

FORTY-FIFTH REPORT
PUBLIC ACCOUNTS COMMITTEE
(1980-81)

(SEVENTH LOK SABHA)

WHEEL AND AXLE PLANT

MINISTRY OF RAILWAYS
(RAILWAY BOARD)



Presented in Lok Sabha on..... 29 APR 1981
Laid in Rajya Sabha on..... 29 APR 1981

LOK SABHA SECRETARIAT
NEW DELHI

April, 1981/Vaisakha, 1903 (Saka)

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<u>Page</u>	<u>Para.</u>	<u>Line(s)</u>	<u>For</u>	<u>Read</u>
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29-12-80

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(1980-81)

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INTRODUCTION

I, the Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf this Forty Fifth Report on Paragraph 25 of the Report of the Comptroller and Auditor General of India for the year 1978-79—Union Government (Railways) relating to Wheel and Axle Plant.

2. This Report deals with the setting up by Railways of the Wheel and Axle Plant at Bangalore. The Committee have observed that from the very beginning the planning of the Wheel and Axle Plant was not done with adequate care and in sufficient details. There was complete absence of seriousness and coordination among the concerned Ministries, which according to the Committee was a very serious matter. The Committee have also observed that the delay of about 7 years in final clearance of the project has pushed up the cost estimates of the project from Rs. 38.39 crores to Rs. 129.65 crores. The Committee have urged that all out efforts should be made to complete the project within the revised stipulated period i.e. by June, 1982.

3. The Report of the Comptroller and Auditor General of India for the year 1978-79 — Union Government (Railways) was laid on the Table of the House on 19 March, 1980. The Committee (1980-81) examined paragraph 25 at their sittings held on 3 and 29 December, 1980. The Committee considered and finalised the Report at their sitting held on 21 April, 1981. Minutes of the sittings form Part II* of the Report.

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

5. The Committee would like to express their thanks to the Officers of the Ministry of Railways (Railway Board) for the cooperation extended by them in giving information to the Committee.

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(vi)

6. The Committee also place on record their appreciation of the assistance rendered to them in the matter by the Office of the Comptroller and Auditor General of India.

NEW DELHI;

22 April, 1981

2 Vaisakha, 1903 (S)

CHANDRAJIT YADAV,

Chairman,

Public Accounts Committee

REPORT

WHEEL AND AXLE PLANT

Extra expenditure due to incorrect assessment of earthwork

Audit Paragraph

1.1. The Ministry of Railways (Railway Board) entered (April 1974) into a collaboration agreement with a foreign firm for setting up a factory to manufacture wheels at Yelahanka (Bengalore). The factory was also to manufacture axles for which, however, no collaboration was envisaged. As per the terms of the agreement, the collaborator submitted (August 1974) a preliminary layout of the factory. The Railway Administration prepared a final layout (in East-West direction) for the factory in January 1975. On the basis of this layout tenders for earthwork levelling and forming bank etc. on the site (in East-West direction) were invited in March 1975. The work (value: Rs. 28.59 lakhs) was awarded in September 1975 to contractor 'A' at 29 per cent above the basic schedule of rates, with stipulated completion date as 19th August 1976. The contractor was permitted to commence the work on 4th October 1975, before the formal agreement was executed (November 1975).

1.2. The contract provided for the following quantities of earthwork:

Description of work	Quantity	Rate
1. Earthwork excavation in all kinds of soils including soft rock (for lead of 400 m with two lifts.)	6.20 lakhs cum	Rs. 45.92 per 10 cum
2. Earthwork excavation in hard rock (for lead of 400 m with two lifts)	600 cum	Rs. 172.86 per 10 cum

1.3. The tenders had been advised in their own interest to inspect the site and ascertain the site conditions etc. before tendering. The contract also provided that the quantities of work indicated were tentative and approximate and were liable to variations and any extra claim from the contractor on this account would not be entertained under any circumstances.

1.4. In the meantime in April 1975 (after the tenders were invited in March 1975 but before the work was awarded in September 1975) the Railway Administration decided to change the layout from East-West to North-South direction, as this revised layout had the advantage of

better facilities for yard operation and availability of more area for future expansion of the factory. It was also decided that the revised layout in the North-South direction should be got cleared by the collaborator, before field works were started based on the revised layout. It was indicated that the comparative costs of earthwork in levelling between the two layouts were more or less the same. The revised layout in North-South direction was referred to the collaborator in October 1975. However, the Railway Administration did not wait for the formal approval of the collaborator to the revised layout, as no changes of any major character were expected to be made by the collaborator.

1.5. The quantity of earthwork as per the revised layout in North-South direction was assessed before awarding the contract in September 1975, as follows:—

	As per tender Schedule	Revised quantity
Earthwork excavation in all kinds of soils.	6.20 lakhs cum	5.90 lakhs cum
Earthwork excavation in hard rock	600 cum	6000 cum

The lead in the revised layout increased from 400 m to 495 m.

1.6. The agreement entered into with the contractor in November 1975, did not provide for quantities as assessed above for the revised layout, but as originally assessed and notified in the tender with East-West layout.

1.7. In February 1977, the contractor claimed compensation by way of increased rate at 150 per cent over the contracted rates on account of the increase in lead from 400 m to 495 m and also due to taxing conditions and situations not anticipated at the time of tendering, and at 450 per cent over the contracted rate for the increased quantity of earthwork in hard rock beyond the 125 per cent of the tendered quantity.

1.8. After negotiations with the contractor, the Railway Administration revised (September 1977) the rates, as follows:

	As per contract	Claimed	Negotiated
1	2	3	4
1. Earthwork in soil including soft rock	Rs. 45.92 per 10 cum	Rs. 165 per 10 cum	Rs. 45.92 per 10 cum (for 4.4 lakhs cum) and Rs. 130 per 10 cum (for 1.4 lakhs cum be- yond the lead 400 m)

1	2	3	4
2. Earthwork in hard rock.	Rs. 172.86 per 10 cum	Rs. 906 per 10 cum	Rs. 172.86 per cum for 750 cum and Rs. 417 per 10 cum for 5250 cum.

1.9. Consequently, the value of contract increased from Rs. 28.58 lakhs to Rs. 40.72 lakhs. If the quantities had been revised and the increased lead indicated before the award of the contract, the Railway Administration could have saved extra expenditure up to Rs. 8.26 lakhs.

1.10. As further excavation was carried out, more rock out-crops were exposed and the earthwork excavation in hard rock was further revised (July 1979) from 6,000 cum to 11,500 cum. The contractor claimed (September 1978) a higher rate of Rs. 990 per 10 cum, as against the negotiated rate of Rs. 417 per 10 cum (September 1977) for the entire excess quantity over and above 6000 cum provided in the revised agreement. This claim is still (November 1979) under consideration of the Railway Administration.

1.11. The Administration stated (July 1978/September 1979) as follows:

- (i) The original quantity had been estimated on the basis of out-crops of rocks and their slopes and that a more accurate assessment would have involved heavy expenditure on trial boring.
- (ii) Since the contractor was not prepared to extend the validity of his tender beyond 30th September 1975 and further in view of the fact that the most advantageous rates had been received by the Administration from this contractor, it was not considered prudent to wait any longer, and the work was accordingly, awarded to this contractor in September 1975.
- (iii) Keeping in view that the difference in the total quantity taken together (the earthwork in hard rock and other than hard rock) was a reduction of 34,600 cum, it was not considered necessary to revise the quantities in the contract.
- (iv) Since the contractor's claim in September 1977 for higher rates would have been sustainable in a court of law, it was considered prudent to settle his claim by negotiations.
- (v) They had obtained the maximum advantage by restricting the payment at the increased rate to a quantity of 1.4 lakhs cum

only, instead of the entire quantity of 5.8 lakhs cum claimed by the contractors.

1.12. The following points require consideration:

- (1) Even though decision on the change in the layout of the factory had been taken by the Administration as early as in April 1975, and the quantity of earthwork as per revised layout in North-South direction had also been assessed before the award of the contract in September 1975, the agreement entered into by the Railway Administration with the contractor in November 1975 provided for quantities not as per revised layout, but as originally assessed and notified in the tender in March 1975 with East-West layout.
- (2) Even though the area of the site for excavation in hard rock was 15 acres only, the Administration had not made a detailed survey of the soil conditions and instead, framed the estimates on the basis of surface conditions. The original assessment of earthwork in hard rock was not, therefore, properly done. There is no evidence that more realistic assessment was not done due to the likelihood of heavy expenditure on trial boring. This led to the revision of quantity of hard rock excavation from the originally assessed quantity from 600 cum to 6,000 cum (September 1977) and subsequently to 11,500 cum (July 1979) i.e. an increase of 1,817 per cent over the original estimate.
- (3) There was failure on the part of the Railway Administration to ascertain the increased lead from 400 m to 495 m in the revised layout.

1.13. Failure to assess correctly, the earthwork involved, including the extra lead and rocks beneath the soil, resulted in extra expenditure upto Rs. 8.26 lakhs. This will increase further to Rs. 12.75 lakhs if higher rate for earthwork in hard rock has to be paid, as per the contractor's claim of September 1978.

