

HUNDRED AND FIFTH REPORT
PUBLIC ACCOUNTS COMMITTEE
(1986-87)

(EIGHTH LOK SABHA)

**PROCUREMENT AND UTILISATION
OF TANK WAGONS**

**MINISTRY OF RAILWAYS
(RAILWAY BOARD)**



Presented to Lok Sabha on 30.4.1987

Laid in Rajya Sabha on 30.4.1987

**LOK SABHA SECRETARIAT
NEW DELHI**

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CORRIGENDA TO THE 105TH REPORT OF THE PUBLIC
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*Not printed. One cyclostyled copy laid on the Table of the House and 5 copies placed in Parliament Library.

**COMPOSITION OF THE PUBLIC ACCOUNTS COMMITTEE
(1986-87)**

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(iv)

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1. Shri K. H. Chhaya—*Joint Secretary.*
2. Shri Krishnapal Singh—*Senior Financial Committee Officer.*

INTRODUCTION

I, the Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf this 105th Report of the Committee on Paragraph 1 of the Advance Report of the Comptroller and Auditor General of India for the year 1983-84, Union Government (Railways) on Procurement and Utilisation of Tank Wagons.

2. The Advance Report of the Comptroller and Auditor General of India for the year 1983-84, Union Government (Railways) was laid in Lok Sabha on 10 May, 1985.

3. The Committee in this Report have observed that Oil Coordination Committee's projections which were the basis for planning procurement of unipurpose tank wagons by the Railway were not based on realistic perspective estimation and consequently a large number of tank wagons (approximately 15 per cent in 1981-82 and 12 per cent in 1982-83 in terms of the capacity created) had remained idle.

These unrealistic traffic projections by the Oil Coordination Committee is a sad commentary on the demand estimation and projection of Railways share of POL traffic in tank wagons. The Committee expect that greater indepth study be made by the Ministry of Petroleum and Natural Gas in future so that percentage of error in making demand estimation for POL traffic in tank wagons is reduced to a tolerable minimum.

4. An analysis of the quantum of POL traffic in tank wagons for transport by rail as per figures available during the 3 years from 1980-81 to 1982-83 during the Sixth Plan period has revealed that against projections of 18.8, 19.6 and 19.7 million tonnes in 1980-81, 1981-82 and 1982-83 respectively, the targets fixed by the Planning Commission were 15, 15.7 and 16 million tonnes only. The Committee have wondered why the Ministry of Railways (Railway Board) did not try to find out reasons for fixation of lower targets *vis-a-vis* Oil Coordination Committee projections. The substantial gap of about 3 MTS between Oil Coordination Committee projections and the Planning Commission targets strengthens the belief of the Committee that the Planning Commission was aware of non-materialisation of anticipated consumption of naphtha and furnace oil on account of delay in completion of fertiliser projects. The Committee have observed that had the Ministries then with a little foresight kept vigil over the stage of commissioning of the proposed projects, a lot of scarce resources could have been saved from idle investment.

5. According to the Ministry of Railways (Railway Board), the overall movement of petroleum and diesel in the country exceeded its target fixed by the Planning Commission in each month since 1981-82. However, at micro level the loading by the Railways had not been according to the slate fixed by the Oil Industry. The shortfall in loading *vis-a-vis* the slate was 7.2 per cent in 1980-81, 8.5 percent in 1981-82, 10.2 per cent in 1982-83 and 10.9 per cent in 1983-84. The Committee have observed that this easily could have been avoided with so much of surplus of tank wagons at their disposal. The Committee have desired that the Ministry of Railways (Railway Board) should keep the position under constant review and make sustained efforts to minimise shortfalls in loading at micro levels. With this end in view the Committee would like the Ministry to undertake a thorough study with a view to identifying the locations where shortfall in loading habitually take place and exploring ways and means to ensure adequate supply of suitable wagons as per requirement.

6. The provision of adequate terminal facilities is crucial to the efficient functioning of the transport capacity created for POL tank wagons. Whether it is a question of avoidable terminal detentions or excessive turn-round resulting in poor availability of wagons for loading or road-bridging due to paucity of tank wagons or abnormally high detention to LPG wagons—all these deficiencies can be overcome to a considerable extent by strengthening infrastructural facilities. The Committee are informed that the oil industry in June 1981 indicated the need for additional tankage of 3.16 million kls. by 1986-87 requiring estimated financial outlay of Rs. 148 crores. Because of constraint of resources expansion of tankage capacity is being done in a phased programme. The Committee are further informed that 43 BG and 12 MG terminals receiving POL traffic still lack facilities for handling full block rakes and matching facilities by the oil industry. As these facilities are essential inputs for better utilisation of tank wagons and optimisation of Railways productivity, the Government ought to have gone in for integrated programme for development of these facilities along with the procurement of tank wagons during Sixth Plan. The Committee have felt that constraint of resources should not be allowed to come in the way of development of these facilities. The Committee are of the firm opinion that provision of infrastructural facilities for handling POL traffic are to be accorded high priority in order to ensure that heavy resources already invested are optimally utilised. The Committee have desired that there should be a time bound programme of development at the earliest and it should be adhered to also.

7. The Public Accounts Committee (1986-87) examined this Paragraph at their sittings held on 4th and 6th August, 1986. The Committee

considered and finalised this Report at their sitting held on 24th April, 1987. The Minutes* of the sittings form Part II of the Report.

8. 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 II to the Report.

9. The Committee place on record their appreciation of the commendable work done by the Public Accounts Committee (1985-86) in obtaining information for the Report.

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

11. 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;
28, April 1987
8, Vaisakha 1909(Saka)

E. AYYAPU REDDY
Chairman,
Public Accounts Committee

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

REPORT

PROCUREMENT AND UTILISATION OF TANK WAGONS

Audit Paragraph

1.1 The Audit Paragraph Procurement and Utslisation of Tank : Wagons as appearing in the Advance Report of C&AG of India for the year 1983-84, Union Government (Railways) is reproduced as Appendix to this Report.

