated	Quantity	Cost per axle
(a)	1-11-66	300 nos.	Rs. 2044/- each
(b)	3-4-69	300 nos.	Rs. 1950/- each

4.18. For the next order, Heavy Engineering Corporation have demanded a price of Rs. 2,750 per axle. This price has not been agreed to by the Railway Board and a meeting with the Chairman

of Heavy Engineering Corporation was held on 30th September, 1969 in Railway Board's office when the matter was discussed in detail. Since no agreement could be arrived at, it was decided that further negotiations would follow. Heavy Engineering Corporation have repeatedly been requested to come up for a further meeting."

4.19. In a separate note furnished to the Committee on the supply of axles by Heavy Engineering Corporation Ltd. to the Railways, the Ministry of Steel and Heavy Engineering have stated that "The first order for 300 pieces of axles from the Railways was accepted by Heavy Engineering Corporation Ltd. at a price of Rs. 2044 per axle; the second order for 300 pieces was accepted at Rs. 1,950 per axle. The price of Rs. 1,950 per axle was accepted in a meeting in September, 1968 at Varanasi, on the assumption that the production cost would be on the lower side for the second lot. The actual cost of production was not available at the time. Diesel Locomotive Works, Varanasi, had mentioned a purchase price of Rs. 1600 per axle from Tata Iron and Steel Company Ltd., and a landed cost of around Rs. 1500 per axle. Subsequently, it was ascertained by HEC that they were incurring higher costs in executing orders for axles and accordingly the Company submitted their quotations at Rs. 2750 per piece for subsequent orders. According to the present estimates, cost of production will be Rs. 3,268 but they have quoted Rs. 2750 after taking into consideration the low capacity utilisation. While this price was being negotiated, some discussions took place between the Chairman of HEC and the Railway Board Officers at New Delhi as a result of which a tentative price of Rs. 1950 per axle was agreed to by the Chairman subject to his return to Ranchi. As this price has not been found acceptable to HEC, price negotiations are to be held with Railway Board shortly.

So far HEC have supplied to the Railways, 427 axles of which 192 were supplied during 1968-69 and 235 during April-November, 1969."

4.20. The Committee note that the requirement of DLW in respect of wheels and axles were expected to be met from the Durgapur Steel Plant but because of certain difficulties Durgapur Plant has not been able to meet the requirements of the DLW in respect of wheels and axles. They have now intimated that they would not be in a position to supply any more axles and even the wheels supplied by them are not upto the standard required. With the failure of Durgapur Steel Plant to supply wheels and axles, TISCO was tried as an alternative source of supply, but because of serious defects found in the axles supplied by them, TISCO has also ceased as a source for supply for the time being. Now HEC, Ranchi has been developed as a satisfactory source of supply. In the meantime.

the balance requirements of axles and wheels are still being imported.

The Committee are constrained to observe that Durgapur Steel Plant has failed to meet the requirements of wheels and axles for Railways. Against the estimated production of 45,000 wheelsets at 1 million tons which should have gone upto 75,000 with the increased capacity at 1.6 million tons, the actual performance has in fact dwindled from about 23,000 in 1964-65 to 4,500 wheelsets during the first six months of the current year. This under-scores the imperative need for taking concerted remedial measures to improve the performance of the Wheel and Axle Plant at Durgapur which was specially meant to meet the requirements of Railways. The Committee need hardly emphasise the need for an overall assessment of the utilisation of the available capacity in the Durgapur Plant.

4.21. The Committee note that there has been low capacity utilisation at Heavy Engineering Corporation in respect of production of axles. The Committee would like to emphasise that the surplus capacity in H.E.C. should be put to good use by increasing production of axles to meet Railways requirements at competitive price keeping in view the price of imported axles, and the price charged by a Steel Plant in private sector etc. Above all, the quality should be maintained in the interest of public safety and delivery schedule adhered to in the interest of manufacturing programme. It should be possible for the public undertakings to meet the requirements for vital component required for manufacturing programme and thus effect saving in foreign exchange.

C. Manufacture of Crankshafts

4.22. One of the sophisticated and 'hard core' items being used in the manufacture of diesel locomotives at the Diesel Locomotive Works is the crankshaft. At present DLW are obtaining crankshafts from Alco through their subsidiary O.D.C. Current prices are \$ 10480 for BG and \$ 5699 for MG crankshafts. As regards indigenous manufacture of crankshafts, the Committee have been informed in a written note by the Ministry of Railways that "This item is being developed by HEC/Ranchi. Technical details have been settled and a developmental order for 150 BG crankshafts has been placed on them. H.E.C. had been negotiating with CAFL France for establishing crankshaft production. At a later stage, they were also considering the alternative of collaborating with CAFL upto crankshaft forging stage and with National Forge of U.S.A. for nitriding and finishing of the crankshaft. CAFL were offering induction hardening in lieu of nitriding which is the treatment given to crankshafts that are being currently imported

from O.D.C. Recently, a decision has been taken that induction hardening is an acceptable alternative and HEC can now proceed with collaboration arrangements with CAFL to cover the entire manufacture of crankshaft upto the finishing stage."

4.23. Asked by what time HEC was expected to start the supply of crankshafts to DLW, the Committee have been informed in a written note by the Ministry of Railways that "The letter of intent for 150 broad gauge crankshafts was issued to HEC in June, 1969 and it was followed by a corresponding purchase order in July, 1969. Tentative delivery schedule for crankshafts from HEC is as under:—

1970-71	20
1971-72	40
1972-73	90
	150

HEC have advised that they would take up production of MG crankshafts after production of BG crankshafts has been stabilised. The above mentioned delivery schedule for broad gauge crankshafts would depend upon finalisation of their collaboration arrangements and installation of the specialised facilities for crankshafts manufacture at Ranchi. It is understood that HEC have not yet finalised their collaboration arrangements. As such it is likely that they may not be in a position to supply the crankshafts according to the schedule given by them so far."

4.24. About the future requirements of crankshafts at D.L.W. and how the same are to be met, the Committee have been informed that "During the three years period 1970-71 to 1972-73, D.L.W.'s production requirements are 265 BG and 133 MG crankshafts. Thus in any case, 155 (265-150) BG and 133 MG crankshafts have to be imported. The number of BG crankshafts to be imported, would increase if there is shortfall of HEC's promised supply. In this connection it would be appreciated that the manufacture of the crankshafts of this type is a highly sophisticated and skilled process and time for its development will naturally be required before they can be produced in any numbers."

4.25. Asked what was the present position regarding signing of the Collaboration Agreements by HEC regarding manufacture of crankshafts and what was the time likely to be taken, the representative of the Ministry of Steel and Heavy Engineering stated

during the course of evidence "HEC have not yet finalised the agreement. We are expecting the Collaboration Agreement with a French firm and with a Western firm...Some officers have gone abroad in connection with these draft agreements. Their finalisation may take a few months more."

4.26. As regards the amount of foreign exchange likely to be spent on the import of crankshafts during the Fourth Five Year Plan, the representative of the Ministry of Railways stated during evidence. "Because they are likely to take time, our total requirement of foreign exchange for this item during the Fourth Plan would be of the order of 5.8 million dollars which is about Rs. 4.35 crores. The landed cost of imported BG crankshafts is Rs. 75,000/-. It is competitive, if this price remains as it is." Asked if these crankshafts were being manufactured anywhere else in India, he stated "Not of that size. These are crankshafts that require special equipment."

4.27. The Committee note that the manufacture of crankshafts is being developed in the Heavy Engineering Corporation, Ranchi and technical details in this regard have been settled and a developmental order for 150 BG crankshafts has also been placed on them. The tentative delivery dates for the supply of crankshafts have also been settled but because of delay in the finalisation of collaboration agreements, HEC may not be in a position to supply the crankshafts according to the schedule. The Committee also note that during the Fourth Five Year Plan period the foreign exchange requirement for the import of crankshafts would be of the order of Rs. 4.35 crores. The Committee need hardly emphasise the immediate need for the finalisation of collaboration agreement by the HEC so that the manufacture of crankshafts in the HEC could be taken up without any delay and savings in the foreign exchange effected to the maximum possible extent.

The Committee hope that it would be possible for the HEC to meet the entire requirements of DLW in respect of crankshafts in the foreseeable future so that the need for imports might be obviated. The Committee would urge that definite targets for attaining this self-sufficiency should be laid down and necessary steps for fulfilling the same taken.

D. Manufacture of Electrical Equipment

4.28. In the manufacture of a diesel electric locomotive, one-third portion was planned to be contributed by Heavy Electricals (India) Ltd., Bhopal by way of electric traction equipment. The

Committee have noted that there has been shortfall in the supply of electric traction equipment by HEIL/Bhopal to the Diesel Locomotive Works. Regarding supply of electric traction sets by HEIL/Bhopal to Diesel Locomotive Works, the Ministry of Railways have informed the Committee in a written note submitted in October, 1969 that "From time to time HEIL have been revising downwards their commitments with regard to supply of electric traction equipment to DLW and invariably the actual supply has been short of the last revised estimates... It would be observed that against the promised average monthly supply rate of 7.2 B.G./M.G. generators, 6.0 BG/MG motors and 6.1 BG/MG control gear, the corresponding averages for the period April--Sept., 1969 are 2.8, 4.5 and 5.0 respectively.

4.29. Actual cumulative supply of BG/MG electric traction equipment upto end of September, 1969, compared to commitments given by HEIL after the high level meeting in June, 1969 is as under:—

	Commitments	Actual supply	Variation
Broad Gauge:			
Generators	89	78	-11
Motor sets	89	94	+5
Control gear sets	89	81	-8
Matched sets of complete equipment	89	78	-11
Metre Gauge:			
Generators	3	Nil	-3
Motor sets	3	Nil	-3
Control gear sets	3	5	+2
Matched sets of complete equipment	3	Nil	-3
Additional motor sets to match imported generators and control gear	18	18	Nil

It would be observed that, even on the basis of commitments given in June, 1969, the shortfall amounts to 11 BG and 3 MG matched sets of electrical equipment."

4.30. As regards impact of shortfall in supply of HEIL equipment on the production of diesel locomotives at Diesel Locomotive Works and the steps taken to meet the situation arising out of

the shortfall, the Committee have been informed in October, 1969 in a written note by the Ministry of Railways that "in the normal course, HEIL's supply of electric traction equipment has to be at least 4 months ahead of DLW's corresponding production to permit 1 month 'in-transit' and 3 months 'in-process' time at D.L.W. On this basis, if no allowance is made for any reserve stock at D.L.W., supplies available at D.L.W. on 30th September 1969 have to match the programmed locomotive out-turn upto 31st December 1969. Upto 31st December 1969 D.L.W. has programmed to turn out broad gauge locomotive No. 281 and metre gauge locomotive No. 35. Against this requirement, taking into account imported electric traction equipment, matched sets are available for BG locomotives No. 281 and metre gauge locomotive No. 25. For the balance of 10 metre gauge locomotives, 5 sets of HEIL generators and 10 sets of HEIL motors are still due to be received." It has been stated by the Ministry of Railways that "DLW is taking special steps to reduce to the barest minimum the transit time from HEIL to DLW and in-process time at DLW itself but, notwithstanding, it is apprehended that the production of last 5 metre gauge locomotives due to be turned out during December 1969 would get affected on account of non-availability of HEIL generators.

In the quarter January-March, 1970 D.L.W. has programmed production of 26 broad gauge locomotives. However, the broad gauge locomotives that can be actually produced during this period would depend upon matched sets of broad gauge electric traction equipment from HEIL that reach DLW by end of December, 1969 or at the very latest by end of January, 1970. In this supply, generators constitute the most critical item, where the average supply rate during the last 6 months has been only 2.8 per month. If this rate of supply is projected into the next 4 months also, then the total additional supply reaching DLW by end of January, 1970 would be 11 generators, so that there would be resultant shortfall in D.L.W.'s production for the current year equal to 15 (26—11) broad gauge locos, in addition to any shortfall that may result in respect of the last 5 metre gauge locomotives due to short supply of MG generators by HEIL.