[Paragraph 25 of the Report of the Comptroller and Auditor General of India for the year 1978-79—Union Government (Railways)]

Introductory

1.14. From the information made available to the Committee it is seen that in the middle of 1971, a preliminary Feasibility Report in connection with the setting up of the Wheel and Axle Plant was submitted to the

Railway Board by Deputy Chief Mechanical Engineer, N.E. Railway. On 2 January, 1972 a Project Team consisting of CPO and Deputy CPO was in position in the Railway Board. On 3 February, 1972, the then Minister of Railways in his budget speech for 1972-73 announced in Parliament the decision to set up a Wheel & Axle Plant in the following words:

“Government of India has given a fresh impetus to the policy of self-sufficiency after the so-called foreign aid from certain powers stopped or threatened to be stopped. The Railways want to implement the policy in all earnestness. We propose to start two new projects to manufacture wheels and axles and traction gears. Our requirements of wheels and axles are only met in part by indigenous production and we were purchasing the rest from foreign countries costing Rs. 5.8 crores a year. Requirement of wheels and axles is growing. The proposed plant will be one more Railway production Unit and will produce approximately 20,000 wheels-sets and 25,000 loose wheels per year making the Railways virtually self-sufficient.”

1.15. By July, 1972, the Railways' proposal for setting up of a Wheel and Axle Plant was cleared by the Ministries of Industrial Development and Steel, Economic Secretaries' Committee and the Planning Commission. The proposal for the collaboration arrangement was approved by the Foreign Investment Board in October, 1973 and by the end of 1973 the investment decision had also been taken. A token provision of Rs. 1,000 was made through supplementary Demands for Grants in the Railway Budget for 1973-74. The reasons for setting up of Wheel and Axle Plant at Yelahanka as given in the Supplementary Demands for Grants were as under:—

“Railway's requirements of wheels and axles are practically met by Hindustan Steel Durgapur and Tata Iron and Steel Company. Indigenous production being insufficient Railways import 40 to 50 per cent of wheels, axles and tyres, costing about Rs. 6 to 7 crores per annum. It is, therefore, proposed to set up a public sector Wheel and Axle Plant under the Railway Administration to supplement capacity in Durgapur and TISCO Railway's proposed Wheel and Axle Plant will have capacity to manufacture 22,000 Wheel sets and 26,000 loose wheels per annum.

The overall investment on the plant is estimated at Rs. 21.0 crores —Rs. 6.7 crores for the Wheel Unit Rs. 8.0 crores for the Axle Unit and Rs. 6.3 crores for land/construction cost. With a view to developing a specialised casting technology for the manufacture of wheels and for an integrated engineering for

axle unit, it is proposed to have foreign collaboration also on this project for which negotiations are being processed.

The project Evaluation reveals that the Plant is viable and financially justified. Besides, a recurring net annual saving of about Rs. 8 crores in foreign exchange would be possible when the plant capacity is achieved. As the final decision to set up the Plant has been reached recently, the Project could not be included either in Budget of 1973-74 or in Supplementary Demands presented in August, 1973.

In asking for 'token' provision, the Public Accounts Committee's recommendations that the initial provision should be restricted to 'token' amount which could be increased later, if necessary, through further supplementary demands, when a fuller picture of the actual requirements under this demand becomes available towards the close of the year, have been kept in view."

1.16. The Ministry of Railways (Railway Board) approved the setting up of Wheel and Axle Plant on 16 August, 1974 on an urgency certificate for Rs. 1.35 crores. In this there was provision of Rs. 50 lakhs towards preliminary survey, site levelling, drains, staff quarters etc.

1.17. The Abstract Estimate for the Wheel and Axle Project prepared by the Railway Board in June, 1975 *inter alia* gave the following justification for the setting up of a new plant:

"Apart from the heavy drain of foreign exchange the cost of imported wheel set is roughly three and a half times the cost of indigenous wheel set and prices are rising in world markets. Rolling stock holdings are continuously increasing on additional account. Financing of wheel imports and delays in supplies from abroad have also adversely affected wagon production and rolling stock maintenance from time to time.

It is in this context that the Railway Board, in mid-1971, felt the necessity of seriously considering setting up another Wheel & Axle Plant. Being a major projects, it was necessary to make a preliminary feasibility study of the existing situation, anticipated requirements and the implications (both physical and financial) of such a project."

1.18. The Ministry of Railways have stated that when discussions were held by the Railway Board with the Planning Commission in December, 1975 regarding Railways' Annual Plan, 1976-77, Planning Commission

suggested that a re-appraisal of the project should be carried out in view of the rising trend of the output from Durgapur. Planning Commission's re-appraisal of the project was completed in April, 1977. In their re-appraisal, they recommended approval of only the Wheel Unit immediately and deferring the Axle Unit by two years.

1.19. The financing of the project was proposed to the World Bank during their visit in 1977 in consultation with the Planning Commission and Ministry of Finance. IDA Mission, in January, 1978, examined in depth Railways' proposal for setting up the Wheel & Axle Plant and agreed to finance the project except Civil Engineering Works, to the tune of \$38 million on soft loan basis. According to the Railway Board IDA Mission were of the view that the Axle Unit of the Project should not be deferred but could be taken up simultaneously with the Wheel Unit so that construction and gestation period could be compressed to reduce overheads as also to avoid escalation of costs of the project at a later stage.

1.20. The Finance Minister in a reference to Minister for Railways dated 22-4-1977 had in the meanwhile desired that the necessity of putting up a separate Wheel and Axle Plant at Yelahanka in the context of optimal use of production from Durgapur Steel Plant (DSP) and its capacity be reconsidered. The Minister of Railways reiterated the need for setting up the Railway Wheel and Axle Plant, as there would be a very sizeable gap even after DSP's capacity was fully utilised. The Minister of Finance finally agreed to the Railway's proposal in October, 1977.

1.21. The question of Railways setting up a Wheel & Axle Plant was then discussed by the Cabinet in February 1978 and it was decided that a Cabinet sub-committee comprising of Finance Minister, Railway Minister, Minister for Steel & Mines and the Deputy Chairman, Planning Commission should examine whether a new wheel and axle plant was at all necessary and in doing so, should go into the question of full utilisation of capacity of Durgapur Wheel & Axle Plant. The Cabinet Sub-Committee finally approved the proposal of Railways setting up the Wheel & Axle Plant in May, 1978.

1.22. The abstract estimate for the project prepared in June, 1975 at Rs. 38.64 crores was sanctioned by the Board in November, 1977. According to the Railway Board the time lag in sanctioning the estimate was due to uncertainty in the clearance of the project. A general engineering team consisting of 4 Officers and 3 supervisors was deputed to Griffin in USA in August 1978. They returned in Feb./April, 1979. On their return a detailed lay-out for the Wheel Unit was finalised and specifications for machinery and plant drawn up. A number of contracts were

also finalised. In this process it became evident that the total cost of the Wheel and Axle Plant will go up. Accordingly a revised estimate amounting to Rs. 129.65 crores was prepared in October, 1980 with the following break-up:—

Civil Engineering	Rs. 27.16 Crores
Mechanical	Rs. 90.81 ,,
Electrical	Rs. 10.73 ,,
Signal	Rs. 0.95 ,,
<hr/>	
Total	Rs. 129.65 crores
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The estimate is stated to be under scrutiny in Railway Board.

1.23. The break-up of expenditure incurred and anticipated on the project is indicated below:

Expenditure incurred upto	31-3-80	Rs. 9.15 crores
Anticipated expenditure	80-81	Rs. 17.42 ,,
Projected expenditure	81-82	Rs. 49.00 ,,
for	82-83	Rs. 43.25
	83-84	Rs. 8.88 ,,
	84-85	Rs. 1.95 ,,
<hr/>		
Total		Rs. 129.65 crores
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Sanction of the Project

1.24. During evidence before the Committee the Member, Mechanical stated that the Wheel and Axle Plant was finally sanctioned by the Planning Commission and the Cabinet in 1978. The Committee enquired how the collaboration agreement with M/s. Amsted Industries International was signed for manufacture of wheels in April 1974 even though the project had not been finally cleared by the Planning Commission or the Cabinet. The Member (Mechanical) deposed:

“Earlier, the collaboration was for the technical know-how for manufacture of wheels by a special process called the vertical cast steel process. The sanction of the Ministry was taken for entering into this collaboration.”

He added:

The plant was at the project stage for a number of years. The main reason was that there was a little doubt in the Planning Commission and the Ministry of Steel as to whether the capacity of Durgapur plant will be adequate for meeting the Railway requirements."

1.25. Giving details of the work done between April 1974, when the collaboration agreement was signed and 1978 when the project was finally cleared by the Planning Commission and the Cabinet, the Member (Engineering) stated during evidence:

"In April, 1974, the collaboration agreement was entered into with a USA firm for the wheel shop at Bangalore. In July, 1974, the collaborators submitted a general lay-out plan for us and, in August, 1974, we started a full project office at Bangalore and an urgency certificate was sanctioned by the Board for Rs. 1.35 crores out of which Rs. 50 lakhs were earmarked for works, like, survey at the site for levelling the ground, preliminary arrangements, quarters etc. In November, 1974 we started taking over the land from the Karnataka Government. In January, 1975, the preparation for the *inter se* lay out of the various shops and machinery was made out. At that time, the preliminary lay-out was made for east-west alignment because the ground was sloping from south to north. It was thought that to make the best use of the ground, there should be east-west lay out along the slope of the bank, so that the foundations could be laid to the minimum. Then, we contoured the ground, took the levels, found out the quantities of cutting and the cutting of the earth was to be used for filling up the low-lying area so that the entire area could be levelled. This quantity was assessed and the tender was called for in March, 1975."