Introduction

1.2 Petroleum products constitute an important high rated freight traffic carried by the Indian Railways and are an essential input for industry and agriculture in the country. These account for 7.6 per cent of total traffic in tonnes and 12.5 per cent of revenue from goods. Unlike general goods, the transport of petroleum products (POL) requires use of special type of tank wagons.

The total fleet of such tank wagons (including those for carriage of vegetable oils, molasses, etc.) owned by Railways at the end of 1983-84 was 30,666 (BG) and 4,901 (MG).

A. Growth of POL traffic aud procurement of tank wagons

1.3 The table below gives details of growth of petroleum products and Railways' share of traffic during the years 1977-78 to 1983-84.

(Figures in thousand tonnes)

Year	Production	Imports	Consumption*/ Sales	Percentage increase	Transported by				
					Rail@	%Increase	Pipe line	Coas- tal liners	Road
1	2	3	4	5	6	7	8	9	10
1977-78	23,219	2,879	25,539	...	13,062	—	...	2,300	...
1978-79	24,193	3,878	28,241	10.6	14,302	9.5	...	2,800	...
1979-80	25,794	4,724	29,833	5.8	14,266	0.3	4501	2,850	...
1980-81	24,123	7,289	30,896	8.4	14,954	4.8	4650	2,654	8216
1981-82	28,182	4,884	32,523	5.3	16,955	3.4	4906	3,171	7250
1982-83	31,067	5,028	34,657	6.6	17,342	2.3	5030	2,789	8780
1983-84	32,886	4,052	35,601	2.7	17,949	3.3	6730	3,630	6436

* Excludes refinery fuel.

@ Revenue earning traffic only.

1.4 It will be observed that while the consumption of petroleum products increased by 39.4 per cent during the period 1977-78 to 1983-84, the POL traffic carried by Railways increased by 37.1 per cent only. The rate of growth of traffic on Railways was 6.2 per cent simple (5.4 per cent compound) against the rate of 6.6 per cent (5.7 per cent) in consumption, indicating a small decline in railway share of traffic. The Railways' share of traffic had increased from 51.1 per cent in 1977-78 to 52.1 per cent in 1981-82, but declined to 50.3 per cent in 1983-84.

1.5 The growth of traffic on Railways has not been steady and corresponding to the growth in consumption. For instance in 1979-80, the POL traffic was stagnant while the consumption increased by 5.8 per cent. Similarly in 1982-83 the traffic increased by 2.3 per cent only against 6.6 per cent increase in consumption.

1.6 POL traffic had increased at an average rate of 6.2 per cent per year. However, the holding of tank wagons had increased at a much faster rate as indicated below :

Year	Broad gauge		Metre gauge	
	Traffic* originating (thousand tonnes)	POL tank wagon holdings	Traffic* originating (thousand tonnes)	POL tank wagon holdings
1978-79	11,871	19,951	2,829	4,573
1979-80	12,027	21,104	2,674	4,622
1980-81	12,667	23,047	2,706	4,747
1981-82	14,441	25,999	2,750	4,629
1982-83	15,316	28,101	2,741	4,376
1983-84	16,122	28,702	2,681	4,162

1.7 It will be seen that between 1978-79 and 1983-84, on the broad-gauge (which carries about 85 per cent of POL traffic) the tank wagon

*Includes diesel for railways.

(Note :—The traffic shown above includes traffic moving by conventional wagons. Such traffic is approximately 10 per cent of total traffic).

holdings had increased by 44 per cent against 35 per cent increase in traffic. The capacity created by way of addition to the tank wagons fleet in successive years was far ahead of the materialisation of traffic. Besides, even in the years 1979-80 and 1980-81 the utilisation of tank wagons was not intensive.

Procurement of tank wagons during Sixth Plan

1.8 (i) A study of requirement of tank wagons for handling POL traffic during the period 1978-83 was done by Railway Board in September 1979. Taking into account the average annual growth rate of around 7.7 per cent (simple) in the POL traffic, it was expected that 18 million tonnes would be required to be handled by Railways in 1982-83. The growth was primarily expected to be on BG.

(ii) The study assumed that with the commissioning of Mathura Refinery there would be a reduction in lead & the turn-round would be 11.2 days on BG. The additional tank wagons required over the fleet on 31st March 1979, to carry the anticipated 18 million tonnes of POL traffic in 1982-83 and additional traffic in edible oils, molasses etc., requiring use of tank wagons were assessed as :

	(wagons in units)	
	BG	MG
(a) Additional tank wagons required for POL traffic	4,824	321
(b) For traffic anticipated in edible oils, molasses etc.	1,150	—
(c) On replacement account	116	151
Total	6,090	472

The assessment made in the study report was accepted by the Railway Board.

1.9 At the instance of the Committee, the Ministry of Railways (Railway Board) have furnished a note explaining the position regarding procurement of tank wagons as under :—

'In the year 1979, the Oil Coordination Committee submitted proposals regarding anticipated consumption of the petroleum products and the projections relating to the share of rail borne traffic, for the Sixth Five Year Plan period. It was indicated in the Report that by the year 1982-83, Railways would be required to lift 19.7 million tonnes of petroleum products. Accordingly, Railways undertook a study for the procurement of additional tank wagons, to lift the additional traffic forecast by the Oil Coordination Committee. This study was based on the past performance of the oil sector. During the preceding four years of the Fifth Five Year Plan, the growth of POL traffic on the Railways was 21.5% which worked out to an average annual growth of 5.4% (simple). If the projections furnished by the Oil Coordination Committee were to be accepted, it would imply an annual growth rate of 10.2% (simple) in the rail transportation of POL traffic with the performance of 1977-78 as the base (Railways lifted 13.06 million tonnes of traffic during that year). Therefore, Oil Coordination Committee's projections were considered to be on the high side and unlikely to materialise. Therefore, it was considered that it would be adequate to plan on the basis of handling 18 million tonnes of POL traffic by 1982-83 which worked out to an average annual growth rate (simple) of 7.7% over 1977-78. Hence, this study concluded that for the Sixth Five Year Plan, 6090 BG and 943 MG tank wagons have to be procured to lift additional traffic.