In order to enable D.L.W. to scrape through planned locomotive production in the current year from mid-December to end of March, even with the aforesaid special steps to compress in-transit/process time, it has been contended by the Ministry that HEIL will have to step up their average supply of BG/MG generators in the 4 months period October, 1969 to January, 1970, from 2.8 to 7.8 per month against their June, 1969 commitment of 7.2 BG/MG generators per month.

It has further been stated that on the basis of commitments given by HEIL at the high level meeting referred to above, requirements of DLW's locomotive production upto end of March, 1971, could be just met with balancing import of 16 14 BG + 2MG) sets of generators and control equipment provided HEIL could supply additional motors to match the imported equipment. Otherwise import of the additional motors was also envisaged. For the remaining three years of the Fourth Five Year Plan HEIL's promised supply falls short of requirements to the extent of 90 sets of broad gauge equipment and 43 sets of metre gauge equipment. Efforts are being made to bridge this gap to the maximum extent possible with assistance from BHEL, two units at Hardwar and Hyderabad but at this stage it is difficult to say as to what assistance would eventually materialise."

4.31. The Railway Ministry have further stated that "With due regard to the persisting short-fall in supplies from HEIL, the large gap between DLW's requirements during the Fourth Plan period and HEIL's promised supply, which appears very much on the optimistic side, and uncertainty about assistance from BHEL/Hardwar/Hyderabad the practical course of action would be to immediately import a sufficiently large cushion of BG/MG electric traction equipment on the most expeditious delivery terms that can be obtained in the international market. However, size of the cushion that can be provided would depend on foreign exchange that can be made available for the purpose, considering that at current prices one loco set of imported BG electric traction equipment would cost around \$ 100,000 and one such set of MG traction equipment would cost around \$80,000."

4.32. Asked to state the present position regarding the supply of electric traction equipment from Bhopal, the representative of the Ministry of Railways stated during evidence that "The question of supply of electrical equipment from Bhopal has been discussed with the Ministry concerned at the highest level. There is no doubt that there were shortage in their planning and promises made by them.... We were originally not satisfied with the promise that they had made, because we felt that these promises would probably not be fulfilled and that actually happened. But I feel that the promise that they have made now, they will be able to keep."

The General Manager, D.L.W., added "I am only answering the question whether they would be able to supply according to their latest commitment. Last meeting was held in the Board's office

on the 17th November, 1969, presided over by Member, Mechanical (Railway Board) and they gave us a figure which about 6 months ago we had also given. Our estimate came to 364 locomotives. Their latest is also about the same. They have scaled down in the last meeting about 125 B.G. generator sets in the Fourth Five Year Plan and that is why they will be able to carry out whatever they have given now. We are in very close touch with them and, therefore, we are fully confident that whatever figures they have given at the last meeting will be carried out."

4.33. Asked why HEIL, Bhopal could not supply the promised number of traction equipment sets, the General Manager, D.L.W. stated "Our assessment is that probably they were over-optimistic in their first commitment. And then, all public sector projects suffer from various disabilities because we do not have the ancillary industries. Now, I do remember that a few months ago Bhopal fell short of castings. They have to get the material by import." The Financial Commissioner, Railway Board added that "I would like to submit for your consideration that the items which they have to produce are highly sophisticated. They have had no previous experience and naturally sometimes people are enthusiastic and think that they will do their best. But then there are unexpected difficulties, like labour trouble. Now, nobody can anticipate them. One thing, Sir, which General Manager, D.L.W. mentioned and, perhaps, he did not emphasise it, is that in the earlier meetings we ourselves suggested this lower target for Bhopal."

4.34. The representative of the Ministry of Industrial Development, Internal Trade and Company Affairs stated before the Committee that "On behalf of Heavy Electricals, Bhopal, let me first give you a broad background of the total capacity available for traction equipment. In the Bhopal plant, there was no specific and special provision for traction equipment manufacture as such, though in the project Report of the A.I.E. (U.K.) this was included as one of the production items that would be taken up. No special facilities had been separately earmarked as it was not envisaged at that time that traction equipment would be in very heavy demand. In the early 60's when the Railway shifted to electrical traction, this question was examined and Bhopal Unit then felt that in order to cut down import to the maximum level they should stretch themselves to the fullest extent to manufacture traction equipment alongwith other items in the production pattern of this plant. . . . I would not dispute the fact that some optimistic assumption may have been

made. We have got material to suggest that there were doubts in the Bhopal Unit also regarding the manufacturing capacity as also regarding the number that the D.L.W. Unit could manufacture. In any case I would only submit, in 1968 when this matter was gone into in detail with Member, Mechanical, Railway Board, we made a detailed assessment of the likely production during 1968-69, 1969-70 and during these two years we have by and large kept to the target. The actual figure in B.G. locos is as against 76 B.G. sets that were to be manufactured and supplied by March, 1970 about 64 to 65. There will be a shortfall of 10 which we will complete in the first two months of the next year. To that extent there is a shortfall....The manufacturing facilities for traction equipment was completed only in 1964 and though production commenced in 1965-66, the really effective production was during late 1967-68 and during 1968-69. From 1969-70 we have got a definite target laid down for each year of production and which we completely stand by. I must emphasise that these are very complex equipment and cannot be manufactured overnight. The experience has to be gradually built up and we are now in a position to say that the present commitment will be fulfilled." Asked whether Varanasi could depend on Bhopal for the Fourth Plan, he replied "Yes, certainly. This year we are going to supply 64 complete sets by March, 1970. Next year demand is 66. When he have produced 64 this year, there is no reason why we cannot produce 66 next year." The representative of the Ministry of Railways added "This is what they have said that they will be able to produce. Our requirements are more. Therefore, they are examining whether some of the equipment can be manufactured at Hardwar also. In spite of Hardwar and Bhopal, we may have to import." The representative of the Ministry of Industrial Development, Internal Trade and Company Affairs stated "We are giving our production possibilities. The overall requirement of D.L.W. may be much more but our capacity is limited and we cannot produce more."

4.35. Asked if the Heavy Electricals (India) Ltd., Bhopal was expected to meet all the requirements of electric traction sets required for the manufacture of diesel locomotive on D.L.W., the Ministry of Railways have, in a written note submitted to the Committee, replied in the negative. Asked what would be the likely gap in the programme of production of electric traction sets at HEIL and diesel locomotives at D.L.W. and how the gap was expected to be met, the Committee have been informed in a written note that "A statement indicating the required rate of supply of electric traction equipments for matching the production programme of Diesel Loco Works, Varanasi, the latest promised supplies from HEIL/Bhopal

and the anticipated gap during the period 1969-70 to 1973-74 year-wise is given below:—

	BG Diesel Loco Equipments					MG Diesel Loco Equipments				
	1969-70	70-71	71-72	72-73	73-74	1969-70	70-71	71-72	72-73	73-74
1. Requirements of traction equipment for matching DLW's production programme	72	83	92	96	100	10	35	49	59	60
2. HEIL's promised supplies as revised on 17-11-1969	64	60	70	80	90	5	10	5	..	..
3. Anticipated shortfall	8	23	22	16	10	5	25	44	59	60

4.36. It has been stated by the Ministry that "earlier when it became evident that HEIL would not be able to supply fully the requirement of traction equipments, the possibilities of developing alternate indigenous source was explored. The matter was taken up with Bharat Heavy Electricals, Hardwar... BHEL, Hardwar have assured that they will be able to supply electrical equipment for MG locos for 26 sets in 1972-73 and 60 sets in 1973-74. Firm advice from BHEL is awaited for placement of orders on this firm."

4.37. The Committee have been informed by the Ministry that "Balance requirements will have to be imported and the approximate foreign exchange required to cover the gap between DLW's requirements and promised supplies of HEIL/Bhopal and BHEL, Hardwa would be as indicated below:—

EQUIPMENTS TO BE IMPORTED

	B.G.		M.G.		Total
	Sets of equipment	Rs. (lakhs)	Sets of equipment	Rs. (lakhs)	Rs. (lakhs)
1969-70	8	64	5	30	94
1970-71	23	184	25	150	334
1971-72	22	176	44	264	440
1972-73	16	128	33	198	326
1973-74	10	80	..	..	80

4.38. It has been further stated that foreign exchange to the extent of approximately 30 per cent of the above figures would have been required for importing components and raw materials even if these equipment could be manufactured by HEIL or other indigenous manufacturers”.

4.39. The Committee note that the Heavy Electricals Ltd., Bhopal had undertaken to supply electric traction equipment amounting to clearly 1/3rd part of a diesel locomotive. The Committee also note that HEIL have been revising downwards their commitments with regard to supply of this equipment and the actual supply has also fallen short of the commitments. While this shortfall in supply may have been because of over-optimism on the part of HEIL authorities, they feel that the HEIL authorities should not have made commitments which they were not be in a position to fulfil since such failure affected the production schedule of another public undertaking and also involved expenditure of foreign exchange on imports. The Committee also feel that Railway Board should have applied greater caution and scrutiny to see that HEIL did possess the means to produce the traction equipment according to the commitment. Moreover when there was some apprehension in the minds of Railway authorities that HEIL might not be able to produce according to the commitment, Railway authorities should not have been taken in by the fond hopes expressed by HEIL and should have insisted on their assessment of production and thereby would have looked for market elsewhere and thereby saved production. The Committee have, however, noted the assurance given by the representative of the Department of Industrial Development and Internal Trade that the present commitments given by the HEIL, Bhopal would be fulfilled and DLW can depend upon HEIL Bhopal for the timely supplies during Fourth Plan period. The Committee hope that the revised commitments agreed to by the HEIL, Bhopal would be fulfilled and the electric traction sets supplied to DLW in time.

4.40. The Committee have further noted that even if the commitments made by the HEIL, Bhopal and BHEL, Hardwar are fulfilled the entire requirements of the Works for the electric traction equipment would still not be met, and the DLW would have to import electric traction equipment costing about Rs. 1274 lakhs in foreign exchange to meet their requirements for BG and MG locos during the Fourth Five Year Plan period. The Committee can see little justification for continuous import of these items when sufficient technical knowhow for the manufacture of this equipment already exists in the country. The Committee recommend that

Government should intensify their efforts to locate spare capacity in public undertakings so that an integrated programme for manufacture of electric traction equipment required for diesel locomotives could be drawn up and implemented vigorously and without delay to save foreign exchange which would otherwise have to be expended on imports.

CHAPTER V

FOREIGN EXCHANGE AND LOANS FOR THE DIESEL LOCOMOTIVE WORKS

A. Foreign Exchange for the Project

The Committee have been informed by the Ministry that as the Diesel Locomotive Works have to use a number of imported components in the manufacture of diesel locomotives, the production schedule is to a great extent dependent upon the availability of the necessary foreign exchange in time. It was stated in the Annual Report of Diesel Locomotive Works for the year 1966-67 that "During the year, however, considerable difficulty was experienced in obtaining release of foreign exchange for the production in 1967-68 and consequently the Railway Board found it possible to release foreign exchange to D.L.W. only towards the end of September, 1966. In spite of the best efforts made by the Collaborators, adequate supplies did not reach D.L.W. before March, 1967. As a result there has been a set-back in the Works in progress at the end of March, 1967".