1.26. The Chairman asked whether before entering into a collaboration agreement or tendering for earth work a total plan of the project has clearly emerged. To this the Member (Mechanical) replied:

"Yes Sir. The total picture was this. Soon after the collaboration Agreement was signed with Amstead we were able to get the lay-out of the plant, the approximate cost was worked out, an abstract estimate was prepared for Rs. 38 crores..."

It was anticipated that the plant would be ready in three to four years as soon as 'go' was given."

He added:

"The delay was in the clearance from the Planning Commission. In fact only when the World Bank came and said that the plant was financially justified, in early 1978, we got the final clearance from the Planning Commission and the Ministry of Steel. A committee had been appointed by the Prime Minister consisting of the Finance Minister, the Railway Minister and the Minister for Steel; they met some time in May, 1978 and gave the final okay to go ahead with the plant. The Railways were spending large sums of money importing wheels and axles. Some indication had been given by the Planning Commission that the plan would be agreed to and, therefore, the Railways had done this advance planning."

1.27. It is seen that the original anticipated cost of 'setting up of Wheel and Axle Plant at Yelahanka' was Rs. 38.39 crores. The latest estimated cost is Rs. 129.65 crores. As to the reasons for this steep increase in cost, the Chairman, Railway Board has stated in evidence:

"Basically, it is the inflation of the 70s. All hinged on oil and the Israeli war, when the scene changed suddenly. Since then we have had to face the world trend. The cost of oil has gone up from 2 dollars per barrel to 32 dollars and in the spot market it is even more. This is an important phenomenon."

Out of the total increase which has taken place, about Rs. 65 crores is on account of general world-wide escalation in prices and the balance due to our having expanded the scope of the project. Instead of doubling the capacity at a much higher cost at a later stage, the expert committee advised us to have such investment in the beginning itself, because that would be much more beneficial in the long run."

The Member (Mechanical) elaborated on this as under:—

"The question pertains to the increase in cost from Rs. 38.64 crores in 1975, when the estimate was prepared, to the present cost, which is Rs. 129.65 crores in September this year. We have tried to quantify this in two elements—one is the increase on account of escalation due to price increase and the other is increase due to deliberate modification in the planning for the project. This quantification leads to the figure of about Rs. 28 crores due to improvements and modifications and the balance Rs. 62.9 crores on account of escalation.

So far as the modifications are concerned, when we first prepared the project report, we planned for 70,000 wheels for the wheel shaft and 23,000 for axle shaft. When the World Bank team came, they insisted that we should provide for expansion so that we could double the capacity at a later date which we did. This was also out thinking. After the project has been finally sanctioned by the Cabinet, the engineering team came to understand that if provision was made in the existing wheel shop, leaving certain space for balancing equipment to be provided at a later date, no duplication of capacity would be necessary by providing duplicate wheel shop. Accordingly, the wheel shop which is now being constructed, has provision for expansion to come up to a production of 100,000 wheels per annum from 70,000 wheels which was planned earlier. This involves the lengthening of the shop itself, the provision of longer conveyor system and provision of space for additional plants to be installed at a later date, provision of normalising furnace—the furnaces which we install now are of a small size and, later on, when we go to 100,000 wheels we have to replace it totally—the cost of which would have become totally infructuous. So, we have put a larger sized furnace right from the beginning. These mainly were the reasons for the modification, which brought about an increase of Rs. 25 crores in the cost.

1.28. Referring to the escalations in the cost of the Plant, the Member (Mechanical) stated:

“The first reason is the increase in oil prices, from 2 dollars a barrel to the present 32 dollars, which is reflected in the escalation cost. In addition, the customs duty has been revised from 1975. It has gone up from 30 to 40 per cent. This has increased the cost of the project by another Rs. 10 crores.

Thirdly, we have not originally planned for fixed price contracts. We were assuming that the price would be as on the date of the order. Under the revised thinking, we thought it better to have fixed price contract so that we would not be burdened with escalations. If we are to provide for escalations, the prices would go up further by the time the delivery is made.

Fourthly, we have put in a performance guarantee. The normal type of performance guarantee, which we have put in is very rigid, because it is a very sophisticated plant. Naturally this has added to the costs.

Finally, so far as the axle shop is concerned, our original estimate was based upon quotations available from a Czech collaborator. In some of these East European countries we have reason to believe, though we cannot be absolutely sure, they sometimes under-value their prices. Since at that time this was the only offer we had, we assumed that the machinery would be imported from Czechoslovakia."

He added:

"As it happened, the Czechoslovakian offers did not materialise as they did not give us the requisite guarantees that we wanted. Finally, we placed the order on HMT through their collaborators in USA. This has led to an increase of 5 crores. Further, originally we had planned furnaces in the plant based on oil. Later on, we felt it necessary to change it. We are now going in for electrical heating. Therefore, the sub-stations etc. which need to be provided are capital investment. In the long run it would be cheaper, but it has resulted in an additional cost of Rs. 5 crores. Then, in 1975 we had been given an assurance by the State Government that the provision of power would be adequate and we had assumed that we would get the full power. Later on we felt it necessary to provide for a stand-by diesel generator. If for any reason the power is out down, the entire furnace lining would get destroyed and the furnace would remain unutilised for a long time. This would cost Rs. 1.6 crores additional.

In addition to this, the prices have certainly gone up because of the general escalation."

1.29. It is seen that the wheel and Axle Plant was conceived in Railway Board in 1971 but the project was actually sanctioned by the Ministry of Finance in 1977. Asked whether the delay in sanctioning the project had affected its total cost and was not the delay avoidable, the Railway Board have stated:

"The delay of the project has affected the total cost of the project as there has been continuous inflation as a result of hike in the petroleum products regularly which in turn has caused a steep price escalation all round the world. The Railway Ministry could not go ahead with the project. As other Ministries were involved, the Planning Commission had to review the project which was only possible when Sondhi Committee Report was received. Subsequently, the issue was re-opened by Ministry of Finance and the clearance of the Cabinet Sub-Committee had to be obtained before the project could be progressed."

1.30. During evidence the Member (Mechanical) stated that the delay in sanctioning of the project by the Finance Ministry was responsible for much of the escalation. He, however, added:

“The return on capital that we have now estimated on the revised estimate of Rs. 129 crores comes to 17 per cent. This is because the prices of the finished products are also going up. No doubt, the capital investment is very large, our return on the investment continues to be substantial, beyond the limit of 10 per cent which we fixed for ourselves.”

The Chairman, Railway Board, added:

“This 17 per cent return is being calculated on the current day prices of wheels and axles and not on the price level that will obtain in June, 1982 and we should image that the return on the capital will even be more than 17 per cent at that stage.”

1.31. In regard to the actual progress made in the construction of the plant, the General Manager of the Wheel and Axle Plant stated in evidence:

“When I took over, which was in May, 1980, the works in progress were the buildings for the Metallurgical Laboratory, Maintenance workshop for the electrical and mechanical equipment, the stores and the water tanks for the colony. Before I came, the works were in different stages of construction. About 32 units of staff quarters, the compound wall and some of the plans for the main shops had already been completed. The detailed planning of the lay out of the factory was also in progress and only the final touches had to be given. After I took over, Sir, we had proceeded with further placement of orders for the machinery. Even before I took over orders had been placed for some items of machinery for the mechanical and electrical equipment. After I took over further orders were placed and as on date we have placed orders for equipment worth almost Rs. 75 crores, part of which has to be imported and the rest has to be procured locally. As far as the civil engineering works are concerned, we had to plan for the remaining items, including inviting tenders. Tenders had been invited just before I took over, for the civil engineering structure of the wheel shop.”

“And for the rest of the works in the Plant tenders have not yet been invited. We will be inviting tenders within the next few weeks.”

He added:

“Then Sir, regarding the target date, when I took over, the target date which was fixed for this project was March, 1982, at that stage. But taking into account the current position, we were reviewing the target date from time to time. The target fixed for the wheel plant now is June, 1982. As far as the axle unit is concerned, the target is June 1983; one year from the production of the wheels.”

1.32. Subsequently, in a written note, furnished at the instance of the Committee, the Railway Board have stated:

“Orders for 83 per cent of the equipment for the Wheel Shop have already been placed. Tenders for 9 per cent of the equipment have been called. Tenders for 8 per cent of the equipment being short lead items have yet to be called.

In respect of Civil Engineering Works, Stores building has already been completed. Works for electrical and mechanical maintenance shop and Metallurgical Laboratory are well in hand. Tenders for Wheel Shop have already been finalised and the work shall commence by end of this month. Tenders for Axle and Assembly shops are being called. Works connected with Main Power Receiving Station are expected to be completed in 3 months' time. Tenders for Sub and Unit stations have already been awarded.

Wheel Shop is expected to commence production by June '82 and Axle Shop by June '83.”

1.33. When a Study Group of the Committee visited the plant site in October, 1980 the Wheel & Axle Plant Administration informed the Study Group that General Manager and Chief Engineer (Constn.), Southern Railway was incharge of the Civil Engineering Works of the Wheel and Axle Plant when the layout of the wheel unit was submitted by the collaborators. At that time there was no separate post of General Manager or Chief Engineer for Wheel and Axle Plant. The Study Group was informed that a full time General Manager and Chief Engineer were appointed only in 1978.

1.34. Explaining the reasons why a General Manager for the plant was appointed as late as in 1978, the Chairman, Railway Board, stated in evidence:

“When we plan the work of any project, it has to be done centrally in collaboration with the Railway Board and the Officer on Special Duty is appointed. That is what we normally do for

all the projects. An Officer on Special Duty in the Railway Board was appointed for this Project. Even in other projects, initially activities are mainly co-ordination and co-ordination is required to be done at Delhi itself before we can do field work. We have a man—General Manager, at Bangalore. We will be able to make much less progress at the initial stage than would be the case if we have an Officer on Special Duty.