Consequent to this study, there were detailed discussions regarding future projections of petroleum demand in the country, with the Cabinet Committee on Industrial Infrastructure as well as Ministry of Petroleum. In one of the meetings of the Cabinet Committee on Industrial Infrastructure on 21.3.1980, Shri Virendra Patil, Minister of Petroleum indicated that Railways had not made adequate provision for the procurement of tank wagons to lift the projected growth of petroleum products. He was of the view, that Railways should conform their planning for procurement of additional tank wagons with the projections given by Oil Coordination Committee, which were indicated to be 19.7 million tonnes in the year 1982-83. A similar view was also expressed by the Secretary to the Prime Minister. On the basis of this meeting a further study (May 1980 and August 1980) was undertaken

by the Railways and orders were placed for procuring 11,476 tank wagons against the earlier assessment of 6090 on B.G. and 943 on M.G. i.e. total of 7033 tank wagons.

The period during which these discussions and planning was being formalised was a time, when there was an acute shortage of petroleum products in the country bringing forth disruption to the industrial and transport activity in the country. Less availability of diesel had brought forth speculation in this commodity.

Railways, as the core transport sector of the economy, are always asked to plan infrastructure, by the Planning Commission as well as other Ministries to match the offer of traffic from the other core sectors. The Railway Reforms Committee had also indicated that the transport capacity of the Railways should match and in most of the cases, should normally be 10% more than the requirement, forecast by other sectors to ensure that there are no transport bottlenecks leading to disruption in the economy of the country."

1.10 Explaining the position on procurement of tank wagons in excess of requirement, the Chairman, Railway Board, stated during evidence :

"The procurement of rolling stock is done on the basis of projected demand from the users' organisations and the Ministries in consultation with the Planning Commission. On the basis of projection received and sometimes on the basis of past experience, there was a criticism that Railways did not procure adequate number of tank wagons leading to problems of shortage. This was in the year 1982. This matter was brought up by the Ministry of Petroleum and it was asked why the Railways had not made adequate arrangements for the procurement of sufficient wagons in keeping with the demand that was placed by the Oil Coordination Committee. So, arrangements were made for the procurement of wagons in the light of this, to the extent the OCC had projected. This lead to some surplus wagons."

1.11 In response to a query, the Chairman, Railway Board, clarified :—

“Some excess is permissible. The requirement of POL wagons is around 28620* and the wagons already in position were 28891. So, there is a surplus of 271 wagons. In percentage terms it comes to 1% only. It is better to have surplus in order to avoid shortage.”

1.12 The Member (Traffic), Railway Board, added :

“The Secretary (Coordination) calls the meeting of all the concerned Ministries and then sector-wise movement is fixed up. These targets which were fixed by the Planning Commission, we have consistently been going above the target. For instance, in 1981-82, the target fixed was 15.70 million tonnes and we moved 16.56 million tonnes. In 1982-83 our target was 16 million tonnes and we moved 17.35 million tonnes. In 1983-84 our target was 17 million tonnes and we moved 17.95 million tonnes. In 1984-85 our target was 18 million tonnes and we moved 18.14 million tonnes. In 1985-86 our target was 18 million tonnes and we moved 18.62 million tonnes.

About the point as to why there was excess procurement of wagons, I would like to submit that in November, 1977 we were told that we should plan for 18 million tonnes of traffic for the year 1982-83. This figure was given by the Oil Coordination Committee. We planned for it and provided the wagons. After a year, in April, 1979, this target was revised to 19.7 million tonnes. So, this target for 1982-83 had been revised. After all, we are part of the Government and when it is decided at higher level that we should make a provision for more wagons, we have to make it.

In the Secretaries Coordination Committee meeting (held on 6th May, 1986) it was stated that Railways have planned for movement of 267 million tonnes traffic. Even in the last meeting we said that we had made a provision for moving 267 million tonnes traffic. The Secretaries Coordination Committee decided that it should be raised to 272 million tonnes. So, we went ahead with this.

*According to a post-evidence note, figure for requirement of tank wagons is 28,320 against the figure holding of tank wagons during 1985-86 of 28891. On that basis surplus comes to 2 percent.

The situation which we faced in 1979-80, we are facing it even now. Even though the Karnal Refinery is now to come up, we have been asked to provide more wagons. We have represented that these wagons once provided will again become surplus after the Karnal Refinery has come up. At present IOC has written to us that our present fleet of tank wagons will not be sufficient to move all the petroleum traffic. So, they said we must provide more wagons. We have said that after about four or five years, after the Karnal Refinery has come up, there will be a drop in the demand. So, we said if there is a heavy procurement now, again we will have a similar Audit para. This was discussed in the Cabinet Committee and there a decision has been taken by the Government. This meeting was held on the 31st December 1985. They have decided that to meet the high demand of petroleum products in the North-West region during 1986-87 and 1987-88, it would be necessary to move additional supplies from Kandla. For this purpose they have said that the Railways should ensure availability of additional 1,300 wagons by November 1986 and another 1,300 by May 1987. The additional tanks required would be funded by the Railways. So, even now we have got a situation where we will have to provide for more wagons and they may become again surplus after the Karnal Refinery comes up. You will realise that these are very important products and we cannot have a shortage of these products even for two or three years. So, the Government takes a stand that some increase may be done to tide over the crisis in the next three-four years."

1.13 On an enquiry of the Committee whether a joint study was undertaken by the Ministries of Railways (Railway Board) and Petroleum and Natural Gas to determine the quantum of POL traffic to be moved by rail, the Ministries of Railways and Petroleum have intimated :—

"The initial study was undertaken by the Railways only. However, provision of additional tank wagons, over and above the earlier study, was undertaken by the Railways after detailed deliberations with the Ministry of Petroleum, and Cabinet Committee on the Industrial Infrastructure.....No joint studywas undertaken."