5.2. Asked if the Works was experiencing any difficulty in the matter of obtaining foreign exchange and, if so, what was the impact of that on the production schedule, the Committee have been informed in a written note by the Ministry of Railways that, "The difficulty in obtaining foreign exchange for import of balancing components for locomotives production during 1967-68 resulted in late placement of orders for the imported components. Consequently, notwithstanding best efforts of all concerned, matched sets of imported components which were required before April, 1967 actually became available towards July, 1967. As a result, locomotive production during the first quarter of 1967-68 suffered a set back and even after every effort to overtake arrears, target of board gauge locomotive production during 1967-68 had to be revised from 75 to 66 locomotives. By continuous efforts of Diesel Locomotive works, it has been possible to gradually increase the indigenous content of the diesel locomotives produced at DLW to the level of 83 per cent of the total cost of a locomotive and the import content has correspondingly been brought down to 17 per cent, and thereby the requirement of foreign exchange has been reduced considerably. The reduction in the import component of a locomotive will not, however, reduce the total requirement of foreign exchange for DLW due

to the increased production programme during the Fourth Plan. The stringency of foreign exchange is still there, but efforts are continued to be made by the Railway Board to arrange foreign exchange in time to the maximum extent possible in order to maintain the production schedule of Diesel Locomotive Works”.

5.3. Asked when the D.L.W. was expected to achieve the production target of producing 150 locomotives every year, the Committee have been informed in a written note by the Ministry of Railways that “It is expected to achieve the optimum production equivalent of 150 broad gauge locomotives in the last year of Fourth Five Year Plan. This is on the assumption that foreign exchange required for import of balancing raw materials and semi-finished components would be forthcoming in time”.

5.4. Asked if the production schedule in the Diesel Locomotive Works was being hampered because of non-release of foreign exchange in time, the representative of the Ministry of Railways stated during evidence, “The question is of the availability. We have to depend to a large extent upon aid. We have a consortium of aid giving countries every year. By and large it meets our requirements to a considerable extent. We are negotiating with Export and Import Bank for credit and part of it will be available for the DLW”. Asked if there is any idle capacity in the DLW because of non-availability of foreign exchange, the representative of the Ministry of Railways replied in negative. Asked why there should be any difficulty in the foreign exchange for the import of component etc., when foreign exchange was being given for the import of whole locomotives, which was nearly 6 times more, the Financial Commissioner, Ministry of Railways stated, “I was myself incharge of foreign exchange from 1960 to 1963. At that time there were specific credits for imports of diesel locomotives. There was a credit from the Export Import Bank and some from USAID which we were using. Now from 1965 onwards we do not require the whole machinery but only components and raw materials. We are, therefore, getting more and more non-project loans and those we are using to the best of our capacity. We do not import large scale machinery or things like locomotives.”

5.5. The Committee note that production in the DLW has suffered in the past on account of non-availability of the foreign exchange in time. The Committee, urge that foreign exchange should be released well in time and on assured basis to Railways for import of equipment which is not available indigenously despite best efforts so that the production schedule in the DLW is not hampered.

The Committee feel which setting up such Projects as DLW, which has larger foreign exchange ratio, the Government will do well to plan in advance the foreign exchange requirement of such Project till the Project is able to manufacture all components indigenously. The Government should release foreign exchange from time to time and should also insist on a phased programme of indigenisation. Unless this is done, the production of the Project will not be achieved according to the schedule and investment will not be profitably used.

The Committee would like to emphasise the need for proper co-ordination between the Railway authorities and the Ministry of Finance for the timely release of foreign exchange for the project. '

5.6. The foreign exchange requirements of the Diesel Locomotive Works are being met mostly by foreign aid and loans. A statement showing utilisation of funds against EXIM/IDA and Canadian credits upto 31st March, 1969 is given below:—

(Figures in millions of Dollars)

Sl. No.	Details of the loan number	Amount of the loan	Commitment upto 31-3-69	Payment upto 31-3-69	Currency of the loan	Remarks
1	3rd Exim Bank Loan No. 2367	12.75 for purchase of Locomotive components etc.	12.750	12.666	30-4-69	(US Dollars)
2	V Exim Line of credit	3.750 for purchase of locomotive components etc.	01.394	Nil	Not known	"
3	Free Resources (IDA)	3.750 for purchase of locomotive components etc.	02.298	0.125	Not known	"
4	Canadian credit.	C 3.485 for purchase of locomotive components etc.	02.841	1.491	Not known	"

5.7. As regards reasons for the shortfall in the payment of these loans and the steps taken for their early utilisation, the Committee have been informed in a written note furnished by the Ministry of Railways that "Foreign exchange required by the Works for purchases in USA was provided in 1968-69 by a release of US \$ 3.75 million against V EXIM Line of Credit and a matching amount of US \$3.75 million from 'Free Resources' (adjusted later against IDA Credit 162-IN) making up a total of US \$7.5 million. For purchase in Canada, foreign exchange available to DLW was C\$3.485 million

made up of the release of C\$2.2 million in 1967-68 and C\$1.285 million in 1968-69. The figures of commitment furnished in the report represent the value of orders placed against these release for components (mechanical and electrical) for manufacture of Diesel Electric locomotives (BG and MG). The payments against these orders are to be made on shipment of materials. Generally shipment of components for Diesel Locomotives commences 9 months after the placement of an order and extends upto 15 months. The disbursement from the loans would be made only after the shipment are completed and the evidence of shipment and the supplier's invoices are furnished. The table below gives the months in which releases were given, orders were placed and payments were made to the end of September 30, 1969:

Source	Date and Value of release	Commitment upto 31-3-1969	Payment to end of September 30, 1969	
(all figures in millions of US\$)				
W Exim Line of Credit	July '68	1.800	July '68 0.350	
	March '69	1.950	Aug. '68 0.090	
			Sept '68 0.181	
		<u>3.750</u>	Jan. '69 0.319	
			Feb. '69 0.272	
			Provision for ocean freight, escalation, royalty etc. 0.182	
			<u>1.394</u>	
			0.686	
	Free Resources (to be adjusted IDA Credit 162-IN)	July '68	1.800	Aug. '68 0.591
		March '69	1.950	Sept. '69 0.870
		<u>3.750</u>	March '69 0.634	
			Provision for ocean freight, escalation, royalty etc. 0.203	
			<u>2.298</u>	
			0.816	
(all figures in millions of Canadian dollars)*				
Canadian Credit	1967-68	2.200	Oct. '67 1.738	
	Sept '68	0.655	July-Aug. '68 0.097	
	March '69	0.630	Sept. '68 1.006	
		<u>3.485</u>	<u>2.841</u>	
			1.910	

5.8. The Ministry of Railways have stated that "it will be seen from the foregoing that the utilisation of the loans has not suffered any conspicuous shortfall."

5.9. The Committee have also been furnished with a statement by the Ministry of Railways showing the particulars of loans obtained from the various foreign sources for D.L.W. the terms and conditions of each loan and the extent to which each loan has been utilised. (Appendix IV).

5.10. The Committee have no doubt that Government would ensure that the loans and foreign exchange credits would be drawn upon as required to meet the vital import requirements of DLW to maintain the manufacturing schedule.

B. Export Earnings

5.11. It has been stated that no specific targets exist for export, but, as and when opportunities offer for export, it is the intention of the Works to temporarily divert capacity from domestic requirements to export. As DLW gets a foot-hold in the export market, parallel action is intended to be taken to enlarge production capacity for specific export demands. Already DLW has supplied free samples of connecting rods, which are valued at about \$2000 per set for the 16 cylinder engine, to Montreal Locomotive Works, Canada who are interested in purchasing this component from DLW as a regular measure.

5.12. The Ministry of Railways have claimed that the Metre-gauge locomotive offers excellent possibility for export market. DLW factory products have, therefore, a great export potential towards the end of the Fourth Plan period. Asked if any detailed plan in this regard has been chalked out, the Ministry of Railways have informed in a written note that "The manufacture of MG YDM4 type Diesel Locomotives has been taken up by the Diesel Locomotive Works comparatively recently. Railways in Malaysia, Burma, Iraq, Thailand, East Africa and Ethiopia besides Pakistan have MG Railway systems and offer excellent opportunities for export of MG Diesel Locomotives. However, our production is, at present, entirely earmarked for domestic urgent requirements. Within this limitation, however, foreign enquiries are examined with a view to submit quotation provided the requirements are similar to our line of manufacture. In fact, the Works submitted a tender against an enquiry by Sudan Railways in 1968. Recently DLW have also quoted for the supply of 6 numbers Standard Gauge Diesel Locos to Syria.

However, in recent enquiries from developing countries, locomotives with about 1800 horse power have been asked for but YDM4 locomotive with 1350 horse power does not meet that requirement. In the circumstances, export of engine components to builders/users of Alco engines now appears to be a more practical proposition. This is receiving attention but, as yet, no specific export plan has been formulated."

5.13. Asked if the time is ripe for entering into export market, the representative of the Ministry of Railways stated during evidence that "We will enter only when we are confident... To Syria we sent a team. We have planned a line. They may ask for Rolling Stock. Thailand have also asked for increase in speed. They would be requiring Rolling Stock for higher speed. We had a session of ECAFE recently. Representatives of most of the countries came. We took this opportunity of taking them to our production Units, Varanasi, ICF etc. and they were greatly impressed. They said that if we could produce such good equipment, why should they go to other countries... We are helping Iran in putting up a Wagon Factory. They are also buying wagons from us. For locomotive they have not given any requirements." Asked if it would be possible for the Diesel Locomotive Works to start the manufacture of metre gauge locomotives of 1800 horse power to meet the need of developing countries, the representative of the Ministry stated that, "We can design a new engine for that". Asked if the technical know-how was within their reach, he replied "It is coming up. I cannot say it is within my reach already".

5.14. The Committee are glad to note that the diesel locomotives produced at Diesel Locomotive Works have export opportunities. The Committee, however, note that no detailed plan in this regard has been chalked out. The Committee would, therefore, urge that the Ministry of Railways should fully explore the export potentialities for the products of Diesel Locomotive Works and chalk out detailed perspective plan in this respect. In this context, it needs no emphasis that the DLW should make every possible endeavour to get a foothold now in the world market by exports as this would help them in taking advantage of economies of large scale production. The Committee recommend that DLW should spare no effort to ensure that the diesel locomotives produced at the Works are most competitive both in quality and price. If necessary, the Diesel Locomotive Works authorities should examine the feasibility of introducing suitable changes in their products to suit the needs of Railways of the countries which would be interested in purchasing the products of the works.

CHAPTER VI

GENERAL

A. Stores Accounts

There is a Stores Department in the Diesel Locomotive Works to deal with the proper maintenance and verification of stores Accounts. During the year 1968-69 reorganization of the Department to meet the needs of diversified production and supply of spares to Railways was undertaken. The Stores Department undertook procurement and supply of initial spares also to Zonal Railways covering the following items:—

- (i) Imported spares.
- (ii) Indigenous spares including HEIL/Bhopal.
- (iii) DLW shop-manufactured items of spares.

6.2. Asked if steps had been taken for the proper maintenance and verification of Stores accounts, the Ministry of Railways have stated that "The Maintenance and verification of Stores Accounts as also physical verification of Stores is done in accordance with the provisions in the Indian Railways Code for the Stores Department which is applicable for all the Indian Railways including production Units like the Diesel Locomotive Works." As regards steps taken for minimising the pilferage and thefts of stores, the Committee have been informed in a written note by the Ministry of Railways that "The following checks and precautionary steps are adopted:—

Receipts

All receipts are recorded in Receipt Registers and accepted quantities are finally accounted for through receipt notes and recorded in ledgers—the rejected quantities being segregated and returned to suppliers. These registers are checked by Supervisors to ensure that all receipts are accounted for.

Stocking and Issues

Ward keepers, who are the direct custodians of stores go round their storage areas a number of times every day and any apparent disturbances of stock are noticed immediately there is such an occurrence. There is also basic security of the Stores Depot.

Issues are made either on pre-printed issue notes indicating batch number for which stores are required or against manuscript requisitions signed by a gazetted officer. Unauthorised issues are thereby prevented. Delivery is made to authorised representatives only. For consumable stores, monthly quota are pre-fixed and consumption watched periodically on the same line as imprest stores of zonal Railways. The scale is revised as and when necessary.