The second stage comes up for any project—the activity to begin with is basically Civil Engineering activity and not co-ordinating activity which can again be co-ordinated in the Board. Civil Engineering activity was entrusted to the General Manager (Construction), Southern Railway who was already there. Second stage came—from O.S.D. to General Manager (Construction) because basically the thing was to construct *i.e.* ordering machinery, plant and technical details had to be worked out. At that stage we did have a man. Even in Chittaranjan Locomotive Works, the first person posted was a Civil Engineer and not a Mechanical Engineer. S/Shri P. C. Mukherjee and Karnail Singh were there whose names can be mentioned. This is the normal practice which, for valid reasons, is adopted.”

He added:

“For all the projects when they are in the nascent stage, they have to have very close co-ordination with the Railway Ministry.”

1.35. In a note subsequently furnished at the instance of the Committee, the Railway Board have stated:

“In case of large projects it is the usual practice to set up a nucleus organisation in the Railway Board’s Office in the initial stages, so as to keep liaison with various agencies and accordingly, it was decided to set up a Project Team in the Railway Board’s Office to carry out detailed studies and initiate steps for setting up the Plant. This Project Team consisting of a Chief Project Officer and a Deputy Chief Project Officer came into position in January, 1972 and carried out wide ranging studies. The team visited Europe, U.S.A. and Canada from 24-10-72 to 4-1.73 to study and evaluate the latest technology, equipment and process. They finalised the project report in April, 1973.”

1.36. The Railway Board further stated:

“The work had been included in 1973-74 budget through supplementary demand for grants. With a view to progress the works in the field the civil engineering works were placed under the control of General Manager (Construction), Bangalore who had the necessary infra-structure to execute such works. To enable him to take up these works such as levelling of the ground, water supply, approach road, etc. an urgency certificate was sanctioned in August, 1974. To look after the mechanical and electrical works, an O.S.D. was positioned with headquarters at Bangalore in July, 1975. The estimated cost of the project in 1975 was worked out as Rs. 38.64 crores and the anticipated date for completion for both wheel and axle units was envisaged as December, 1978.”

Extra expenditure due to incorrect assessment of the earth work

1.37. It is seen that in April, 1974, Ministry of Railways (Railway Board) entered into a collaboration agreement with M/s. Amsted Industries International, USA for setting up the factory for the manufacture of wheels. According to the terms and conditions of the agreement, the collaborators sent a preliminary layout plan of the wheel unit in July, 1974. Based on this preliminary layout plan, a tentative layout plan incorporating both the wheel and axle units was prepared in January, 1975 by Wheel and Axle Plant. This plan had the orientation of the shops in east-west direction.

1.38. On the basis of the layout, open tenders were called in March, 1975 for earth work for levelling of land and forming bank and cutting etc. on the site area. The work was awarded in September, 1975 to contractor 'A' (M/s. B. R. Chandrasekhara Iyer and Sons) with stipulated completion date as 19 August, 1976. According to the Audit Paragraph the contractor was permitted to commence the work on 4 October, 1975, before the formal agreement was executed in November, 1975.

1.39. After the tender for the earth work had been called in March, 1975 the Wheel & Axle Plan Administration also considered an alternate orientation in the north-south direction in April, 1975. The main reasons for considering the north-south orientation were:

- (a) it provided better facilities for yard operation, and
- (b) afforded greater availability of area for future expansion of the factory.

While considering the revised orientation in the north-south direction, an assessment of the revised quantities of earthwork had been carried out-

which indicated that there was no major variation in the estimated costs and quantities of earthwork as indicated in the tender (6.206 lakh cum).

1.40. The Committee enquired on what basis was it indicated that the comparative costs of earthwork in levelling between the two layouts were more or less the same. In a note, the Railway Board have stated:

“The assessment of comparative cost of earthwork as made in April, 75 was based on the levels of the existing ground, general profile of cutting and the proposed shop and track levels. It was found that the estimated cost of earthwork in both the layouts was almost the same.”

1.41. The Committee desired to know whether the element of increased lead in North-South layout was taken into account for comparative study of costs at this stage. The Committee also wanted to know if the element of increased lead had been considered, how did the lead subsequently increased from 400 metres to 495 metres requiring an increase in the contractor's rate. In a note, the Railway Board have explained:

“In April, 1975, when a decision was taken to change the orientation of shops from east-west to north-south, a rough assessment of the quantities based on the proposed shop floor levels had been worked out and it had been assessed that the overall quantities and costs would be the same. The element of increase in average lead could not be determined until the general layout plan, block levels with details about exact location of the shops, shunting neck and ancillary buildings in the site (spread over an area of 33 acres) had been finally decided which took place in the course of 1976.

Even after the general layout plan had been approved, the exact location of the various shops in 33 acre plant site to ensure smooth flow of raw materials and the finished products in various shops with least amount of technological interference and also to permit maximum flexibility for expansion in future, involved meticulous planning as the plant makes use of most advanced and sophisticated technology in the manufacturing process.

The location of shunting neck and the exact level of formation etc. was also to be decided, keeping in view the level at Yelahanka station and the shop floor level, so that best advantage is obtained in balancing the quantities of earthwork in excavation and in filling.

A final decision on all these issues in a major Project of this magnitude involves considerable amount of time as the railways had no previous experience in this manufacturing technology. As a result, final setouts of various shops supporting units and ancillary buildings, shunting neck other details etc. could only be decided at site during the course of 1976.

It was at this stage, after all the details of the scheme had been finalised and fixed at site that it became apparent that average lead for earthwork was likely to increase beyond 400 metres, assumed in the derived rate in the contract agreement."

1.42. The Committee pointed out that the dimensions of the site for earthwork were approximately 855 metres in North-South direction and only 362 metres in east-west direction. In reply to a question whether this did not obviously suggest that lead in North-South layout would be more in comparison to east-west layout in totality, the Railway Board have stated:

"...the general layout plan of the shops was finalised in the course of 1976. It was only after the final set out of various shops were given at site that it became known that the lead was likely to increase in the North-South layout."

1.43. The Committee enquired how was the central point of the site affected by the change from east-west orientation to north-south layout and if the central point did not undergo a change how the lead got affected. The Railway Board have stated:

"The position of centroids of cutting and bank depend upon the centre of gravity of the massearth work in cutting and bank which in turn has relevance to the topography of the ground. Centroids of cutting and filling have shifted because of the change in the orientation from east-west to north-south."

1.44. In reply to a question raised by the study group of the Committee which visited the plant site on 6 October, 1980, the Wheel and Axle Plant Administration had explained:

"The lead is measured from the centroid of cutting to centroid of bank along the shortest practicable route. From the balancing point (where there is no cutting or filling) the quantities in cutting increase in one direction and the quantities in filling increase in the opposite direction. The average lead from cutting in East-West direction to filling was just less than 400 metres, When the layout was changed to North-South, the distance from the centroid of cutting to the centroid of filling increased to nearly 495 metres. This is on account of the

longer length of shops and the shunting neck obtained in the North-South layout, (large quantities, almost 25 per cent of the total quantity, had to be filled in the low laying areas for forming the longer shunting neck essential for operation of the plant). Therefore, the distance from the centroid of cutting to centroid of filling in the north-south direction increased."

1.45. On being asked what was the significance of lead in the earthwork, the Wheel & Axle Plant Administration had informed the Study Group that:

"In the basic rates included in the tender an average lead of 400 metres had been assumed and the tenderer was required to quote a percentage above or below the basic derive rate. For a lead of upto 400 metres average, normally earthwork by head load is practical. When the average lead increased beyond 400 metres, it is not practically possible to do the work manually and hence hiring of earth moving equipment for cutting and moving earth is essential."

1.46. It was further clarified that:

"The rate would be higher as hiring of equipment and its operation is a costly affair, involving very high overheads. Therefore, if the increased lead had been known to the contractor before award of the contract, he would not have quoted the same percentage as for 400 metres average lead. When the incidence of increased lead became known and the contractor demanded higher rate (Feb. 1977) the Railway negotiated a rate with the contractor for a specified quantity identified as involving lead greater than 400 metres average."

1.47. The Audit para states that the quantity of earthwork as per the revised layout in North-South direction was assessed before awarding the contract in September, 1975 as follows:—

	As per tender Schedule	Revised quantity
Earthwork excavation in all kinds of soils	6.20 lakhs cum	5.80 lakhs cum
Earthwork excavation in hard rock . . .	600 cum	6000 cum

1.48. The audit paragraph further states that even though decision on the change in the layout of the factory had been taken by the Administration as early as in April, 1975 and the quantity of earthwork as per revised layout in North-South direction had also been assessed before the

award of the contract in September, 1975, the agreement entered into by the Railway Administration with the Contractor in November, 1975 provided for quantities not as per revised layout, but as originally assessed and notified in the tender in March, 1975 with East-West layout. In this connection, the Railway Board have, in a note, stated :

“The conceptual layout of the plant could be finally decided only after the return of the team of railway officials from USA in November, 1975. The project authorities, thereafter prepared the layout plan incorporating the various details ascertained by the team. This conceptual plan could be approved only by January, 1976. Even after the finalisation of the general layout plan, the exact location of the various shops in the 33 acre plant site to ensure smooth flow of raw materials and finished products, location of various ancillary structures, shunting neck including its length, etc. could be decided during the course of 1976. The revised quantity of earthwork and the lead could, therefore, be realistically ascertained only in February, 1977 and, therefore during the course of earthwork and lead, therefore, could not be incorporated in the contract agreement which was executed in November, 1975.