1.14 The requirement of tank wagons and the holding of tank wagons on the broad-gaugesystem for petroleum products during each year of the Sixth Five Year Plan has been as under :—

Year	Requirement	Holding	Surplus
1980-81	21,780	23,360	1580
1981-82	24,200	26,194	1994
1982-83	27,400	28,364	964
1983-84	27,860	28,733	870
1984-85	28,320	28,891	571

1.15 The Committee desired to know the basis for giving projection of 19.7 million tonnes of POL traffic according to which the Railway planned procurement of tank wagons. The Joint Secretary, Ministry of Petroleum and Natural Gas stated :

“The estimate of the demand at that time was based on a study made by the Indian Institute of Petroleum, Dehradun and made available to our Ministry. It was on that basis that the figure of 19.7 million tonnes of railway traffic was worked out and communicated to the Railways.”

1.16 In their subsequent communication dated 19 February, 1987, the Ministry of Petroleum and Natural Gas have clarified :—

“IIP in its report dated September 1978 had attempted demand estimation for petroleum products (1978-79 to 1982-83) and perspective projections (1983-84 to 1987-88). The total demand for POL products in 1982-83 as assessed by IIP was 37.95 MTs. On the basis of these projections, the quantum (of 19.7 M.T.s) of POL traffic to be moved by Railways was assessed by OCC, using the computer distribution model. In this distribution model it had *inter-alia* been assumed that all movements of POL products would be made by the most economic modes of transport. Railways were kept posted regarding estimates of Railway traffic.”

1.17 Giving the background of projection for demand estimates for

movement of rail borne POL traffic, the Chairman, Indian Oil Corporation, stated :

“The demand estimation is a complicated exercise. It is done after consulting all the user Ministries including the Planning Commission..... It takes into account the projections in the various sectors of the economy as to what will be the demand for example from the power sector and the like. There were frequent price increases in order to conserve the petroleum products. Therefore, the consumption was less and as a result of which if the Railways, forecast was based on the original figure, some variation also took place”.

The Joint Secretary of the Ministry of Petroleum and Natural Gas added :

“The Railway traffic agreed upon for the year 1980-81 was 18.8 million tonnes. It was 19.6 million tonnes for the year 1981-82 and 19.7 million tonnes for the year 1982-83.”

1.18 Explaining the factors that are taken into consideration for demand estimates, the Chairman, Indian Oil Corporation, stated :—

“The exercise on demand estimation for petroleum products is quite complex. We take into account many factors. First is the trend analysis which we take into account. Based on the historical records the overall growth rate of a particular product like HSD is estimated. The second factor we take into account is the end use. Thirdly we do the econometrics exercise. We develop mathematical equations which take into account all relevant factors. Fourthly, there are certain factors which we are not able to estimate. Normally we go by the fact that coal will be available, power will be available for their respective users. When there is a shortage of these items in the country, naturally the pressure on the petroleum products will increase. The other factors which is much more difficult to estimate is the impact of price hike. The price of petroleum products have increased on successive occasions during the the Sixth Plan. It had affected the consumption. Consumption was brought down.”

1.19 In regard to storage capacity, the Chairman, Indian Oil Corporation, stated :

“We used to have a storage of 15 days. Today the position is that we are having a storage capacity of 38 days. In 1979-80 it was not that much.”

1.20 Explaining the position further, the Chairman, IOC, stated :

“Simply looking at petroleum consumption in isolation of the entire energy sector does not give us the correct picture. Petroleum consumption in India is a highly fluctuating affair. If there is no power, if there is shortage in coal and kerosene, consumption of HSD goes up.

After 1979-80 a considerable amount of sophistication in the collection of data, analysis of data and presenting it on monthly basis have been achieved. We have made considerable progress and it is our endeavour that the type of discrepancies that have arisen in the past few years should not arise in the future. I would like to assure the Chairman that our endeavour at all times is to see that our forecast do not go completely out of line.”

1.21 In this connection, the Joint Secretary and Financial Adviser of the Ministry of Petroleum and Natural Gas added :

“.....after estimation of the indigenous production and the import requirement, attempts are always made to keep down the level of consumption so that petroleum and petroleum products are conserved. Hence it is likely that the net result is a gap between what is estimated and what is actually consumed. The resultant gap would be in country's interest.”

1.22 Explaining the reasons for shortfall in materialisation of POL consumption, the Chairman, Indian Oil Corporation, stated :—

“In the cases of Naptha demand estimates are collected from the major consumers. Those estimates are verified and adopted in our report for long range planning purposes. The estimates made by IIP in 1978-79 for Naptha consumption in 1982-83 was 4 million tonnes. Actual consumption of naptha

was less than 3 million tonnes, over which the oil industry of the Petroleum Ministry has hardly any control. The second product is furnace oil. This product is to be consumed by three major sectors, general trade, power houses and fertiliser plants. We have done analysis for 1982-83. Out of a total shortfall of 3 million tonnes in actual materialisation over the demand estimation in addition to a shortfall of approximately 1 million tonnes in Naptha, 1.46 or 1.5 million tonnes is accounted by furnace oil. We when further analysed out of this 1.5 million tonnes fertiliser and power sector consumed approximately 1 million tonnes less. These are again consumer oriented demands, where the consumer indicates their requirement for the next few years. We have no other option except to accept the figure, after verification by the Ministry.

In the cases of furnace oil, the plant which were supposed to come up, did not come up. For example, Kakinada and Haldia Fertiliser plants got delayed. So also, there was delay in the expansion of IPCL which affected Naptha. These are some of the major consumers. Because of the delay, there was a fall in the consumption."

1.23 As to a query whether they wanted to err on the safe side, the Executive Director, Oil Coordination Committee, submitted :

"Not us, Sir. On the contrary these are the demand projections given by the consumers and perhaps they want to err on safeside, which we have accepted. In the case of others, let me clarify that the estimates of the oil industry are very accurate. We have with us monthly information ready upto the months of June and July. We are able to compile all-India monthly sale statistics on a provisional basis within 15 to 20 days after the month is over."