Book balance and verification.

The account of stock is recorded in the numerical ledgers of the Stores Department as well as in the price ledgers of Accounts Department. There is constant reconciliation between these two books. The ground balance is periodically checked with respect to the book balance through verification of stock by Accounts Department as well as departmental verification by the Stores Depot. In addition to this, the Depot Officer arranges surprise verification. Thus any discrepancy in stock is brought to light, investigated and explanation recorded and put up to competent authority concerned.

Basic Security

Stores are kept in covered godowns which are locked and sealed after working hours. Very small and costly items are kept in locked cup-boards inside the godowns. There is regular making over and taking over of these locked godowns to and from the Security Department, whose staff are posted on regular beats to watch security of the godowns. Only very large items like steel, oil, drums, heavy pipes, etc. which are not liable to be surreptitiously removed, are kept in yards which also are covered by Security staff's regular beats.

Ingress and egress of persons to and from the Stores Depot are controlled. Stores are delivered to authorised representatives only. All materials going out of workshop premises have invariably to be covered by gate passes which are checked by Security staff at gates.

There is a common basic security of the Depot with the whole of the workshop with perimeter wall having patrol roads both inside and outside. The whole area including yards and boundary wall is well lit at night.

As regards 'in-process' stores kept in shops, small non-ferrous components, tools etc. which are susceptible to pilferage are kept in locked cup-boards. As far as possible, all major items in the Shops are handed over to the Railway Protection Force at the close of the day and taken over in the next morning."

6.3. According to a statement furnished to the Committee, the Diesel Locomotive Works had on 31-8-1969, overstocks amounting to Rs. 11,61,000, scrap worth Rs. 1,77,000 and Surplus amounting to Rs. 49,000. As regards steps taken for avoiding overstocking and unnecessary accumulation of stores, the Committee have been informed in a written note that "the Procurement of production items is initiated on the basis of approved production programmes received from Railway Board. Purchase items are of four categories: Imported, indigenous, consumable and shop manufacture. As regards imported stores, procurement of these are linked with the foreign exchange releases which are not received at regular intervals. These foreign exchange releases also have to be utilised within a comparatively short period on account of the terminal dates of loans. Certain amount of dumping effect therefore takes place for imported stores which have to be procured and stocked sometimes much ahead of their actual requirements on account of irregular availability of foreign exchange with short validity periods.

6.4. As regards indigenous items, procurement of these items is also made on the basis of approved production programmes and keeping in view the lead time. Procurement in excess of production requirements is therefore, avoided. Phased delivery is stipulated for unnecessary inflation of inventory. A large number of purchase items, however, are still in developmental stage and moreover they require raw material of ingredients of imported origin. Hence for these items cushioning of buffer stock becomes essential to avoid production being hampered. Procurement of consumable items is based on technical assessment of the requirements of production. In addition, stocking limits with due regard to lead time involved has been prescribed to regulate procurement. As regards raw materials, Alloy steel, "Killed" qualities steel etc. are extremely difficult to obtain from indigenous sources. . . . In addition to these types of items, there are raw materials which require imported ingredients like nickel, chromium, molybdenum, copper, etc. and are also difficult to obtain. In view of these it becomes necessary to carry stock over and above the current production requirements".

6.5. It has been stated by the Ministry that, "Procurement in DLW is linked with production programme and unnecessary items are not purchased; only in case of imported items and raw materials advance procurement becomes unavoidable thereby causing accumulation of these stores."

6.6. Regarding reasons for the heavy amount of overstock, the Ministry of Railways have stated that "The amount of overstock is mostly on account of steel released from construction phase. The disposal of this overstock steel is being made mostly to Railways/Wagon fabrications under release orders issued by Railway Board." It has been added that "Cases of change of design due to improved techniques, engineering knowledge, development in metallurgy etc. also occur in production units. Constant watch is, however, maintained and cases of surplus or overstock are identified. Stocks of such items are quickly dispersed mostly to other Railways and Government undertakings."

6.7. The Committee note that the DLW, Varanasi had as on 31st August, 1969, quite a large amount of overstocks and scrap. While agreeing that in the case of imported items etc., some amount of overstocking becomes inevitable, the Committee would like to emphasise the need for avoiding unnecessary over-stocking. Now as the number of imported items in the production of Diesel Locomotive Works is decreasing, the Committee hope that it would be possible for the DLW to reduce the amount of accumulated stores etc. to the minimum. The Committee hope that all measures would be taken to avoid unnecessary accumulation of stocks and steps will also be taken for early disposal of scraps etc.

At the same time the Committee is constrained to note that a large quantity of over-stock of steel released from construction phase is there. All care should be taken to dispose of this over-stock as quickly as possible. Norms prescribed by the Bureau of Public Enterprises for stocking materials and for preparing inventory should be strictly adhered to.

B. Suggestion for improvement

6.8. There is a 'suggestions scheme' in operation at DLW. As regards response to the scheme the Committee have been informed in a written note by the Ministry of Railways that, "The response to the suggestion scheme thus far has not been appreciable. It is the experience that meaningful suggestions for improvement come from staff after they have become fully conversant with the production equipment that they handle and have gained sufficient experience with existing production methods. Additional motivation for suggestions is existence of an 'incentive bonus scheme linked to well-defined time standards, since suggestions leading to substantial saving in production timings get handsomely rewarded."

6.9. Asked if any improvements have been effected in the working of the Diesel Locomotive Works as a result of these suggestions,

the Committee have been informed that "Until recently DLW was dealing with the teething troubles of a new sophisticated establishment with newly trained staff and problems of diversification to metre gauge locomotive production. It has now entered its consolidation phase and a beginning has also been made with incentive working. During the Fourth Five Year Plan, it is planned to achieve optimum production through progressively increasing productivity. Thus as the staff gains experience and confidence and the incentive scheme gathers momentum, it is expected that there will be larger flow of suggestions from staff at all levels to increase productivity."

6.10. The Committee recommend that in view of imperative need to reduce cost of production, the Diesel Locomotive Works should ensure optimum production by implementing incentive scheme which should have been made applicable right in the beginning. The Committee recommend that the Diesel Locomotive Works should spare no pains in enlisting the cooperation of the staff by making the suggestion scheme attractive and rewarding.

C. Training facilities in the D.L.W.

6.11. There is a technical Training School in the Diesel Locomotive Works which provides basic training (both practical and theoretical) to the newly recruited apprentices for a period of 6 months after which they are sent to different shops for shop floor training for the rest of the training period.

6.12. Till 31st March, 1969, 1552 Trade Apprentices in 13 batches were recruited. Of these, 1297 have been absorbed in the shops after completion of their training and 71 have either discontinued the training or were discharged. Currently, there are 184 apprentices undergoing training in the Basic Training School and shops.

6.13. Apart from regular training of Trade Apprentices, the following other training programmes and refresher courses were conducted by the Technical School:—

- (i) Practical training for 22 probationary Mechanical Engineers.
- (ii) Short-term Practical training for 4 Graduate Engineers and 5 M. Com. students of B.H.U. as also 17 Diploma-holders from other institutions.
- (iii) Short-term training of 1 CTI/ITI Supervisor, 7 Railway Supervisors, 75 apprentice mechanics of Northern Railway and 2 others.

In addition, Technical films obtained on loan from National Productivity Council, British Information Service and other sources were screened as a regular measure using 16 mm. film projector available in the school.

6.14. The Committee note that there is a Technical Training School in the Diesel Locomotive Works which provides basic training to the newly recruited Apprentices and conducts some other Training Programme and refresher courses. The Committee would like the Diesel Locomotive Works to ensure that the training programme in the school is exhaustive and actually useful and the trainees are kept informed of the latest techniques of production etc. The Committee hope that the Diesel Locomotive Works would make every possible endeavour to increase production and achieve economy by improving efficiency through purposeful training programme.

D. Staff.

6.15. The total number of staff in the Diesel Locomotive Works as on 31st March 1969, was 5,760. The total cost on the staff was Rs. 1,66,31,712,95 paise. The break-up was as follows:—

Category	No. of staff as on 31-3-1969	Cost in Rs.
1. Class I and II	58	7,58,365.88
2. Class III (Workshop)	2,047	66,24,623.61
3. Class III (Other than Workshop)	1,374	57,39,435.81
4. Class IV (Workshop)	445	9,15,440.60
5. Class IV (Other than Workshop)	1,213	20,16,223.77
6. Casual (workshop)	168	1,58,485.51
7. Casual (Other than workshop)	455	4,09,147.77
TOTAL	5,760	1,66,31,712.95

6.16. It was represented to the Study Group of the Estimates Committee at the time of their visit to the DLW, Varanasi, that the officers and staff of the DLW were experiencing a lot of difficulty in the education of their children because of the absence of a Central School. It was suggested that it would go a long way in meeting the

problem if the Industrial units employing a large number of officers and men were provided with Central Schools so as to maintain the continuity of education for their children in case of transfers.

6.17. Asked if this difficulty was being experienced by the Officers and staff of the D.L.W., the General Manager of the DLW stated during the course of evidence, "We have quite a number of schools including one convent but the point was raised whether we should have a Central School..... Even among the supervisors there are quite a few from the South and other places."

6.18. The Committee urge that the question of setting up a Central School for providing education to the children of the staff of the DLW may be examined early and the matter taken up, if necessary with the Ministry of Education for providing adequate facilities for education of children of staff in DLW.

Houses for the staff

6.19. The DLW have a township skirting the south of the works covering an area of about 480 acres. Out of 5,760 employees about 2,780 have been provided with houses. Asked if any regular programme for more houses had been undertaken, the General Manager, DLW stated during evidence "We do not have much demand. It depends upon the availability of funds." Asked further if the Colony was away from the city, he stated "It is an entirely new colony. There is a regular bus service. It is quite near the Banaras Hindu University."

6.20. The Committee recommend that a work study covering all classes of employees in the DLW should be undertaken in order to assess that there is no over-staffing and there is proper utilisation of the staff taking into account the production schedule.

6.21. The Committee feel that the number of casual workers in DLW is quite high. They feel that the position requires examination by the Government.

6.22. The Committee note that 2,780 employees out of a total of 5,760 employees, engaged in the DLW have been provided with residential accommodation."

NEW DELHI;
April 4, 1970
Chitra, 1892 (Saka).

M. THIRUMALA RAO,
Chairman,
Estimates Committee.

APPENDIX I

(vide para 3.2 of the Report)

*An appreciation of the Agreements entered by the Railway Board with
M/s. Alco Products Inc., U.S.A.*

Brief Appreciation.