Further, it is not admissible to unilaterally increase the quantities advertised in a tender, after the rates have been quoted by the tenderers, at the stage of awarding the contract. The contractor works out the rates on the quantities indicated in the tender schedule.”

1.49. The Committee desired to know what was exactly intended to be conveyed by the term, ‘conceptual layout’ as distinguished from the layout prepared in April, 1975, so far as the quantities of earthwork including lead, were concerned. In a note, the Railway Board have explained:

“At the time of assessment of the quantities for east-west and north-south layouts in April, 1975, only a preliminary layout furnished by the collaborators was available based on which the layout plans had been prepared for east-west and north-south orientations. Many details such as the ancillary structures, overall dimensions of the shops including scope for future expansion and number of sidings to serve the shops were not clear. The conceptual layout as pointed out by PAC was prepared only after two officers had visited the collaborators’ works and discussed with them shop layout which enabled the administration to prepare a conceptual layout in January, 1976. In this conceptual layout, the

shop floor levels, shunting neck and other sidings required to serve the shops could be included. Even after the preparation of the conceptual layout, in January, 1976, the question of lead had not been assessed as the exact location on the various shops in the 33 acre plant site to ensure smooth flow of raw materials and finished products, location of various ancillary structures, shunting neck including its length etc., could be decided only during the course of 1976. The revised quantity of earth work and the lead could, therefore, be realistically ascertained only in February, 1977 and thereafter during the course of the work."

1.50 From the information made available to the Committee it is seen that the layout in east-west direction was prepared in January, 1975. Tenders were invited in March, 1975, specifying quantities of earthwork including lead on this basis. The layout was revised to north-south direction in April, 1975. A revised assessment of earthwork involved in the layout on north-south basis, is stated to have been made in September, 1975 before the contract was awarded. The agreement was executed in November, 1975. Explaining the reasons why the Railway Administration did not consider it necessary to make any change in quantities of earth work etc. before executing the agreement with the contractor, the Railway Board have, in a note, stated :

"Even though the comparative assessment of east-west and north-south layout prepared in April, 1975 showed that the estimated cost of the two orientations was almost the same, it could not lead to the conclusion that the quantities in the sub items of earthwork in all kinds of soil and excavation in hard rock and lead would be the same. This could be ascertained only during the course of the work. The change in the quantity of earthwork therefore, could not be incorporated in the contract agreement executed in November, 1975."

1.51 In another note, the Railway Board have stated :

"Having made a comparative assessment of the quantities between east-west and north-south layout in April, 1975 and finding that the quantity was more or less the same, need was not felt to revise the quantities at the time of awarding the contract (September, 1975). It is relevant to point out here that the revised quantities as brought out in sentence 16 of the para 25 of the C&A.G. (600 cum. of rock excavation) was *not* estimated in September, 1975 as this quantity could be estimated only after the over-burden was removed during the progress of the work and this assessment was made only in July, 1977. It was not considered prudent to negotiate with

the contractor at this stage (September, 1975) regarding the change in orientation when there was already a rising trend in Tender rates for similar works in and around Bangalore. Having obtained a most competitive rate and also as there was no major variation in the earth quantity, it was felt prudent to award the contract to the contractor and proceed with the work.

Since the lowest tenderer did not agree to keep the offer open beyond 30th September, 1975 there was no option to the Administration but to award the contract to him at the tender rate. If the tender had been cancelled and reinvited, the tender rates would have been very much higher. It would not have been prudent to resort to re-tendering as the total value of the work would have increased tremendously."

1.52 It is seen that first layout was prepared in east-west direction in January 1975. It was changed to north-south direction on the plea that the later had the advantage of better facilities for yard operation, and availability of more area for future expansion of the factory. The Committee wanted to know how such obvious factors were not kept in view while preparing the first layout itself. To this the Railway Board have replied:

"The east-west layout was thought of as slope of the land was north-south and, in such cases, for having the foundations on original unfilled soil, the layout has to be along the contour line. In the process of continuous review, it was felt that this advantage was less compared to the advantages that could be had in the north-south layout. Since the contract had not yet been awarded, opportunity was taken to have the layout which was more advantageous."

1.53 The Audit para brings out that as further excavation was carried out, more rock out-crops were exposed and the earth work excavation in hard rock was further revised in July 1979 from 6,000 cum to 11,500 cum. Asked how the increase in earth work excavation from 600 cum to 11,500 cum was assessed, the Railway Board stated that the increase was assessed on the basis of rock profiles as exposed during the progress of the work. On being pointed out that terrain near Bangalore was generally rocky and therefore, the provision of 600 cum of hard rock for earthwork in the initial planning was on the low side, the Railway Board have stated :

"It is not true to state that the terrain near Bangalore is generally rocky. The assessment of 600 cum of hard rock included in the tender was made on the basis of visual inspection of the isolated rock outcrops distributed over the area. This estimation was more or less corroborated by the results of trial

bores conducted through the agency of Karnataka Agro Industries Corporation (Karnataka Government Undertaking) in July, 1975, These trial bores lead to an estimate of 605 cum of hard rock, as per calculation below:—

Level at which hard rock met with

Bore No. 12 — 106.73 ft.

Bore No. 3 — 99.89 ft.

Proposed formation level 99.00 ft.

Average depth of hard rock excavation—

$$\frac{7.73 + 0.89}{2} = 4.31 \text{ ft.}$$

Distance between bores 3 and 12 — 127 ft.

For 200 ft. average length, 20 ft. average width 4.31 ft. average depth

Quantity of hard rock = $200 \times 20 \times 4.31 = 17,220$ cft.

And 25 for other outcrops = 4,305 cft.

= 21,525 cft. or 605 cum.

These trials bores indicated that there were no continuous layers of sheet rocks in this area and only isolated rock outcrops were existing which were visible to the eye.

The rocky structures, however, got exposed progressively during the course of the work leading to increase in quantity of excavation in hard rock.

The quantity of hard rock which was finally measured works out to 11484 cum. This is less than 2 per cent of the total quantity of earthwork."

1.54 It has been stated by the Railway Board that assessment of 600 cum of hard rock was made on the basis of visual inspection of isolated rock outcrops distributed over the area, and that this assessment was also corroborated by the results of two trial bores conducted subsequently. The Committee asked whether such visual inspection supported by just two trial bores was not indicative of inadequate survey, knowing that the area of the site of excavation in hard rock was 33 acres. The Committee also desired to know the procedure generally followed by the Railway for determining the extent of rocks in earthwork excavations. In a note, the Railway Board stated:

"The quantity of hard rock 600 cums as included in the tender (March 75) was verified by undertaking 8 trial bores and not 2 trial bores indicated existence of rock and based on these

trial bores, an assessment of 605 cums had been made which had confirmed our estimated assessment of 600 cums included in the tender. Therefore, there was no reason for the administration to doubt the reasonableness at the time the quantities were included in the tender. These trial bores were carried out for ascertaining the soil particulars."

1.55 The Railway Board further stated:

"No definite procedure can be prescribed for ascertaining the extent of rocks in earthwork excavations. The method to be adopted depends upon the topography, the location and the expense justified in preliminary exploration etc. Original assessment of 600 cum included in the tender was not made in a perfunctory manner as was confirmed by trial bores carried out subsequently after the calling of tenders. The nature of terrain was such that there was no continuous sheet rock and rock out-crops existed in isolated boulders which got exposed during the course of excavation in the area."

1.56 From the correspondence exchanged between Audit and the FA&CAO, Wheel and Axle Plant in December, 1979, it is seen that as regards excavation in hard rock, no precise assessment appears to have been made at any time *vide* extracts from FA&CAO's/W&AP/BNC D.O. letter No. 35/W&AP/A dated 13 December, 1979 to the D.A.S. Rly. Madras reproduced below:

"In regard to excavation in hard rock, however, no precise assessment appears to have been made at any time.

While re-assessing the quantities of earthwork, no further detailed investigation for hard rock was carried out, as excavation area where the hard rock out-crops existed, was common to both."

1.57 The quantity of earthwork excavation in hard rock as per revised layout, was assessed by the Administration in July, 1977 after the contractor had taken up the matter in February, 1977 *vide* extracts from FA&CAO's D.O. letter No. 35/W&AP/4 dated 30.11.79 to D.A./S.Rly. Madras reproduced below:—

"In July 77 following a representation from the contractor in February, 1977 :

* * * *

At this stage, the quantities were re-assessed on the basis of final slope of the sides in cutting duly taking into account the points represented by the contractor also. These revised quantities were incorporated in a Rider Agreement and they were as follows:

Earthwork excavation in hard rock requiring blasting etc. . . . 6000 cum

1.58 The Contract for earthwork was awarded in September, 1975, which stipulated completion date as 19 August, 1976. However, the earthwork was actually completed on 30 November, 1979. The Committee desired to know the reasons for this delay over three years and asked whether this delay affected the original schedule for commissioning of the plant adversely. In a note the Railway Board have stated :

“The reasons for delay in completion of the earthwork were on account of frequent breakdown of earth moving equipment, machinery, etc. as also the increased quantity of hard rock excavation. This delay has not affected the original schedule of commissioning the plant in any manner. In this period the re-appraisal of the entire project was being under-taken by the Planning Commission and until its clearance, no other major work was undertaken and since we had obtained very attractive rates against this tender, the contractor was allowed to continue the work.”