1.24. As regards the projections made by the Oil Coordination Committee for the years subsequent to 1982-83 and their clearance by the Planning Commission, the Ministry of Petroleum and Natural Gas in a subsequent note have stated as follows :—

"Demand projections made in the Oil Coordination Committee

Report of June 1983 for the remaining years in the Sixth Plan are given below :

Figures in Million Tonnes

Year	OCC Report June' 1983
1983-84	37.00
1984-85	39.67

The rail traffic projections for the year 1982-83 were based on the demand projections made by IIP in rolling report No. 3.3.1 of September, 1978. However, the IIP demand projections were reviewed by OCC on the basis of latest trends which were discussed at meetings held in the Ministry of Energy in October, 1982 and December, 1982 which were also attended by representatives of other agencies like Planning Commission, Department of Economic Affairs, Railways, etc. The demand projections were finalised on the basis of these discussions.

It would be noticed from the above that both the Planning Commission and Railways were associated with and aware of the demand projections."

1.25 When enquired whether the excessive projections made by the Oil Coordination Committee were intimated to the Planning Commission, the Ministry of Petroleum and Natural Gas have stated :—

"There is no established formal system of informing the Planning Commission regarding variations between demand estimates and actual consumption. However, they are aware of the demand estimates and the actual consumption, among other things through periodical reviews, the annual plan discussions and the mid-term review of the Five Year Plan."

1.26 The Committee pointed out that the Ministry of Railway (Railway Board) had themselves assessed in 1978 (Para 1.4.5 (c) that with the commissioning of Mathura Refinery and Mathura-Jalandhar pipeline about 3,866 wagons would be rendered surplus. The Committee asked why these conclusions were changed in the September 1979 study. In reply, the Ministry have stated :—

"It is axiomatic that tank wagons would be rendered surplus with the commissioning of Mathura Refinery and Mathura-Jalandhar pipeline. It was anticipated that the surplus will vary between 1600 and 2500 tank wagons depending upon the stage of operation of Mathura Refinery and Mathura-Jalandhar pipeline.

Whenever a refinery or product pipeline is commissioned, there is a quantum jump in the availability of petroleum products in the close proximity of the refinery/pipeline terminals, bringing forth reduced or negligible movement by rail to those areas, resulting in the drop in the lead of POL traffic. Railways are aware, that at that stage, lead of POL traffic would come down bringing forth some idling of tank wagons. The choice before the Railways is two-fold (i) not to provide for tank wagons anticipating this idling or (ii) to provide for tank wagons keeping in view this idling. If the option under item (i) is exercised, for a certain period before the refinery/pipeline is commissioned, rail transport bottlenecks will develop leading to wide spread shortages and distress for this sensitive commodity, which in turn, will bring forth substantial disruption in the country's economy. Alternate mode of transport in the form of road tankers will have to be developed which is a very uneconomical mode of transport for this commodity. Hence, option under item (ii) was exercised to ensure that there was uniform availability of products and Railways did not become a bottleneck in the growth of the country's economy.

Railways, again today are faced with this dilemma. During the Seventh Five Year Plan, for lifting the anticipated growth in the petroleum products, Railway may have to plan an induction of around 7000 tank wagons. The Ministry of Petroleum has indicated that a new refinery at Karnal may be commissioned in the year 1991-92. With the commissioning of this refinery, a major part of tank wagon fleet that may have to be planned for the projections given in the Seventh Plan, would become surplus at that stage. In cases these wagons are not provided, Railways would not be able to meet the essential demand of Petroleum products in the country, leading to wide spread distress and shortages for this sensitive commodity."

1.27 Audit Paragraph (1.4.4) mentions that :

“While considering the placement of orders against 1979-80 and 1980-81 Rolling Stock Programmes for wagons, the Railway Board decided (December 1979, May 1980 and August 1980) to place orders for 6,828 BG tank wagons i.e. 4,177 wagons in excess of assesment made.”

1.28 The Committee referred to the above observation of the Audit and enquired whether they accepted that figure. While admitting, the Chairman, Railway Board, stated :—

“Yes. That is correct. But you will see from Annexure IV of the C&AG Report that the needs of the Oil Industry were met and almost fully and it was for the good of the economy. We cannot cut this very fine nor we can make the demand and supply precisely but it has to be approximately so much to meet the demand. There has to be some surplus. I would but it this way, it would be better to have surplus rather than shortage... ..”

1.29 As regards the justification for ordering 6,828 BG tank wagons between 1971 and 1981 when the actual need was for 2,651 BG wagons only, the Ministry in a note have stated as follows :—

“Consequent to the earlier study, which provided for additional wagons to lift 18 MT (million tonnes) of POL traffic by the year 1982-83, there were detailed discussions with the Ministry of Petroleum and Cabinet Committee on industrial infrastructure. These projections had to be revised, and provisions was made subsequently for procuring wagons commensurate with the projections given by the Oil Coordination Committee which were indicated to be 19.7 MT in the year 1982-83. This brought about, provision of additional tank wagons.”

1.30 According to Audit Para (1.4.8) Railway Board held meetings with wagon builders in February 1982 for cancelling the orders. As the tank wagons were idling even during 1980 and 1981, the Committee enquired

why the Railway Board did not think of cancelling the orders during 1980-81 itself. The Ministry in their reply have submitted :—

“The idling of tank wagons is a seasonal phenomenon, since the demand for POL products varies from month to month. December to May are the busy demand months, primarily due to harvesting and peak industrial activities. The remaining months are slack demand months, due to monsoon, bringing forth drop in industrial and construction activity and less demand from the agricultural sector. Hence, there is a traditional idling of tank wagons during these months. Railways, keeping in view, the sensitive nature of this traffic, procure tank wagons to look after the peak demand months. Hence, some idling during the slack season is inevitable. The idling, as indicated in the year 1980 and 1981 was primarily due to these factors. Tank wagon idling during the year 1982, was due to commissioning of Mathura refinery. Hence, the direct impact of this refinery could only be assessed in the year 1982.”