1. This agreement is between the Government of India and Alco Products, Inc., U.S.A., to avail the services of Alco for acquiring competent technical services and advice to develop capacity for the design and manufacture of diesel locomotives at DLW or any other Workshop/Factory. I

2. The Government has an exclusive right to manufacture and a non-exclusive right to use and sell in India Alco Diesel Locomotives and components thereof of such designs obtained by the Government from Alco 3
 The Government also has a right to export products manufactured under this Agreement, prior intimation to Alco being necessary. If such export violates any regulation of law in the U.S.A., Alco shall advise the Government in writing and such export shall not be carried out 7
 In respect of locomotives sold to users other than the Government, either inside India or exported, DLW has to furnish Alco with a copy of the inspection certificate showing that the locomotives have passed the required tests II

3. Alco shall furnish GM/DLW with a detailed project report on setting up necessary facilities for commercial and efficient manufacture of diesel locomotives, including machinery and plant requirements, requirements of services, plant layout etc. and all allied information 6
 Alco shall also afford all necessary facilities for DLW staff to be trained in their Works or elsewhere in the USA if required, in all theoretical and practical aspects, and such trainees shall have full access to the drawing offices of Alco and to fundamental data, designs, codes and research results relating to Alco locomotives. The cost of all such trainees will be borne by the Government. 19

Date of Agreement	12-2-1962	Ref. Clause
Duration	10 years	4(ii)

4. On each locomotive designs selected, Alco shall furnish all necessary drawings, material specifications, drawings of jigs discs, tools and fixtures, material lists, production methods etc. and keeps this information current with latest revisions, modifications and alterations as applicable for product improvement 8
- The Government has the right to manufacture and assemble in India Alco locomotives and components thereof, and also may use components of other than Alco design for use on Alco Locomotives 14
- Even after termination of expiry of this Agreement, the Government shall have a free right to use all drawings, specifications and other technical information obtained from Alco for manufacture of locomotives and components without any further obligation 9
6. As remuneration for the assistance to the Government by Alco, the following fees are payable:— 21
- (a) Initial Engg. Fee of \$25,000 for each type of Alco locomotives selected from 1950 to 3000 HP and \$ 20,000 for each type of locomotives below 1950 HP 17
- (b) An Engg. Fee @1 1/2% of the value of each Alco locomotives built under licence. Beyond 500 locomotives, this Engg. Fee at the same rate will be payable only for locomotives built in excess of 150 per year.

For purposes of calculation of Engg. fee, the cost per locomotives will be taken as given for 6 types of locomotives in this agreement, with necessary calculation as applicable, from this shall be deducted.

- (i) the cost of electrical equipment @30% of the cost of the locomotives.
- (ii) the cost of Alco components purchased from any authorised Alco distributor,
- (iii) the value of the Alco engine,
- (iv) the value of IRS/Commercial components which are incorporated by Alco in their design on Government's request, (This is taken at a fixed value of \$ 2500 for each locomotives).

For purposes of Income Tax/Super Tax deductions of Alco's income in India, only 10% of the total Engg. Fee calculated above shall be considered 18

(NOTE :—No Royalties are payable on any Alco Locomotive components manufactured in India)

Date of agreement Duration	12-2-1962 10 years	Reference Clause 4 (ii)
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- 7 This agreement is between the President of India, including his successors and assignees, and Alco Products Inc., USA, including their successors and assignees. However, neither party shall make any assignment of this agreement or any of its rights and obligations without prior written consent of the other, except that Alco may assign to Banks, financial institutions or other parties any sums payable to Alco under this agreement by the government. I
2
- 8 This agreement is governed by the laws of India and the Courts in India shall have the jurisdiction in respect of any matter of dispute arising under this agreement. Should any point of difference arise between parties, the matter shall be referred to two arbitrators—one to be appointed by each party, and in the event of arbitrators not agreeing on the selection of the Umpire, such Umpire be the Chief Justice of India. The venue of arbitration proceedings shall be in India 30
26
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ANNEXURE B

Agreement of 1962 between the Government of India and Alco Products, INC., Regarding Technical Association for the Manufacture of Diesel engine

Date of agreement	12-2-1962	Ref. Clause
Duration	10 years	4 (ii)

Brief Appreciation

- 1 This agreement is between the Government of India and Alco Products, Inc., USA, to avail the services of Alco for acquiring competent technical service and advice to develop capacity for the design and manufacture of diesel engines I
- 2 The Government has an exclusive right to manufacture and non-exclusive right to use and sell in India Alco diesel engines and engine components which are licenced by Alco for manufacture at DLW or at any other workshop/factory 3
6.
The Government has also the right to export any Products manufactured under this agreement, prior intimation of Alco being necessary. If such export violates and regulation or law in the USA Alco shall advice the Government in writing and such export shall not be carried out 7
- In respect of engines which are sold to users other than the Government, either inside India or exported, DLW has to furnish Alco with a copy of Inspection Certificate showing that the engines have passed the required tests. II
- 3 This agreement covers four type of diesel engines, and on payment of initial Engg. Fee or any type selected, Alco would furnish DLW with a complete Project Report including machinery & Plant requirements, Jigs, fixtures and tools, plan layout, production plans and methods, and all other allied information for setting up manufacture of the diesel engines at DLW. Alco shall also afford necessary facilities for DLW staff to be trained in their works or elsewhere in USA as necessary 12
19.
- 4 For each design selected, Alco shall furnish all component drawings, material specifications, cumstomer's tools, drawings of dies, Jigs and fixtures, material lists, process sheets, test specifications etc. and shall keep this information current with latest revisions, modifications or alterations as applicable to this engine and as normally furnished to Alco's own Works, subject to the provision that improvements which increase the gross rated Horse Power of the engine by more than 10% would be deemed to be the additional engine design 14

Date of agreement Duration	12-2-1962 10 year	Ref. Clause 4 (ii)
5 The Government also have the right to effect design or alterations in the interest of economy or improvement purposes, after prior design consultation with Alco and after satisfactory completion of necessary trials, Alco engines may also be used on locomotives of non-Alco design and as well as for other than rail traction purposes		9(f)
6 Engg. Fees and Royalty payable on engines are as follows :		9(g) 17
1. Initial engg. Fee as under :—		
16 cyl. 251 B . . . \$ 50,000		
12 cyl. 251 C . . . „ 45,000		
6 cyl. 251 B . . . „ 40,000		
6 cyl. 251 D . . . „ 40,000		
2. On each of the first 500 engines, Engg. Fee @ 3 and subsequently at the same rate only for engines manufactured in excess of 150 engines per year		
3. Royalty @2% for all engines manufactured at DLW upto a period of 5 years after expiry of this agreement		21
4. Engg. Fee of 3% and Royalty of 2% on the value of all Alco components manufactured either at DLW or elsewhere in India for spares purposes either routine maintenance or for repairs at DLW		17 (a) (iii)
This Engg. Fee is payable upto the date of despatch of the 500th engine from DLW, and thereafter only Royalty is payable.		
For purposes of Engg. Fee and Royalty, all components of the diesel engines have been termed as Alco components special components		
For purposes of deductions for Income Tax/Supper Tax of Alco income in India, only 10% of the Engg. Fee indicated above shall be taken and all the Royalty payments		
		18
7. On the expiry or termination of this agreement the Government shall return to Alco all plants, designs drawings and material specifications and other technical spares furnished by Alco during the period of agreement but shall be entitled to make and keep copies thereof. The Government has also the right to continue the manufacture of Alco engines and engine components even after the expiry of this agreement.		21

Date of agreement
Duration

12-2-1962
10 years

Ref.
Clause
4 (ii)

8. This agreement is between the President of India including his successors and assignment and Alco Products Inc., USA including their successors and assignee. However, neither party shall make any assignment of this agreement or any of its rights and obligations without prior written consent of the other, except that Alco may assign to Banks, financial institutions or other parties any sums payable to Alco under this agreement by the Government

1,25

9. This agreement is governed by the laws of India and the Courts in India shall have the Jurisdiction in respect of any matter of dispute arising under this agreement. Should any point of difference arise between the parties, the matter shall be referred to two arbitrators—One to be appointed by each party, and in the event of arbitrators not agreeing mutually on the selection of the Umpire, such Umpire shall be the Chief Justice of India. The venue of arbitration proceedings shall be in India

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ANNEXURE 'C'

AGREEMENT OF 1962

Between the Government of India and the Transworld Manufacturing Services Incorporated, Newyork U.S.A. for Supply of Technical Personnel for Manufacture of Alco Diesel Locomotives/ Engines

Date of Agreement . . . 12-2-1962.
 Terms of Agreement . . . 10 years.

Brief Appreciation.

1. The agreement is between the Government of India and Transworld Manufacturing Services Incorporated, New York, USA (One of Alco's subsidiary companies) for supply of trained personnel to assist DLW in setting up the manufacture and assembly of Alco locomotives/ engines. The salient points of this agreement are :—
 1. TMS will supply upto four Production Engineers and two design Engineers at a time, the personnel being subject to approval of GM/DLW.
 2. Salaries of such personnel shall be between \$12,000 and \$20,000 per annum, payable monthly in rupees.
 3. 1st class Air/Sea passages for such personnel and their families from and to USA would be borne by the Government.
 4. Such personnel will be given free furnished living accommodation, free medical facilities and a Chauffer driven car for official purposes. Other facilities shall be as given to a Sr. Scale Officer on the Indian Railways.
 5. TMS would be paid 1/24th of the total annual salary of each staff once during his terms of employment at DLW for services rendered.
 2. DLW obtained the services of a total of 7 such personnel through TMS during the early years of this project; however, no such staff is presently employed at DLW and there is no intention of using the services of TMS for this purpose in the future. The agreement, therefore, may be treated as expired by virtue of it not being used.
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ANNEXURE 'D'

Agreement of 1962 between the Government of India and Overseas Diesel for Purchase and Inspection of Material and Equipment for manufacture of Diesel Locomotives/Engines.

Date of agreement	2-2-1962.	Ref.
Duration of Agreement	10 years	Clause.

Brief Appreciation.

1. This Agreement is between the Government of India and Overseas Diesel Corporation, USA (subsidiary of Alco Products Inc.) for purchase of Alco Locomotive, engines, components thereof, plant & Machinery and other equipment by the Government through ODC. 2
- 2 In regard to Alco locomotives, the following are the 6 designs covered.

DL—560-C	(WDM 2)	245,000 each.
DL—543		245,000 each
DL—541.		218,000 each
DL—500-C		228,000 each
DL—535-A	(YDM 4)	168,000 each
DL—531-B		160,000 each

As regards engines, the 4 designs covered are :—

6cyl. 251-B	\$ 37,085 each
6-cyl. 251-D	43,250 each
12-cyl. 251-C	49,940 each
16-cyl. 251-B	64,000 each

Prices of components are furnished separately, and the total cost of individual components/assemblies would not exceed the base price quoted above. Prices would be effective upto 31-12-1965 for locomotives and components thereof and 31-12-1966 for engines and components thereof. After these dates, ODC reserves the right to review the quoted prices 5

(NOTE : This right has since been exercised by ODC & component prices have been altered).

Escalation is applicable to all prices, based on the labour rate and material price indices as published by the U.S. Deptt. of labour, provided the escalation exceeds \$ 100 per engine & \$500 per locomotive 1

These prices are exclusive of packing and inland freight charges to the port of shipment

5

In case of locomotives, for orders of less than 20, the price of each locomotive increases by $\frac{1}{4}$ I, 500.

3. In the case of items other than Alco Locomotives, Alco components (including special components), Alco engines and components thereof required to be purchased by the Government. ODC will call for tenders from approved vendors, submit these to the Government with recommendations, receive the Government's decision and arrange for purchase and supply of the items accordingly

7(a)

ODC will cover all items supplied with a guarantee valid for 24 months after delivery in India or 18 months after placement in Service, whichever is earlier, for free replacement of defects due to material or workmanship, except that in respect of items not of Alco manufacture the extent of the guarantee shall not exceed guarantee given by the supplier of these items to ODC

7(a)
Ann. IV

4. For services rendered in regard to purchase, inspection, handling, co-ordination and arrangements necessary supplies with the DLW production programme, ODC will be paid 3-1/2% of the cost of items supplied from USA and 5% for items supplied from countries other than USA, except for items manufactured at Alco's Works.

7 (b)

5. The Government has the right to purchase any goods or articles covered by this Agreement otherwise than from ODC

7 (c)

6. All payments to ODC shall be by confirmed irrevocable letters of credit opened at or prior to placement of orders in a bank in New York ODC will deliver a Bank Guarantee for 10% of the total contracted price valid for the warranty period.

7 (f)

7. The territory for this agreement is India, and the courts in India alone shall have jurisdiction in respect of any matter arising under the Agreement

9

In case of any dispute or difference, the matter shall be referred to two Arbitrators, one to be appointed by each party, and should the arbitrators not mutually agree on the selection of the Umpire, the Umpire shall be named by the Chief Justice of India. The venue of such arbitration shall be India.