1.59 The Committee enquired what was the additional amount paid to the contractor specifically for the increase in lead and what were the details of the total payments made to the contractor. In a note, the Railway Board have stated :

“The Director, Audit, S. Rly., Madras has worked out the amount for increased lead as Rs. 7,87,963/-as under:

Earthwork excavation in cutting for formation side drains etc. in all kinds of soils including soft rock other than hard rock.

(i) Revised quantity as per final layout (Agreement)	5,80,000 cum
Quantity actually carried out	5,75,202,786 cum
(ii) Cost of execution of work at BSR rates for an average lead of 495 metres and the contractors percentage of 29% i.e. Rs. 42 + 29% = Rs. 54.18 per 10 cum	Rs. 31,16,444
(iii) Cost of the work as executed and paid actuals	Rs. 39,04,407.06
(iv) Expenditure for lead (iii minus ii)	Rs. 7,87,963/-

The total payment made to the contractor is Rs. 44,58,715.84”

1.60. The Committee were informed that the earthwork was completed on 30 November, 1979. The committee desired to know whether the accounts have been settled with the contractor and if so, what was the total payment made to the contractors *vis-a-vis* the original contract value of Rs. 28.58 lakhs. In a note the Railway Board have stated:

“The quantities of earthwork in hard soil and hard rock as measured finally have been accepted by the contractor. The contractor in 1979 had demanded arbitration stating that the railway administration have not applied S.R. specifications for

materials of Works in determining the quantities linked with the leads as paid to him represented correctly the quantities to be paid to him or to be paid to him as per the S.R. specifications. This dispute had been referred to joint arbitrators who had set aside the contractor's dispute and upheld the railway administration's stand that the specifications had been correctly assessed. The arbitrators had also passed a nil award. Not satisfied with the arbitrators award the contractor made a fresh appeal to the Railway Board, who have after examining the points raised by him, directed the railway administration to grant arbitration on 7 out of 9 issues which had not been covered in his plan for arbitration earlier. The arbitrators have just taken up the case of the arbitration and hearings have just commenced.

The total payment made to the contractor *vis-a-vis* the original contract value of Rs. 28.58 lakhs is Rs. 44,58,715.84."

1.61. The Committee find that as early as 1971, the Railway Board felt the necessity of seriously considering the setting up of a Wheel and Axle Plant under the Railway Administration to supplement capacity in Hindustan Steel, Durgapur and Tata Iron and Steel Company. It was then assessed that indigenous production being insufficient the Railways were importing 40 to 50 per cent of wheels, axles and tyres costing about Rs. 6 to 7 crores per annum. Apart from the heavy drain of foreign exchange on account of the imports of wheels and axles, the cost of imported wheel set was roughly three and a half times the cost of indigenous wheel set. According to the Railway Board financing of wheel imports and delays in supplies from abroad had also adversely affected wagon production and rolling stock maintenance from time to time. It was in this context that on 3 February 1972, the then Minister of Railways had in his budget speech for 1972-73 announced in Parliament the Railways' decision to set up a wheel and axle plant.

1.62. From the information made available to them the Committee find that Railways' case for setting up the plant had been cleared by various Ministries and the Planning Commission by July 1972. The proposal for the collaboration arrangements for the plant was approved by the Foreign Investment Board in October 1973 and by the end of 1973 the investment decision had also been taken. The overall investment on the plant was then estimated at Rs. 21 crores and after taking an investment decision, the project was sanctioned, voted and passed by the Parliament through 1973-74 Railway Supplementary Budget.

1.63. The Railway Board approved the setting up of this Plant on 16 August, 1974 on an urgency certificate for an amount of Rs. 1.35 crores. The Abstract Estimate prepared by the Railway Board in June

1975 assessed the cost of the project at Rs. 38.6 crores. The abstract estimate was sanctioned by the Railway Board only in November, 1977. The Committee were informed that the Plan was finally cleared by the Planning Commission and the Cabinet in 1978. The revised estimate prepared in October 1980 which is stated to be still under scrutiny in the Railway Board assumes the present cost of the project at more than Rs. 129 crores.

1.64. The Committee are concerned to note that the project which was first conceived in 1971 was finally sanctioned by the Planning Commission and the Cabinet only in 1978 i.e. after a lapse of about 7 years. During this period the estimated cost of the project had gone up by more than six times. It is seen that the project evaluation made by the Railway Board in 1973-74 had revealed that the plant was viable and financially justified. It was also expected that a recurring net annual saving of about Rs. 8 crores in foreign exchange would be possible when the plant capacity was achieved. In view of the above why the clearance of the project which was approved on an urgency certificate basis took so much time is not clear to the Committee.

1.65. Apparently, both the Planning Commission and the Ministry of Finance had some reservations on the need for putting up a separate Wheel and Axle Plant under the auspices of the Ministry of Railways particularly in the context of the optimal use of the production from Durgapur Steel Plant and its capacity. But the manner in which the Ministry of Railways have proceeded in the matter reveals that either there was complete absence of seriousness and coordination among the concerned Ministries/Departments or the Railways had taken the investment decision in a hurry. The Committee find that even before the Ministry of Railways approved the setting up of the Wheel and Axle Plant on 16 August, 1974 on an urgency certificate, a collaboration agreement with a foreign firm for setting up a factory to manufacture wheels had already been entered into in April, 1974. Further much before the necessary clearance from the Ministry of Finance and Planning Commission came in 1978, the Railways had already entered into commitments for earthwork etc. after inviting tenders in March, 1975. The question of the advance planning done in this case has to be considered in the light of the fact that the final clearance for the project came much later and the entire expenditure incurred could have been rendered infructuous in case the Planning Commission or the Finance Ministry had not been convinced of the inevitability of the project. The Committee cannot but express their displeasure at the haphazard nature of planning done in this case.

1.66. It is seen that the original anticipated cost of Rs. 38.39 crores for setting up of the Wheel and Axle Plant had by current estimates already gone up to Rs. 129.65 crores. The total cost was likely to go up

further as the project progresses towards its completion date which is still two-three years away. Much of the escalation in the cost of the project was due to the delay in the final clearance of the project. According to the Railway Board the 'delay of the project has affected the total cost of the project as there has been continuous inflation as a result of hike in the petroleum products regularly which in turn has caused a steep price escalation all round the world. The Railway Ministry could not go ahead with the project as other Ministries were involved'. The Committee cannot fully agree with this explanation. If the Government were conscious of the rising trend in the prices, it was all the more necessary that the execution of the project should have been hastened. It appears that one of the reasons for higher estimates in later years was that the estimates were not prepared realistically initially. The delay has not only pushed up the cost of the plant several fold but it has equally proved a serious drain on the foreign exchange resources of the country which could have been avoided to a great extent if the plant had been commissioned earlier. This is regrettable to say the least.

1.67. The Committee have been informed that various works in the plant are at different stages of construction and orders have been placed for several items of machinery and equipment. It has been stated that the target date for completion of the project was being reviewed from time to time. At the time of preparation of abstract estimate in 1975 the anticipated date for completion for both Wheel and Axle Units was envisaged as December, 1978. This has since been reconsidered and it is now expected that the wheel shop will commence production by June, 1982 while the Axle Plant would be ready by June, 1983. The Committee need hardly emphasise that all efforts should be made to ensure that the target dates are adhered to and no further slippage is allowed to hamper the completion of the project in time.

1.68. When a Study Group of the Committee visited the plant site in October, 1980, they were informed that the General Manager and Chief Engineer (Construction), Southern Railway was incharge of the Civil Engineering Works of the Wheel and Axle Plant when the layout of the wheel unit was submitted by the collaborators. At that time there was no separate post of General Manager or Chief Engineer for wheel and axle plant and the work was left to be handled by junior officers. The Committee were informed that full time General Manager and Chief Engineer were appointed only in 1978. The Committee are not happy with this sort of arrangement. They are of the view that in the plants of this magnitude a General Manager/Chief Engineer should be in position right from the beginning and as far as possible should remain associated throughout their execution so that it should be their responsibility to plan properly the layout and execution of the project. The Committee understand that this practice is already being followed in the case of such major projects under other Ministries

1.69. That the planning for the works connected with the Wheel and Axle Plant has not been done with adequate care and in sufficient detail is clearly borne out by the facts of the case discussed in the later part of this Report. It is seen that on the basis of the preliminary layout furnished by the collaborators a tentative layout plan which had east-west orientation was drawn up by the Railway Administration in January, 1975. Tenders were then invited in March, 1975 for earthwork for levelling of land and forming banks etc. on the site area. After the tenders had been called in March, 1975, surprisingly enough the Plant Administration suddenly become wiser and decided in April 1975 to change the layout from east-west to north-south direction, as this revised layout was considered to have the advantage of better facilities for yard operation and availability of more area for future expansion of the factory. The Committee regret to point out that even such vital and obvious factors were not kept in view while preparing the first layout, on the basis of which tenders had been invited.

1.70. The Committee further note that the Railway Administration had also decided that the revised layout in the north-south direction should be got cleared by the collaborator before field works were started. However, contrary to this the Railway Administration did not wait for the formal approval of the collaborator to the revised layout and proceeded apace to finalise the contract for the earthwork in September 1975 and the contractor was permitted to commence the work on 4 October, 1975 much before the formal agreement with the contractor was executed in November, 1975. The Committee are surprised at the undue haste shown by the Railway Administration in rushing through the works without adequate planning, particularly when it was known that the project had not even been finally cleared by the Planning Commission or the Ministry of Finance. The Committee are also distressed to note that the haste shown in pushing the contract through at the initial stage was not manifested in its execution as the earthwork took 50 months for completion as against 11 months provided in the agreement. Slow pace of execution of the work was partly responsible for escalation in its cost also.