1.31 Audit paragraph (1.4.8) also mentions that Railway Board had decided in November 1982 that in view of the surplus inventory of about Rs. 5 crores that might result with wagon builders the manufacture should be continued. The Committee desired to know whether it was not beneficial to cancel the orders (even if surplus inventory might result) rather than keeping the assets idle and incurring liability of dividend on idle assets. Explaining the position, the Ministry of Railways (Railway Board) have stated as follows :—

- “(1) A meeting was held with the wagon builders in February 1982.
- (2) Finally a decision was taken in November 1982 not to cancel the orders for the manufacture of tank wagons.
- (3) The repercussions of the cancellation of tank wagons orders at that time are as follows :
 - (a) Wastage of free supply items worth Rs. 5 crores which could not have been used otherwise except for a very small portion. Dangers of keeping such a huge inventory idle, by way of pilferage, damage and deterioration were considerable;
 - (b) Besides the free supply items, the wagon manufacturers had already procured certain fittings and valves amounting to Rs. 1 crore approximately which would have faced the same fate;

- (c) Since some preliminary work was already done by the wagon builders, they would have claimed damages from the Railways by way of labour cost etc. incurred by them. The exact amount of this was not ascertained at that time but it would not have been insignificant;
 - (d) All the above mentioned money would have been a waste of national resources without commensurate creation of assets.
- (4) The only advantage of cancellation of the orders was saving of fabrication cost of the wagons, partly. The fabrication cost is 18% of the total cost of wagon as compared to the material which is 82% of the total cost.
- (5) Therefore, only two courses of action were available to the Board as follows :
- (a) To cancel the orders; and
 - (b) To continue manufacture at a slower pace.

In case of cancellation, while there would have been a saving of dividend liability to the extent of 1.08% (6% of 18%) only, of value of each tank wagon, each year; on the other hand more than Rs. 6 crores would have been sunk without commensurate addition of assets.

In case of continuation of manufacture, although dividend liability would have increased by 1.08% of the value of a tank wagon, yet there would have been no wastage of money already sunk and there would have been addition of assets, which would have been useful later when the need arose, since surplus of tank wagons was only a transitional phase, as well as brought about saving in the cost of acquisition of these wagons when required later, as the cost of wagons is going steadily year after year.

- (h) Therefore, the balance of advantage was in favour of continuation of manufacture."

1.32 The Committee enquired as to what were the reasons for decline in Railways' share of POL traffic in 1982-83 and 1983-84. Explaining the

position, the Ministry of Railways (Railway Board) in a note have stated :—

“The movement of POL products by rail kept pace with the growth in consumption of petroleum products upto the year 1981-82. The decline in the Railways’ share of traffic was registered in the year 1982-83 and 1983-84 due to the commissioning of Mathura Refinery in January, 1982 and a new pipeline (Mathura-Delhi-Ambala-Jalandhar) in April, 1982. In the year 1983-84, pipeline’s throughput registered an increase of 1.7 million tonnes over the year 1982-83. This traffic was earlier being carried by the Railways.”

1.33 In regard to surplus of wagons the Joint Secretary, Ministry of Petroleum and Natural Gas, submitted :

“There was a point made by the Chairman of the Railway Boardthat certain surplus exists. It is certainly a desirable alternative rather than having a situation of shortage, because the demand is certainly going up; it has gone up now from 30 million tonnes at the beginning of the Sixth Plan to over 40 million tonnes. So, between the two alternatives, having a slight surplus is certainly a desirable alternative. Also when a new refinery comes up, the situation changes. But until then the requirement of movement of products have got to be met. It is the joint responsibility of the Ministry as well as of the Railways.”

1.34 The Chairman, IOC, further submitted :

“Sir, if you take the overall thing, one could make out case that surplus is there. But if you take the things zone-wise, you will find both surpluses and minuses. These are there. My colleague from the Railways gave you the figures. I can quote Madras and Trivandrum figures. I need so many wagons. The refinery was down. I could not utilise. In such cases certain aberrations take place in a country of our vast size and dimension. Petroleum has to travel over long distances. It has to reach millions of people of our country. Certain times certain aberrations do take place. This surplus is very small, I would say. I think I can say, it is inevitable, with the best of Planning.”

1.35 The Committee desired to know the schemes in regard to use of surplus tank wagons. In his reply during evidence, the Executive Director, Railway Board, stated :

“Surplus is being gradually absorbed. We have not manufactured additional wagons. Also, we do not propose to manufacture till we completely absorb the entire surplus.”

1.36 In subsequent note, the Ministry of Railways (Railway Board) have stated as follows :

“Tank wagons are special purpose wagon which can be exclusively used for the carriage of petroleum products. The surplus has, therefore, necessarily be absorbed by the increase in rail traffic of petroleum products. As a result of the surplus availability of tank wagons, Railways did not make any provisions for the acquisition of additional tank wagons in the Rolling Stock Programme from 1981-82 onwards. During the intervening period the movement of petroleum products has gone up by 14%. With this increase in the rail movement of petroleum products, surplus generated due to commissioning of Mathura Refinery and Mathura-Jalandhar pipeline has largely been absorbed. It is anticipated that the tank wagon fleet will be fully utilised by mid 1987’.

1.37 Petroleum products play a prominent role in the development of national economy. Equally important is the role of the Railways as it provides for the most economical mode of transport for POL traffic in bulk. It is, therefore, necessary that due importance and high priority is accorded to the movement of POL traffic by rail.

1.38 The Committee note that as a result of review of procurement and utilisation of tank wagons, the Audit has raised two basic issues viz. (i) procurement of tank wagons in excess of their requirement by the Railways during Sixth Five Year Plan was without justification and had resulted in idle investment of Rs. 46 crores and (ii) the utilisation of tank wagons was below the optimum level due to lack of adequate infrastructural facilities for handling POL traffic, excessive detentions, long turn-round period and inefficient operations.