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APPENDIX II

(vide para 3.37 of the report)

Particulars of some typical examples of improvements in design, manufacturing process, maintenance and repairs, safety etc.

Reply

1. Improvements in design, manufacturing processes, maintenance and repairs and safety is continuous process at DLW. Particulars of some typical examples are given in the following paragraphs.

2. Improvements in design:

2.1. Turbo supercharger:

Material specifications of turbine disc and turbine bucket have been revised. Overall design has also been changed to the streamlined version currently being used.

2.2. Fuel injection pump:

Initial design as submitted by MICO/Bangalore has been modified as a result of service defects experienced on their first supplies.

2.3. Exhaust manifold:

Design of existing manifold has been changed from straight duct type to streamlined type.

2.4. Engine air filter:

Bowl type oil bath filter has now been changed and replaced by panel bath filter, because in the former design oil was often sucked into the engine.

2.5. Loading pad:

Cracks were noticed on and around loading pads by the Railways and modifications to strengthen this area have been carried out.

3. Improvements in the manufacturing processes:

Manufacturing processes prescribed by the Collaborators were in relation to raw materials and semi-finished components as supplied by US vendors. With indigenisation of these items, changes

in manufacturing process had to be processed to cater for the following:—

- 3.1. Sizes of indigenous materials were frequently different to those specified by Collaborators. Accordingly, additional operations had to be introduced to produce the same components from sizes indigenously offered.
- 3.2. On indigenous plates, the extent of distortion was such greater in comparison with distortion on imported plates. In the circumstances, more extensive levelling operations had to be introduced.
- 3.3. On indigenous materials, value and uniformity of hardness varies quite often beyond permissible limits and additional heat treatment operations have to be performed to control hardness.
- 3.4. Manufacturing tolerances and machining allowance on indigenous raw materials and semi-finished components are much coarser compared to imported counterparts which necessitate introduction of additional operations to accommodate material/components in Jigs, fixtures and clamping devices on machines.

The changes referred to above are not strictly improvements but they present adaptations calling for considerable investigational and developmental work, in order to enable indigenisation with materials and semi-finished components available in the country.

4. *Improvements in maintenance and repairs:*

4.1. *Re-location of primary fuel oil filter.*

Failure of fuel booster pump due to entry of foreign particles have occurred on WDM2 locomotives due to absence of a filter on suction side of the fuel booster pump, thus increasing maintenance problems. The primary fuel oil filter was therefore re-located and brought on suction side of the pump.

4.2. *Dust protection baffle.*

In order to reduce ingress of dust/ash into the engine compartmently through generator air duct opening, a dust protection baffle has been provided.

5. *Safety*

5.1. *Equaliser safety bracket and equaliser beam bolts.*

An equaliser safety bracket has been provided to prevent the equaliser beams from spreading out in the event of

breakage of bolt. Material of the bolt has also been changed to C1. IV steel, heat-treated to SAE Gr. 5.

5.2. *Safety bracket for slack adjuster arrangement.*

To prevent the slack adjuster from dropping down and causing possible derailment in the event of pin breaking or cotton pin failure, a safety bracket for slack adjuster has been provided.

5.3. *Vigilance control.*

A vigilance control system has been provided to ensure continuous attention to the road and signals on part of the driver. He has to deliberately press on foot pedal at regular intervals. If he fails to do so a warning is sounded and if even that is not heeded the brakes are automatically applied.

5.4. *Explosion door*

An explosion door has been provided, replacing the safety cover to avoid any risk of explosion in the event of the crank case vacuum not being properly maintained.

APPENDIX III

(*vide para 4.5 of the Report*)

A resume giving the position of indigenous development of hard core items—as on 30th September, 1969

1. Crankshaft:

This item is being developed by HEC/Ranchi. Technical details have been settled and a developmental order for 150 BG crankshafts has been placed on them. HEC had been negotiating with CAFL, France for establishing crankshaft production. At a later stage, they were also considering the alternative of collaborating with CAFL upto crankshaft forging stage and with National Forge of USA for nitriding and finishing of the crankshaft. CAFL were offering induction hardening in lieu of nitriding, which is the treatment given to crankshafts that are being currently imported from ODC. Recently, a decision has been taken that induction hardening is an acceptable alternative and HEC can now proceed with collaboration arrangements with CAFL to cover the entire manufacture of crankshaft upto the finishing stage.

2. Turbo Supercharger:

2.1. Major components of this item are being dealt with in the following sub-groups:

Alloy cast iron casings.

Gas inlet casing of stainless steel.

The turbine disc assembly comprising of the turbine disc, turbine bucket and lock.

Aluminium alloy impeller forging Inducer and diffuser castings.

2.2. Alloy cast iron castings:

There are 4 such castings and developmental orders have been placed for each one of them on Best & Co., Bangalore.

2.3. Gas inlet casing of stainless steel:

Developmental orders have been placed on 3 firms: Best & Co. Bangalore, Mysore Iron & Steel Ltd., Bhadravati, and Mukund Iron & Steel Works Ltd., Bombay.

2.4. *The turbine disc assembly comprising of the turbine disc, turbine bucket and tab lock:*

HAL/Bangalore and BHEL/Hyderabad are prospective suppliers for these items, who have been contacted. Their quotations are awaited.

2.5. *Aluminium alloy impeller forging, inducer and diffuser castings:*

HAL/Bangalore appear to be the only source for these items. They have been contacted and their quotations are awaited.

3. *Exhaust manifold:*

Thus far, no indigenous source could be located for this item but now a local entrepreneur has shown interest to set up special facilities for its production. Relevant technical and commercial details of this project are being examined.

At the same time, there are prospects of an alternative import source in U.K. viz. J. Pickup & Sons. There is possibility of this firm establishing collaboration with a firm in Calcutta and that may come up as a second indigenous source of supply.

4. *Piston and Piston rings:*

Six proto-type pistons and piston rings that were received from well-worthy of U.K. have been applied and the 50 hour bench test is about to commence. Its results will be advised to DLW's Design Engineer who is currently in U.K., for feed-back to Well-worthy.

There has been some further progress in finalisation of draft agreement for indigenous development of piston with India Pistons/Madras.

5. *Governor:*

Two firms viz., Associated Instrument Manufacturers Delhi and Ex-Cell-O India Bombay have shown interest in development of this item. Representatives of both the firms have visited DLW and they have been given detailed particulars of the technical requirements. They have expressed confidence in their ability to undertake the developmental work involved. However, DLW will have to assist them in locating capacity for some of the governor components and also to give them working drawings for the components. These drawings have to be prepared from samples and the crucial task is preparation of material specifications, surface finish requirements and manufacturing tolerances which are ultra fine. Development of electrical items of the governor is being pursued with CEERI/Pilani and BARC/Trombay.

6. *'E' type transistorised control equipment:*

This equipment is being jointly developed by HEEL and CEERI/Pilani. Thus far, six items of equipment representing a value of \$ 2680 have been developed and their prototypes successfully tested. Prototype of the complete equipment is expected to become available for service trial application some time in the second half of 1970.

7. *Cylinder head:*

This item is being developed by New Precision India (NPI) Dewas. This is a nickle alloy casting but due to the difficulty in obtaining nickle even against import licence, NPI are experimenting with other alloying elements. Prototype samples are expected from them during course of this year.

8. *Cylinder liner:*

Prospective suppliers for this item are NPI/Dewas and India Pistons/Madras in collaboration with Well-worthy of U.K. Six samples of liners developed by Well-worthy have been received for testing. Samples from NPI/Dewas are expected to be received some time next year.

9. *Compressor exhauster:*

A developmental order has been placed on Kirloskar Pneumatic/Poona. Their proto-type is at present undergoing laboratory tests in their works.

10. *Main bearings:*

A developmental order for 100 engine sets has been placed on Kirloskar Oil Engine/Poona. They enquired if centrifugally cast bearings would be acceptable. They have been advised that such bearings would be acceptable in principle subject to their metallurgical characteristics being satisfactory. Samples are awaited for metallurgical examination.

11. *Air and exhaust valves:*

A development order has been placed on Farnborough Engineering Co. UK, who are collaborators of Engine Valves Ltd./Madras. After successful trials of supplies from U.K., the same valves are expected to be produced by their Indian associates.

12. *After-coolers:*

After developmental order has been placed on India Radiators/Madras. Proto-type sample is ready and is expected at DLW for test during October.

13. Radiator fan:

Voltas/Calcutta have shown interest in developing this item and submitted a quotation which is being processed for placement of a developmental order. Another quotation from Keymer Bagshawe/Calcutta has also been received recently and it is under consideration.

APPENDIX IV

(Vide para 5.9 of the Report)

Statement showing particulars of Loans obtained from various sources for components required for manufacture of Diesel Locomotives at D.L.W. and their utilisation as on 30th September, 1969 is given below.

Sl. No.	Source of Loans	Amount of Loan allocated to DLW (in millions)	Amount utilised to end of 30-9-1969 (in millions)	Terms and conditions of the Loan		
				Terminal date	Rate of interest	Repayment terms
1	2	3	4	5	6	7
1	Exim Loan No. 2085	\$ 6.6	\$ 6.6	30-4-67	5- $\frac{1}{2}$ %	24 H/Yly. inst. from 1-4-1966.
2	Exim Loan No. 2219	\$ 17.0	\$ 17.0	1-5-67	5- $\frac{1}{2}$ %	24 H/Yly. inst. from 15-1-1968.
3	IDA Credit No. 88-IN	\$ 7.5	\$ 7.5	30-6-58	Nil	80 H/Yly. inst. from 15-8-1976.
4	Exim Loan No. 2367	\$ 12.65	\$ 12.65	30-4-69	6%	20 H/Yly. inst. from 15-9-1968.
5	Exim Loan No. 2527	\$ 4.0	\$ 4.0	30-6-70	6%	24 H/Yly. inst. from 15-6-1971.
6	IDA Credit No. 162-IN*	\$ 3.2	\$ Nil	30-9-71	Nil	80 H/Yly. inst. from 1-9-1979.
7	Canadian Credit	C.\$ 3.5	C.\$ 1.9		Nil	80 H/Yly. inst. from 31-3-1977.
8	Austrian Credit	Rs. 0.28	Rs. 0.28	..	5- $\frac{1}{2}$ %	20 H/Yly. inst. from 1-7-1971.
9	Yen Credit	Rs. 3.35	Rs. 3.35	31-3-70	5- $\frac{1}{2}$ %	26 H/Yly. inst. from 10-2-1971.

* Against a temporary release of \$ 4 million given against free resources to match the release of \$ 4.0 million from Exim 2527, \$ 0.8 million have been finally paid out of free resources and the unpaid portion viz. \$ 3.2 million have been taken under IDA Credit No. 162-IN. The utilisation is nil under this Loan as the IDA Credit is to have validity only from 1-9-1969.

APPENDIX V

Statement showing summary of Recommendations/Conclusions

S. Reference to No. Para No. of the Report	Summary of Recommendations/Conclusions	
1	2	3
1.	15.	<p>The Committee note that in 1968-69 the Railway Board had undertaken detailed studies regarding savings effected as a result of introduction of diesel traction on three sections. As dieselisation is being introduced in more and more routes during Fourth Five Year Plan period the Committee suggest that such studies should be undertaken as a regular feature on other routes also so that a clear picture may emerge regarding the benefits derived from the dieselisation keeping in mind the cost of dieselisation and consequent increase in capital in charge and proper utilisation of all locomotives. They also recommend that the future dieselisation policy of the Government should be moulded in the light of the experience gained.</p>
2.	17.	<p>The Committee note that in most of the countries, which were visited by Sarangapani Team, viz., United Kingdom, France, Germany, Sweden, Holland, Switzerland, Belgium and Italy, there is a programme to gradually replace steam traction by electric traction. The Committee hope that while switching over from steam traction to diesel traction the Government will not lose sight of these facts and will ensure that the manufacture of diesel locomotives is in accordance with the requirements of the country. The Government should accordingly commence the preparation of perspective planning right from now and they must visualise what they have to do ultimately in the distant future,</p>

based on traction trends to go in for electrification and in this connection they should also take into account experience gained in the country in the matter.