1.71. The Committee find that the quantities of work indicated in the tenders invited in March, 1975 were only tentative and approximate. Even though the decision on the change in the layout of the factory had been taken by the Administration as early as in April, 1975 and the quantities of earthwork as per revised layout in north-south direction had also been reassessed before the award of the contract in September, 1975, no effort was made to have the revised quantities incorporated in the contract. According to the Railway Board, at the time of assessment of the quantities for east-west and north-south layouts in April, 1975, only a preliminary layout furnished by the collaborators was available based on which the layout plans had been prepared for east-west and north-south orientations. The conceptual plan was approved only by January, 1976 and the exact location of various shops etc. was decided much later. The revised quantities of earthwork and the lead could therefore be realistically

ascertained only in February, 1977 and thereafter during the course of the work. This only goes to prove that the planning for the work had been done with inadequate care and the estimates of work were prepared in a perfunctory manner. This is unfortunate. The Committee take a serious view of this lapse and would like to emphasise that the final scope of the work should be fully determined before tenders are invited.

1.72. One of the reasons given by the Railway Board for non-inclusion of the revised quantities of earthwork in the contract of September, 1975 was that having made a comparative assessment of the quantities between east-west and north-south layout in April, 1975 and finding that the quantity was more or less the same, need was not felt to revise the quantities at the time of awarding the contract. It has also been stated that as the total quantity taken together (the earthwork in hard rock and other than hard rock) was a reduction of 34,600 cum. It was not considered necessary to revise the quantities in the contract. Both these explanations lack validity because of the fact that the estimates of the earthwork excavation in hard rock had gone up by 10 times in the revised assessment and this definitely called for a review. Unfortunately, this lack of foresight adversely affected the interests of Railways.

1.73. Another important factor having serious financial implications that was overlooked by the Railway Administration in their exuberance to finalise the earthwork contract at the earliest was the question of lead. With the change in the layout from east-west to north-south orientation it was only natural that the element of lead would undergo a substantial change in a rectangular type of plot (855 metres by 362 metres). This important and far-reaching aspect of the matter was obviously not considered at that stage. In this context the explanation now given by the Railway Administration that "after all the details of the scheme had been finalised and fixed at site, that it became apparent that average lead for earthwork was likely to increase beyond 400 metres" is hardly convincing.

1.74. The Committee are distressed to note that as revealed by the correspondence exchanged between Audit and the FA&CAO, Wheel and Axle Plant in December, 1979, no precise assessment appears to have been made at any time in regard to the excavation in hard rock. No wonder therefore the quantity of hard rock excavation originally assessed at 600 cum went up to 11,500 cum. i.e. an increase of 1,817 per cent over the original estimates. This only demonstrates how haphazardly the plans for the plant had been drawn up by the Railway Administration.

1.75. From the above it is clear that the planning for the work had not been done with adequate care and in sufficient detail in the initial stages. This has entailed an additional expenditure of the order of

Rs. 16 lakhs, as against the original contract value of Rs. 28.58 lakhs, the total payment to the contractor for earthwork was Rs. 44.58 lakhs. The Committee cannot but deprecate such wasteful and avoidable expenditure arising out of inadequate initial planning.

1.76. The Committee also find that the contractor for earthwork has not been satisfied with the payment of Rs. 44.58 lakhs vis-a-vis the original contract value of Rs. 28.58 lakhs and has been pressing the Railways to refer his case to arbitration. It has been stated that Railway Board have after examining the points raised by him directed the Railway Administration to grant arbitration on 7 out of 9 issues which had not been covered in his plan for arbitration earlier. The Committee would like to be apprised of the outcome of the arbitration proceedings in due course.

1.77. From the foregoing paragraphs the Committee cannot but conclude that from the very beginning the planning of the Wheel and Axle Plant being set up at Bangalore was not done with adequate care and in sufficient details. There was complete absence of seriousness and coordination among the concerned Ministries, which the Committee feel is a very serious matter. Even before the clearance for the project had been given by the Planning Commission and the Ministry of Finance in 1978, the Ministry of Railways had already entered into a collaboration agreement with the foreign firm in 1974 and had also concluded contract for earthwork after inviting tenders in March, 1975. The delay of about 7 years in final clearance of the project has pushed up the cost estimates of the project from Rs. 38.39 crores to Rs. 129.65 crores. Further, the assessment of the earthwork to be done on the plant site was made without proper soil investigations and on the basis of inadequate data. Even the lay-out of the plant in north-south direction was not finalised before inviting tenders for earthwork with the result that the Railway had to incur an additional expenditure of more than Rs. 16 lakhs on the earthwork. The Committee feel concerned about the haphazard nature of planning done in this case. They expect that all-out efforts will now be made to complete the project within the stipulated period i.e. by June, 1982.

NEW DELHI;
April 22, 1981

Vaisakha 2, 1903 (Saka)

CHANDRAJIT YADAV
Chairman,
Public Accounts Committee.

APPENDIX

Conclusions/Recommendations

Sl. No. 1	Para No. 2	Ministry/Deptt. Concerned 3	Conclusions/Recommendations 4
1.	1.61	Railways	The Committee find that as early as 1971, the Railway Board felt the necessity of seriously considering the setting up of a Wheel and Axle Plant under the Railway Administration to supplement capacity in Hindustan Steel, Durgapur and Tata Iron and Steel Company. It was then assessed that indigenous production being insufficient the Railways were importing 40 to 50 per cent of wheels, axles and tyres costing about Rs. 6 to 7 crores per annum. Apart from the heavy drain of foreign exchange on account of the imports of wheels and axles, the cost of imported set was roughly three and a half times the cost of indigenous wheel set. According to the Railway Board financing of wheel imports and delays in supplies from abroad had also adversely affected wagon production and rolling stock maintenance from time to time. It was in this context that on 3 February 1972, the then Minister of Railways had in his budget speech for 1972-73 announced in Parliament the Railways' decision to set up a wheel and axle plant.

2. 1.62 -do- From the information made available to them the Committee find that Railways' case for setting up the plant had been cleared by various Ministries and the Planning Commission by July 1972. The proposal for the collaboration arrangements for the plant was approved by the Foreign Investment Board in October 1973 and by the end of 1973 the investment decision had also been taken. The overall investment on the plant was then estimated at Rs. 21 crores and after taking an investment decision, the project was sanctioned, voted and passed by the Parliament through 1973-74 Railway Supplementary Budget.
3. 1.63 - do- The Railway Board approved the setting up of this plant on 16th August, 1974 on an urgency certificate for an amount of Rs. 135 crores. The Abstract Estimate prepared by the Railway Board in June 1975 assessed the cost of the project at Rs. 38.6 crores. The abstract estimate was sanctioned by the Railway Board only in November, 1977. The Committee were informed that the Plant was finally cleared by the Planning Commission and the Cabinet in 1978. The revised estimate prepared in October, 1980 which is stated to be still under scrutiny in the Railway Board assumes the present cost of the project at more than Rs. 129 crores.
4. 1.64 —do— The Committee are concerned to note that the project which was first conceived in 1971 was finally sanctioned by the Planning Commission and the Cabinet only in 1978 *i.e.* after a lapse of about 7 years. During this period the estimated cost of the project had gone up by more than six times. It is seen that the project evaluation made by the Railway Board in 1973-74 had revealed that the plant was viable and financially justified. It was also expected that a recurring net annual saving of about Rs. 8 crores in foreign exchange would be possible when the plant capacity

was achieved. In view of the above why the clearance of the project which was approved on an urgency certificate basis took so much time is not clear to the Committee.

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Railways

Apparently, both the Planning Commission and the Ministry of Finance had some reservations on the need for putting up a separate wheel and Axle Plant under the auspices of the Ministry of Railways particularly in the context of the optimal use of the production from Durgapur Steel Plant and its capacity. But the manner in which the Ministry of Railways have proceeded in the matter reveals that either there was complete absence of seriousness and coordination among the concerned Ministries/Departments or the Railways had taken the investment decision in a hurry. The Committee find that even before the Ministry of Railways approved the setting up of the wheel and Axle Plant on 16 August, 1974 on an urgency certificate, a collaboration agreement with a foreign firm for setting up a factory to manufacture wheels had already been entered into in April, 1974. Further much before the necessary clearance from the Ministry of Finance and Planning Commission came in 1978, the Railways had already entered into commitments for earthwork etc. after inviting tenders in March, 1975. The question of the advance planning done in this case has to be considered in the light of the fact that the final clearance for the project came much later and the entire expenditure incurred could have been rendered infructuous in case the Planning Commission or the Finance Ministry had not been convinced of the inevitability of the project. The Committee cannot

but express their displeasure at the haphazard nature of planning done in this case.

6.