1.39 In April 1979, the Oil Coordination Committee (OCC) of the Ministry of Petroleum and Chemicals made projections on a computer study regarding rail transport requirements of POL traffic for the Sixth Five Year Plan period (1978-79 to 1982-83). It projected POL traffic at 19.6 million tonnes in 1981-82 and 19.7 million tonnes in 1982-83 for transport by rail tank wagons. As these projections were considered

to be on the high side and not likely to materialise, another study of requirement of tank wagons was undertaken by the Railways, which projected the need to procure tank wagons on the basis of 18 million tonnes of POL traffic by 1982-83. However, there was criticism that Railways had not made adequate provision for procurement of additional tank wagons in keeping with the projections given by the Oil Coordination Committee. So, a further study was undertaken in 1980 and orders were placed for procurement of 11,476 tank wagons against earlier assessment of 7,033 tank wagons.

The following are figures of Oil Coordination Committee's projections, Railways' projection and actual materialisation vis-a-vis targets fixed by the Planning Commission for movement of POL traffic in tank wagons :—

(in million tonnes)				
Year	OCC's projec- tions	Railways' projections	Target	Actual Material- isation
1980-81	18.80	16.50	15.00	14.95
1981-82	19.60	18.00	15.70	16.56
1982-83	19.70	18.00	16.00	17.35
1983-84		—	17	17.95
1984-85			18	18.14
1985-86			18	18.62

It would be seen from the above figures that Oil Coordination Committee's projections which were the basis for planning procurement of unipurpose tank wagons by the Railways were not based on realistic perspective estimation and consequently a large number of tank wagons (approximately 15 per cent in 1981-82 and 12 per cent in 1982-83 in terms of the capacity created) had remained surplus. These unrealistic traffic projections by the Oil Coordination Committee is a sad commentary on the demand estimation and projection of Railway's share of POL traffic in tank wagons. The Committee expect that greater indepth study be made by the Ministry of Petroleum and Natural Gas in future so that percentage of error in making demand estimation for POL traffic in tank wagons is reduced to a tolerable minimum.

1.40 The procurement of tank wagons was made by the Ministry of Railways (Railway Board) on the basis of assessment of POL traffic to be

moved by Railways, made by the Oil Coordination Committee of the Ministry of Petroleum and Chemical after taking into consideration the demand estimates made by the Indian Institute of Petroleum (IIP), Dehradun in its Report dated September 1978 for long range projections of petroleum consumption. As regards the reasons for shortfalls in materialisation of POL traffic, the Committee are informed that out of a total shortfall of 3 million tonnes in 1982-83, 1 million tonne is accounted by Naptha and 1.5 million tonnes is accounted by furnace oil. As per estimates made by IIP in September, 1978, for Naptha consumption in 1982-83 was 4 million tonnes. But actual consumption was three million tonnes. Delay in expansion of IPCL affected the consumption of Naptha. In case of furnace oil, Kakinada and Haldia Fertiliser Plants which were supposed to come up got delayed, resulting in a fall in consumption.

The Committee do appreciate the submission made by the Ministry of Petroleum and Natural Gas that it is necessary to initiate advance action to meet the anticipated requirements of the next few years as even facilities take 2-3 years to be developed and Railways requires 2-3 years to provide wagons. However, wisdom lies in prudent utilisation of the scarce resources by proper synchronisation of additional capacity and actual requirements. There is a gap of about three years between the projections of rail borne POL traffic made by Oil Coordination Committee in 1978 and the final procurement of wagons by the Railways on the basis of projected movement of POL traffic of 19.7 million tonnes by 1982-83. Having planned the projections of POL products to be transported by rail, the Ministry of Petroleum and Chemicals failed to coordinate the progress on its proposed refineries and plants and modify the transport projections accordingly. The Committee would like to impress on the Ministry of Petroleum and Natural Gas that they should not inflate transport of their products and adopt an overcautious approach as investment needs of rail transport are not met from their budget.

1.41 An analysis of the quantum of POL traffic in tank wagons for transport by rail as per figures available during the 3 years from 1982-83 during the Sixth Plan period reveals that against projections of 18.8, 19.6 and 19.7 million tonnes in 1980-81, 1981-82 and 1982-83 respectively, the targets fixed by the Planning Commission were 15, 15.7 and 16 million tonnes only. The Committee wonder why the Ministry of Railways (Railway Board) did not try to find out reasons for fixation of lower targets vis-a-vis Oil Coordination Committee projections. The substantial gap of about 3 MTs between Oil Coordination Committee projections and the Planning Commission targets strengthens the belief of the Committee that the Planning Commission was aware of non-materialisation of anticipated consumption

of naphtha and furnace oil on account of delay in completion of fertiliser projects. The Committee have every reason to observe that had the Ministries then with a little foresight kept vigil over the stage of commissioning of the proposed projects, a lot of scarce resources could have been saved from idle investment. The Committee trust that this aspect will be taken into consideration while formulating transport projections for rail transport and requirement of tank wagons in future.

1.42 The Railways as a core national carrier has to discharge the responsibility assigned to them. However, keeping in view of the excessive procurement of tank wagons in the past and fixation of lower targets by the Planning Commission vis-a-vis capacity created, and under-utilisation of capacity for movement of POL traffic in tank wagons the Committee find that there is lack of proper coordination among the Ministries of Petroleum and Natural Gas, Railways and the Planning Commission in these matters. The Committee desire that in future an integrated view of investment in the economy and full utilisation of the capacity created should invariably be taken. With this end in view, the Committee recommend that there should be an established formal system of consultation among these wings of the Government in all aspects of procurement and optimum utilisation of tank wagons.

B. Performance of Railways in POL Traffic

I. Loading vis-a-vis target

1.43 The programme for daily loading of tank wagons is fixed by the Oil Co-ordination Committee in the monthly supply plan meetings (in which the Railways are represented) taking into account the demand, the production schedule and the linkage etc. The slate or target for tank wagon loadings laid down in these meetings becomes the Railway's commitment to lift the traffic.