3. 1.13. The Committee note that the decision to set up the Diesel Locomotive Works was taken in 1961 and by January, 1964, the first locomotive was turned out. While there was no technical know-how available with the Diesel Locomotive Works at the time of setting up the Works and foreign technicians had to be called to impart the necessary technical know-how, the DLW are now self-sufficient in the matter of technical know-how and there are no foreign technicians working with the DLW now. The Committee are glad to note that our own technicians were trained and found efficient in displacing foreign technicians completely. They, however, hope that this would not lead to complacency on the part of the DLW and that they will conduct continuous research to improve design, manufacture and effect reduction in operational cost etc.
4. 1.16. The Committee note that as against the investment of 50 per cent in plant, machinery and electric installations of DLW, there has been investment of 21.1 per cent in township and 22.2 per cent in building and roads. They feel that this is appreciably higher than the norms prescribed by the Bureau of Public Enterprises. The Committee would like to stress the imperative need for husbanding resources and would suggest that the Government should concentrate on the core of the project so that it may yield the maximum production, the other infra structure being provided as resources become available.
5. 1.17. The Committee recommend that in future whenever a new factory or an undertaking is to be set up by the Railways, they should plan ahead keeping in view the essential requirements and reducing the expenditure on townships
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to the barest minimum and keeping a check over avoidable expenditure on luxurious buildings such as swimming pools, big bungalows etc. The Government should ensure that the buildings constructed in the townships are cheaper in cost, utility oriented and not luxurious. They should plan as to how much is to be invested in plant and machinery and how much is to be invested in buildings and townships so that the investment may yield the maximum return.

1.23.

The Committee note that the Diesel Locomotive Works, Varanasi, enjoys autonomy in its day to day working. They further note that the question of delegation of powers to the General Manager is under constant review of the Government and that more powers are delegated to General Manager as and when necessary. The Committee are not, however, aware if the Railway Board have made any study regarding granting different sets of powers to General Managers of Production Units as compared to the General Managers of various Zonal Railways, so that the General Managers of these Production Units may enjoy real autonomy in the day to day working. The Committee fail to understand why the powers of the Production Units like the Diesel Locomotive Works are retained by the Railway Board as compared to the autonomy enjoyed by Public Sector Undertakings, since such concentration of power is likely to lead to delay due to red-tape. The Committee recommend that the Railway Board should examine the question of devolution of power keeping in view the efficiency and profitability of the Unit."

7.

2.11.

The Committee note that the Diesel Locomotive Works, Varanasi, had suffered cumulative losses amounting to Rs. 1,23,00,000 till 31st March, 1969. The Committee also note that the main reason for the loss as explained is

that while the sale price of a diesel locomotive manufactured at D.L.W. is Rs. 21 lakhs, the cost price of a locomotive comes to nearby Rs. 26 lakhs. It was also stated to the Committee that with the production getting stabilised at the optimum level and with the increased experience and knowledge gained gradually, the cost of manufacture is expected to come down even below the landed cost. The Committee have dealt with the delay in reaching the target set for optimum production and the rising trend in the price structure of both imported and indigenous supply of locomotive purchase items separately. The Committee note that the ex-factory price of a diesel locomotive manufactured at Diesel Locomotive Works, Varanasi, which comes to about Rs. 26 lakhs is much higher than the ex-factory price of a diesel locomotive manufactured at the Collaborators etc. The Committee hope that the DLW would make every possible endeavour to bring down the cost of production below the landed cost at the earliest. The Committee need hardly stress the necessity of cutting down the overhead expenses and greater utilisation of the installed capacity of the DLW to achieve this objective.

8. 2.12.

The Committee note that the cost of production of diesel locomotive manufactured at Diesel Locomotive Works in the batch turned out in October/November, 1968 has already shown a downward trend. The Committee would like to be informed of the cost of manufacture of locomotives produced in subsequent batches. The Committee feel that the price of the diesel locomotive manufactured at DLW should have been fixed after setting off freight and custom duties and every possible endeavour should have been made to reduce the import content to the barest minimum. They would like to add that since D.L.W. is manufacturing largely one standard type of locomotive, the price of the diesel locomotive manufactured at

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Varanasi should be most competitive and should compare favourably with the ex-factory price of the similar locomotives manufactured by the collaborators/foreign manufacturers. In this connection, the Committee would like to stress the importance of DLW exploring export possibilities from now onwards so as to derive advantage of economy of large scale production and gain foot-hold in foreign markets.

9. 2.15. The Committee note that an amount of Rs. 67,25,000 has been appearing in the Balance Sheet of the DLW as 'Deferred Expenditure' which relate to pre-manufacture developmental activities and the same is intended to be wiped out in the next five or six years by including it in the sale price. The Committee need hardly point out that this can be done by reducing overheads to the maximum extent, achieving economy all round, reducing cost and by providing sufficient surplus to absorb the deferred expenditure.

10. 3.8. The Committee note that a Collaboration Agreement was signed by the Railway Board with M/s. Alco Products Inc. of U.S.A. in February, 1962. The Committee also note that as funds for the purpose of importing diesel locomotives in a knocked down condition and for payment of technical fees and royalties were available only from U.S. aid, the possibility of collaboration was limited to M/s. General Motors and Alco Products of U.S.A. As the former did not evince sufficient interest in collaboration, there was no alternative but to enter into an agreement with M/s. Alco Products. The Committee have found another case when for entering into a collaboration agreement for the production of diesel shunters, the choice for collaboration became limited to two firms in West Germany only as the same was to be financed through the K.L.W. (German) Loan. They feel

that this policy of limiting the choice of collaboration to a particular country is not in the best interest of the country in the long term since this limitation of choice does not allow the authorities to ensure that the best possible terms for collaboration have been entered into.

The Committee need hardly emphasise that before entering into collaboration agreements, the Government should call tenders on Global basis and take a final decision in this regard only after evaluating such tenders with due reference to the need for setting up most modern and economic manufacturing unit consistent with the availability of foreign exchange and other constraints on resources. In the present case the Committee are not satisfied that such evaluation had been done as the manufacturers from countries other than U.S.A. were not considered. Even from the U.S.A. tenders from firms other than M|s. General Motors and M|s. Alco Products were not considered.

11. 3.11. The Committee regret that a clause was included in the collaboration agreement which restricted the right of export of diesel locomotives manufactured at Diesel Locomotive Works to other countries. The Committee, however, note that recently the policy of the Government has been not to accept any such condition. The Committee hope that this policy will be adhered to and such restrictions would not be allowed in future agreements.
12. 3.19. The Committee note that according to the Project Report DLW was expected to produce 641 locomotives till 1969-70 and from 1967-68, the DLW was expected to manufacture 150 locomotives every year. The Committee, however, find that the DLW can manufacture only 348 locomotives till the end of 1969-70 and the target of manufacturing 150 locomotives every

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year is expected to be attained in the last year of the Fourth Five Year Plan only and this is also subject to the availability of foreign exchange.

While the Committee realise the difficulty of the Government in the matter of non-availability of foreign exchange and lack of demand because of recession etc., the Committee is constrained to observe that it is not a sound policy of drawing up certain targets and building up requisite capacity without visualising that the targets may not be achieved due to certain common factors such as non-availability of foreign exchange and lack of demand. The Government should have speeded up the programme of indigenisation once they could detect that there would be difficulty in getting foreign exchange. The foreign exchange position was not sound even in the years 1961 and 1962 when this Project was set up. Therefore, the Government should have taken all precautions to eliminate foreign exchange hurdles by adhering to a programme of quick indigenisation.

13. 3.20. The Committee are constrained to observe that the targets laid down for the DLW should have been more realistic and the indigenous programme of manufacture particularly in related public undertakings should have been coordinated in advance.
14. 3.21. Now that the targets of production of diesel locomotives have been revised, the Committee hope that the new targets would be strictly adhered to. The Committee further hope that shortage of foreign exchange would not be allowed to come in the way of achieving the revised targets.
15. 3.22. The Committee note that according to the gets and achievements would be kept under continuous review to achieve optimum results.

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16. 3.23. The Committee note that the introduction of the incentive scheme in the DLW which would have accelerated the pace of production was deferred in view of the lower demand of the diesel locomotives due to recession. The Committee cannot but come to the conclusion that this is indicative of over staffing in DLW. The Committee would like to point out that incentive system should be built into the staff norms right from the very beginning so as to obviate overstaffing and proper emphasis on production.
17. 3.30. The Committee note that although Diesel Locomotive Works was geared for production of BG locomotives, a diversification programme was taken up later on and since 1968, MG locomotives are also being manufactured. The Committee further note that the requirements of the Railways of MG locomotives during the Fourth Five Year Plan period are expected to be met by production at Diesel Locomotive Works thus obviating the need of imports. The indigenous content of the first MG locomotives produced in 1968 was 56 per cent which is expected to reach 80 per cent in the near future. The Committee feel that since the Indian Railways consist of both Broad Gauge and Meter Gauge, the Collaboration Agreement as well as the Works at Varanasi should have provided for the manufacture of BG and MG locomotives right in the beginning thus obviating the need of undertaking the diversification programme at a subsequent stage. The Committee hope that the target of production laid down for MG locomotives during the Fourth Five Year Plan would not only be achieved but exceeded and the Diesel Locomotive Works would be in a position not only to meet the domestic requirements but will also be able to export MG locomotives to other countries in the foreseeable future.
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| 18. | 3.41. | <p>The Committee note that although in the beginning, locomotives built in the Diesel Locomotives Works gave some teething troubles, the same have been largely overcome and these locomotives are now working satisfactorily. The Committee also note that several steps have been taken for effecting improvements in the locomotives and that the performance of the locomotives built at Varanasi has been as satisfactory as that of the imported ones. The Committee hope that Diesel Locomotive Works would continue to keep in touch with the latest technological developments in the field of diesel locomotive manufacture and continue to effect improvements so that it may achieve its objective of developing a faster and more powerful locomotive and be able to meet the needs of an expanding economy and also to be able to reduce the operational cost to the maximum possible extent. The Committee need hardly emphasise that as the Railways are in the red and showing deficit, there is need for utmost efficiency and economy in traction.</p> |
| 19. | 3.42. | <p>The Committee further note that the Railway Board is not maintaining separate statistics in respect of imported and Diesel Locomotive Works built diesel locomotives. The Committee suggest that in order to make a comparative study of the performance of Diesel Locomotive Works built locomotives <i>vis-a-vis</i> imported locomotives, detailed statistics in respect of engine failures, engine days lost, no. of breakages, repairs etc. may be maintained separately for the Diesel Locomotive Works built locomotives and imported locomotives.</p> |
| 20. | 3.43. | <p>The Committee note that an analysis of defects reported by User Railways had revealed that in majority of cases, the defects were due to intrinsic design features or defects on vendor items. The Committee stress that steps should be taken to remove such defects in future.</p> |

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| 21. | 4.8. | <p>The Committee note that while the indigenous content in the first locomotive manufactured in Diesel Locomotive Works was only 2 per cent, it reached the level of 80 per cent in 1968-69 and is expected to reach the level of 87 per cent by the end of 1970-71 against a target of 90 per cent. The components which still remain to be indigenised are highly sophisticated and 'hard core' items. The Committee feel that the indigenisation of these 'hard core' and highly sophisticated items pose a challenge to the technological skill of the country and should be accepted in that spirit by the Diesel Locomotive Works, the Railways Design and Standards Organisation and industry. The Committee stress that no effort would be spared in indigenously manufacture these parts at competitive prices with guaranteed quality and assured delivery to match the manufacturing programme for diesel locomotives. The Government should draw up a firm target date by the end of 1970-71 to manufacture all components imported at present indigenously.</p> |
| 22. | 4.20. | <p>The Committee note that the requirement of DLW in respect of wheels and axles were expected to be met from the Durgapur Steel Plant but because of certain difficulties Durgapur Plant has not been able to meet the requirements of the DLW in respect of wheels and axles. They have now intimated that they would not be in a position to supply any more axles and even the wheels supplied by them are not upto the standard required. With the failure of Durgapur Steel Plant to supply wheels and axles, TISCO was tried as an alternative source of supply, but because of serious defects found in the axles supplied by them, TISCO has also ceased as a source for supply for the time being. Now HEC, Ranchi has been developed as a satisfactory source of supply. In the meantime, the balance requirements of axles and wheels are still being imported.</p> |

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The Committee are constrained to observe that Durgapur Steel Plant has failed to meet the requirements of wheels and axles for Railways. Against the estimated production of 45,000 wheelsets at 1 million tons which should have gone upto 75,000 with the increased capacity at 1.6 million tons, the actual performance has in fact dwindled from about 23,000 in 1964-65 to 4,500 wheelsets during the first six months of the current year. This under-scores the imperative need for taking concerted remedial measures to improve the performance of the Wheel and Axle Plant at Durgapur which was specially meant to meet the requirements of Railways. The Committee need hardly emphasise the need for an overall assessment of the utilisation of the available capacity in the Durgapur Plant.