1.66

-do-

It is seen that the original anticipated cost of Rs. 38.39 crores for setting up of the Wheel and Axle Plant had by current estimate already gone up to Rs. 129.65 crores. The total cost was likely to go up further as the project progresses towards its completion date which is still two-three years away. Much of the escalation in the cost of the project was due to the delay in the final clearance of the project. According to the Railway Board the "delay of the project has affected the total cost of the project as there has been continuous inflation as a result of hike in the petroleum products regularly which in turn has caused a steep price escalation all round the world. The Railway Ministry could not go ahead with the project as other Ministries were involved". The Committee cannot fully agree with this explanation. If the Government were conscious of the rising trend in the prices, it was all the more necessary that the execution of the project should have been hastened. It appears that one of the reasons for higher estimates in later years was that the estimates were not prepared realistically initially. The delay has not only pushed up the cost of the plant several fold but it has equally proved a serious drain on the foreign exchange resources of the country which could have been avoided to a great extent if the plant had been commissioned earlier. This is regrettable to say the least.

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1.67

-do-

The Committee have been informed that various works in the plant are at different stages of construction and orders have been placed for several items of machinery and equipment. It has been stated that the target



date for completion of the project was being reviewed from time to time. At the time of preparation of abstract estimate in 1975 the anticipated date for completion for both Wheel and Axle Units was envisaged as December, 1978. This has since been reconsidered and it is now expected that the wheel shop will commence production by June, 1982 while the Axle Plant would be ready by June, 1983. The Committee need hardly emphasise that all efforts should be made to ensure that the target dates are adhered to and no further slippage is allowed to hamper the completion of the project in time.

8.

1.68

Railways

When a Study Group of the Committee visited the plant site in October, 1980, they were informed that the General Manager and Chief Engineer (Construction), Southern Railway was incharge of the Civil Engineering Works of the Wheel and Axle Plant when the layout of the wheel unit was submitted by the collaborators. At that time there was no separate post of General Manager or Chief Engineer for wheel and axle plant and the work was left to be handled by junior officers. The Committee were informed that full time General Manager and Chief Engineer were appointed only in 1978. The Committee are not happy with this sort of arrangement. They are of the view that in the plants of this magnitude a General Manager/Chief Engineer should be in position right from the beginning and as far as possible should remain associated throughout their execution so that it should be their responsibility to plan properly the layout and execution of the project. The Committee understand that this practice is already being followed in the case of such major projects under other Ministers.

9.

1.69

-Do-

That the planning for the works connected with the Wheel and Axle Plant has not been done with adequate care and in sufficient detail is clearly borne out by the facts of the case discussed in the later part of this Report. It is seen that on the basis of the preliminary layout furnished by the collaborators a tentative layout plan which had east-west orientation was drawn up by the Railway Administration in January, 1975. Tenders were then invited in March, 1975 for earthwork for levelling of land and forming-banks etc. on the site area. After the tenders had been called in March, 1975, surprisingly enough the Plant Administration suddenly became wiser and decided in April 1975 to change the layout from east-west to north-south direction, as this revised layout was considered to have the advantage of better facilities for yard operation and availability of more area for future expansion of the factory. The Committee regret to point out that even such vital and obvious factors were not kept in view while preparing the first layout, on the basis of which tenders had been invited.

37

10.

1.70

-Do-

The Committee further note that the Railway Administration had also decided that the revised layout in the north-south direction should be got cleared by the collaborator before field works were started. However, contrary to this the Railway Administration did not wait for the formal approval of the collaborator to the revised layout and proceeded apace to finalise the contract for the earthwork in September 1975 and the contractor was permitted to commence the work on 4 October, 1975 much before the formal agreement with the contractor was executed in November, 1975. The Committee are surprised at the undue haste shown by the Railway Administration in rushing through the works without adequate

planning, particularly when it was known that the project had not even been finally cleared by the Planning Commission or the Ministry of Finance. The Committee are also distressed to note that the haste shown in pushing the contract through at the initial stage was not manifested in its execution as the earth work took 50 months for completion as against 11 months provided in the agreement. Slow pace of execution of the work was partly responsible for escalation in its cost also.

1.1

1.71

Railways

The Committee find that the quantities of work indication in the tenders invited in March, 1975 were only tentative and approximate. Even though the decision on the change in the layout of the factory had been taken by the Administration as early as in April, 1975 and the quantities of earthwork as per revised layout in north-south direction had also been reassessed before the award of the contract in September, 1975, no effort was made to have the revised quantities incorporated in the contract. According to the Railway Board, at the time of assessment of the quantities for east-west and north-south layouts in April, 1975, only a preliminary layout furnished by the collaborators was available based on which the layout plants had been prepared for east-west and north-south orientations. The conceptual plan was approved only by January, 1976 and the exact location of various shops etc. was decided much later. The revised quantities of earthwork and the lead could therefore be realistically ascertained only in February, 1977 and thereafter during the course of the work. This only goes to prove to the planning for the work had been done with inadequate care and the estimates of work were prepared in a perfunctory manner.

This is unfortunate. The Committee take a serious view of this lapse and would like to emphasise that the final scope of the work should be fully determined before tenders are invited.

12.

I.72

-Do-

One of the reasons given by the Railway Board for non-inclusion of the revised quantities of earthwork in the contract of September, 1975 was that having made a comparative assessment of the quantities between east-west and north-south layout in April, 1975 and finding that the quantity was more or less the same need was not felt to revise the quantities at the time of awarding the contract. It has also been stated that as the difference in the total quantity taken together (the earthwork in hard rock and other than hard rock) was a reduction of 34,600 cum. it was not considered necessary to revise the quantities in the contract. Both these explanations lack validity because of the fact that the estimates of the earthwork excavation in hard rock had gone up by 10 times in the revised assessment and this definitely called for a review. Unfortunately, this lack of foresight adversely affected the interests of Railways.

39

13.

I.73

-Do-

Another important factor having serious financial implications that was overlooked by the Railway Administration in their exuberance to finalise the earthwork contract at the earliest was the question of lead. With the change in the layout from east-west to north-south orientation it was only natural that the element of lead would undergo a substantial change in a rectangular type of plot (855 metres by 362 metres). This important and far-reaching aspect of the matter was obviously not considered at that stage. In this context the explanation now given by the Railway Administration that "after all the details of the scheme had been finalised and fixed at side, that it became apparent that average lead for earthwork was likely to increase beyond 400 metres" is hardly convincing.

1	2	3	4
14.	1.74	Railways	<p>The Committee are distressed to note that as revealed by the correspondence exchanged between Audit and the FA&CAO, Wheel and Axle Plant in December, 1979, no precise assessment appears to have been made at any time in regard to the excavation in hard rock. No wonder therefore the quantity of hard rock excavation originally assessed at 600 cum. went up to 11,500 cum. i.e. an increase of 1,817 per cent over the original estimates. This only demonstrates how haphazardly the plans for the plant had been drawn up by the Railway Administration.</p>
15.	1.75	-Do-	<p>From the above it is clear that the planning for the work had not been done with adequate care and in sufficient detail in the initial stages. This has entailed an additional expenditure of the order of Rs. 16 lakhs, as against the original contract value of Rs. 28.58 lakhs, the total payment to the contractor for earthwork was Rs. 44.58 lakhs. The Committee cannot but deprecate such wasteful and avoidable expenditure arising out of inadequate initial planning.</p>
16.	1.76	-Do-	<p>The Committee also find that the contractor for earthwork has not been satisfied with the payment of Rs. 44.58 lakhs <i>vis-a-vis</i> the original contract value of Rs. 28.58 lakhs and has been pressing the Railways to refer his case to arbitration. It has been stated that Railway Board have after examining the points raised by him directed the Railway Administration to grant arbitration on 7 out of 9 issues which had not been covered in his plan for arbitration earlier. The Committee would like to be apprised of the outcome of the arbitration proceedings in due course.</p>

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From the foregoing paragraphs the Committee cannot but conclude that from the very beginning the planning of the Wheel and Axle Plant being set up at Bangalore was not done with adequate care and in sufficient details. There was complete absence of seriousness and coordination among the concerned Ministries which the Committee feel is a very serious matter. Even before the clearance for the project had been given by the Planning Commission and the Ministry of Finance in 1978, the Ministry of Railways had already entered into a collaboration agreement with the foreign firm in 1974 and had also concluded contract for earth work after inviting tenders in March, 1975. The delay of about 7 years in final clearance of the project has pushed up the cost estimates of the project from Rs. 38.39 crores to Rs. 129.65 crores. Further, the assessment of the earth work to be done on the plant site was made without proper soil investigations and on the basis of inadequate data. Even the lay-out of the plant in north-south direction was not finalised before inviting tenders for earthwork with the result that the Railways had to incur an additional expenditure of more than Rs. 16 lakhs on the earth work. The Committee feel concerned about the haphazard nature of planning done in this case. They expect that all-out efforts will now be made to complete the project within the stipulated period *i.e.* by June, 1982.

20. Atma Ram & Sons,
Kashmere Gate,
Delhi-6.
21. J. M. Jaina & Brothers,
Mori Gate, Delhi.
22. The English Book Store,
7-L, Connaught Circus,
New Delhi.
23. Bahree Brothers,
188, Lajpatrai Market,
Delhi-6.
24. Oxford Book & Stationery
Company, Scindia House,
Connaught Place,
New Delhi-1.
25. Bookwell,
4, Sant Narankari Colony,
Kingsway Camp,
Delhi-9.
26. The Central News Agency,
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New Delhi.
27. M/s. D. K. Book Organisations,
74-D, Anand Nagar (Inder Lok),
P.B. No. 2141,
Delhi-110035.
28. M/s. Rajendra Book Agency,
IV-D/50, Lajpat Nagar,
Old Double Storey,
Delhi-110024.
29. M/s. Ashoka Book Agency,
2/27, Roop Nagar,
Delhi.
30. Books India Corporation,
B-967, Shastri Nagar,
New Delhi.

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