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4.21.

The Committee note that there has been low capacity utilisation at Heavy Engineering Corporation in respect of production of axles. The Committee would like to emphasise that the surplus capacity in H.E.C. should be put to good use by increasing production of axles to meet Railways requirements at competitive price keeping in view the price of imported axles, and the price charged by a Steel Plant in private sector etc. Above all, the quality should be maintained in the interest of public safety and delivery schedule adhered to in the interest of manufacturing programme. It should be possible for the public undertakings to meet the requirements for vital component required for manufacturing programme and thus effect saving in foreign exchange.

24.

4.27.

The Committee note that the manufacture of crankshafts is being developed in the Heavy Engineering Corporation, Ranchi and technical details in this regard have been settled and a developmental order for 150 BG crankshafts has also been placed on them. The tentative de-

livery dates for the supply of crankshafts have also been settled but because of delay in the finalisation of collaboration agreements, HEC may not be in a position to supply the crankshafts according to the schedule. The Committee also note that during the Fourth Five Year Plan period the foreign exchange requirement for the import of crankshafts would be of the order of Rs. 435 crores. The Committee need hardly emphasise the immediate need for the finalisation of collaboration agreement by the HEC so that the manufacture of crankshafts in the HEC could be taken up without any delay and savings in the foreign exchange effected to the maximum possible extent.

The Committee hope that it would be possible for the HEC to meet the entire requirements of DLW in respect of crankshafts in the foreseeable future so that the need for imports might be obviated. The Committee would urge that definite targets for attaining this self-sufficiency should be laid down and necessary steps for fulfilling the same taken.

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4.39.

The Committee note that the Heavy Electricals Ltd., Bhopal had undertaken to supply electric traction equipment amounting to nearly 1/3rd part of a diesel locomotive. The Committee also note that HEIL have been revising downwards their commitments with regard to supply of this equipment and the actual supply has also fallen short of the commitments. While this shortfall in supply may have been because of over-optimism on the part of HEIL authorities, they feel that the HEIL authorities should not have made commitments which they were not be in a position to fulfil since such failure affected the production schedule of another public undertaking and also involved expenditure of foreign exchange on imports. The Committee also feel that Railway Board should have applied greater caution and scrutiny to see that

HEIL did possess the means to produce the traction equipment according to the commitment. Moreover when there was some apprehension in the minds of Railway authorities that HEIL might not be able to produce according to the commitment, Railway authorities should not have been taken in by the fond hopes expressed by HEIL and should have insisted on their assessment of production and thereby would have looked for market elsewhere and thereby saved production. The Committee have, however, noted the assurance given by the representative of the Department of Industrial Development and Internal Trade that the present commitments given by the HEIL, Bhopal would be fulfilled and DLW can depend upon HEIL, Bhopal for the timely supplies during Fourth Plan period. The Committee hope that the revised commitments agreed to by the HEIL, Bhopal would be fulfilled and the electric traction sets supplied to DLW in time.

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4.40.

The Committee have further noted that even if the commitments made by the HEIL, Bhopal and BHEL, Hardwar are fulfilled the entire requirements of the Works for the electric traction equipment would still not be met, and the DLW would have to import electric traction equipments costing about Rs. 1274 lakhs in foreign exchange to meet their requirements for BG and MG locos during the Fourth Five Year Plan period. The Committee can see little justification for continuous import of these items when sufficient technical knowhow for the manufacture of this equipment already exists in the country. The Committee recommend that Government should intensify their efforts to locate spare capacity in public undertakings so that an integrated programme for manufacture of electric traction equipment required for diesel locomotives could be drawn up and implemented vigorously and without delay to save foreign

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		exchange which would otherwise have to be expended on imports.
27.	5.5.	The Committee note that production in the D.L.W. has suffered in the past on account of non-availability of the foreign exchange in time. The Committee urge that foreign exchange should be released well in time and on assured basis to Railways for import of equipment which is not available indigenously despite best efforts so that the production schedule in D.L.W. is not hampered.
		The Committee feel while setting up such projects as D.L.W., which has larger foreign exchange ratio, the Government will do well to plan in advance the foreign exchange requirement of such Project till the Project is able to manufacture all components indigenously. The Government should release foreign exchange from time to time and should also insist on a phased programme of indigenisation. Unless this is done, the production of the Project will not be achieved according to the schedule and investment will not be profitably used.
		The Committee would like to emphasise the need for proper co-ordination between the Railway authorities and the Ministry of Finance for the timely release of foreign exchange for the project.
28.	5.10.	The Committee have no doubt that Government would ensure that the loans and foreign exchange credits would be drawn upon as required to meet the vital import requirements of D.L.W. to maintain the manufacturing schedule.
29.	5.14.	The Committee are glad to note that the diesel locomotives produced at Diesel Locomotive Works have export opportunities. The Committee, however, note that no detailed plan in this regard has been chalked out. The Com-

mittee would, therefore, urge that the Ministry of Railways should fully explore the export potentialities for the products of Diesel Locomotive Works and chalk out detailed perspective plan in this respect. In this context, it needs no emphasis that the D.L.W. should make every possible endeavour to get a foothold now in the world market by exports as this would help them in taking advantage of economies of large scale production. The Committee recommend that D.L.W. should spare no effort to ensure that the diesel locomotives produced at the Works are most competitive both in quality and price. If necessary, the Diesel Locomotive Works authorities should examine the feasibility of introducing suitable changes in their products to suit the needs of Railways of the countries which would be interested in purchasing the products of the Works.

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6.7.

The Committee note that the D.L.W., Varanasi had as on 31st August 1969, quite a large amount of overstocks and scrap. While agreeing that in the case of imported items etc. some amount of overstocking becomes inevitable, the Committee would like to emphasise the need for avoiding unnecessary overstocking. Now as the number of imported items in the production of Diesel Locomotive Works is decreasing, the Committee hope that it would be possible for the DLW to reduce the amount of accumulated stores etc. to the minimum. The Committee hope that all measures would be taken to avoid unnecessary accumulation of stocks and steps will also be taken for early disposal of scraps etc.

At the same time, the Committee is constrained to note that a large quantity of over-stock of steel released from construction phase is there. All care should be taken to dispose of

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this over-stock as quickly as possible. Norms prescribed by the Bureau of Public Enterprises for preparing inventory should be strictly adhered to.

31. 6.10. The Committee recommend that in view of imperative need to reduce cost of production, the Diesel Locomotive Works should ensure optimum production by implementing incentive scheme which should have been made applicable right in the beginning. The Committee recommend that the Diesel Locomotive Works should spare no pains in enlisting the cooperation of the staff by making the suggestion scheme attractive and rewarding.
32. 6.14. The Committee note that there is a Technical Training School in the Diesel Locomotive Works which provides basic training to the newly recruited Apprentices and conducts some other Training Programme and refresher courses. The Committee would like the Diesel Locomotive Works to ensure that the training programme in the school is exhaustive and actually useful and the trainees are kept informed of the latest techniques of production etc. The Committee hope that the Diesel Locomotive Works would make every possible endeavour to increase production and achieve economy by improving efficiency through purposeful training programme.
33. 6.18. The Committee urge that the question of setting up a Central School for providing education to the children of the staff of the D.L.W. may be examined early and the matter taken up, if necessary with the Ministry of Education for providing adequate facilities for education of children of staff in D.L.W.
34. 6.20. The Committee recommend that a work study covering all classes of employees in the

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		D.L.W. should be undertaken in order to assess that there is no over-staffing and there is proper utilisation of the staff taking into account the production schedule.
35.	6.21.	The Committee feel that the number of casual workers in D.L.W. is quite high. They feel that the position requires examination by the Government.
36.	6.22.	The Committee note that 2,780 employees out of a total of 5,760 employees, engaged in the D.L.W. have been provided with residential accommodation.

APPENDIX VI

Analysis of recommendations in the Report

Classification of Recommendations

A. RECOMMENDATIONS FOR IMPROVING THE ORGANIZATION AND WORKING

S. Nos. 1, 2, 6, 8, 10, 12, 13, 14, 15, 16, 19, 20, 21 to 27, 30, 31, 32.

B. RECOMMENDATIONS FOR EFFECTING ECONOMY

S. Nos. 4, 5, 7, 18.

C. MISCELLANEOUS RECOMMENDATIONS

S. Nos. 3, 9, 11, 17, 28, 29, 33 to 36.

Sl. No.	Name of Agent	Agency No.	Sl. No.	Name of Agent	Agency No.
DELHI					
24.	Jain Book Agency Connaught Place, New Delhi.	11	33.	Oxford Book & Stationery Company, Scindia House, Connaught Place, New Delhi-1.	68
25.	Sat Narain & Sons, 3141, Mohd. Ali Bazar, Mori Gate, Delhi.	3	34.	People's Publishing House, Rani Jhansi Road, New Delhi.	76
26.	Atma Ram & Sons, Kashmere Gate, Delhi-6.	9	35.	The United Book Agency, 48, Amrit Kaur Market, Pahar Ganj, New Delhi.	88
27.	J. M. Jaina & Brothers, Mori Gate, Delhi.	11	36.	Hind Book House, 82, Janpath, New Delhi.	95
28.	The Central News Agency, 23/90, Connaught Place, New Delhi.	15	37.	Bookwell 4, Sant Naran-kari Colony, Kingasway Camp, Delhi-9.	96
29.	The English Book Store, 7-L, Connaught Circus, New Delhi.	20	MANIPUR		
30.	Lakshmi Book Store, 42, Municipal Market, Janpath, New Delhi.	23	38.	Shri N. Chaoba Singh, News Agent, Ramlal Paul High School Annexe, Imphal.	77
31.	Banree Brothers, 188 Lajpatrai Market, Delhi-6.	27	AGENTS IN FOREIGN COUNTRIES		
32.	Jayana Book Depot, Chhaparwala Kuan, Karol Bagh, New Delhi.	66	39.	The Secretary, Establishment Department, The High Commission of India India House, Aldwych, LONDON, W.C.—2.	59

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PUBLISHED UNDER RULE 382 OF THE RULES OF PROCEDURE AND CONDUCT OF
BUSINESS IN LOK SABHA (FIFTH EDITION) AND PRINTED BY THE GENERAL MANAGER,
GOVERNMENT OF INDIA PRESS, MINTO ROAD, NEW DELHI.