1.44 Audit Para points out that the total tank wagon loadings during the year 1978-79 to 1983-84 have increased from year to year, but the

performance with reference to slate (target of daily loadings) was poor as tabulated below :—

Year	(Daily average number of wagons)					
	Broad gauge				Metre gauge	
	White Oil Slate	White Oil Loading	Black Oil Slate	Black Oil Loading	Slate	Loading
1980-81	1164	1108	385.4	346.8	328	274.9
1981-82	1408	1288.7	363.8	304.9	357.3	285.2
1982-83	1527.5	1369.3	384.8	356.0	352.3	267.3
1983-84	1629.1	1456.7	382.8	352.6	313.6	260.2

It will be observed that on broad gauge there is a shortfall of about 11 per cent in white oil, 8 per cent in black oil and on the metre gauge the shortfall is 17 per cent during 1983-84. The shortfall occurred in spite of procurement of large number of tank wagons.

1.45 The reasons for not achieving the slate are :

- (i) according to Railways, the slate was fixed high; demand does not materialise or product is not available, and
- (ii) according to Ministry of Petroleum, Railways' inability to supply wagons of the right type, ineffectiveness of wagons, poor turn-round, etc.

1.46 The consequences of shortfall in loading with reference to slate are generally :

- (a) oil companies have to resort to road movement (road bridging) of products incurring additional expenditure on road transport—which amounted to Rs. 1,808.73 lakhs during 1980-81 to 1983-84,
- (b) production loss in refineries on account of non-availability of tank wagons,
- (c) high inventories and containment problem at refineries leading to imposition of cuts in processing crude,
- (d) product shortages, and depot dryouts necessitating increased road-bridging, and
- (e) shutdown of product pipe lines because of ullage problem.

1.47 The Committee enquired whether the Railways' contention that slate was fixed high, was acceptable to the Ministry of Petroleum and Natural Gas and whether any Railway Ministry's Traffic Experts were associated when slate was fixed. In their note, the Ministry have stated :

"No please.

Railways were associated in the drawing up of the monthly slate which was fixed with due regard to various factors like demand estimates for the month, ullages and rail transportation constraints etc."

1.48 The Ministry of Railways (Railway Board) in this connection have stated in their note :

"The demand numbers, keeping in view the inventories in the various sectors for the various petroleum products and the anticipated consumption of petroleum products in the individual sectors, are fed to the Computer by the Oil Coordination Committee on a monthly basis. On the basis of these projections, the computer works out the requirements of various type of POL products for the individual sectors for that month. These figures are then converted into the Railway slate which is tabled by the Oil Coordination Committee on a monthly basis. The Railway Experts are associated at this stage, after the computer has already given out certain requirements.

The slate should have been in conformity with the actual loading done by the Railways which brought forth total satisfaction of demand from the consumers."

1.49 The Committee observed that while on the one hand large number of tank wagons were idling, on the other hand Railways were not able to meet the target (slate) fixed and enquired how this situation arose and why it remained intractable. The Ministry of Railways (Railway Board) in their note have analysed the position as follows :

"The non-compliance of the slate has been due to inadequate availability of products in the refineries, less off-take by the consumers, poor performance of the Port-Trust Railways, Port strike and other unnatural causes. The Railway's failure to meet the slate, is confined mainly to the North Eastern

Region, where due to severe line capacity constraints, and prevalent law and order situation, demand could not be met in full.

An analysis of the rail loading *vis-a-vis* slate on B.G., which looks after around 90% of the total petroleum movement, indicates, that during 1983-84, from 15 BG bases for the 12 months of the year i.e. $15 \times 12 = 180$ loading base months, Railways achieved slate during 58 base months. The slate was not achieved on account of oil industry's failure to offer traffic and less off-take for 67 base months, on account of Railway's failure for 33 base months, and due to other factors like breaches, Port Strike, and law and order problems for 22 base months. As has been mentioned above, Railways' failure to meet the slate is primarily confined to the North Eastern region where due to several line capacity constraints and prevalent law and order situation adequate tank wagons could not be made available."

1.50 Speaking on the performance of the Railways in POL traffic, the Member (Traffic) Railway Board stated that Annexure IV to the Audit Para shows that they had met the demand. They had consistently been going above the targets fixed by the Planning Commission as follows :

Year	Target	Traffic carried
		(In million tonnes)
1981-82	15.70	16.56
1982-83	16	17.35
1983-84	17	17.95
1984-85	18	18.14
1985-86	18	18.62

1.51 The additional traffic which could have been carried by the Railways would be clear from the following statement furnished by the Ministry of Petroleum and Natural Gas :

Year	Slate TWS/Day	Achievement TWS/Day	% Shortfall	Shortfall in '000 MT
1980-81	2037	1890	7.2	1073
1981-82	2337	238	8.5	1453
1982-83	2549	2289	10.2	1898
1983-84	2648	2359	10.9	2110

1.52 On the Committee pointing out the shortfall in movement of POL traffic in certain sections, the Member-Traffic Railway Board admitted :

"In one section, of course, there may be some deficiency or the other. There may have been pressure in certain area like the Central Railway. There have been Punjab troubles, etc. The overall movement of petroleum and diesel in the country is exceeded in each month."

1.53 Reacting to the suggestion of the Committee that the Railways could have moved more had they been more efficient at micro level, the Chairman, Railway Board, stated :

"A conclusion of inefficiency we cannot draw. After all there is a capacity. I don't think it can be considered a case of inefficiency if we have fulfilled the overall target."

1.54 In reply to another query, he stated :

"Take overall efficiency. We have broken all records in wagon utilisation...Our efficiency or utilisation can be very much judged by checking the net tonnes Km's wagons per day."

1.55 Expressing his views on the performance of Railways, the Joint Secretary, Ministry of Petroleum and Natural Gas, submitted :

"The figure are for the entire country. What happens is that at certain locations there could be excess supply, whereas at the same time there can be other locations where wagons are in short supply and for paucity of wagons we are unable to move the product. On a macro picture this position is

certainly correct. But if one is to go into details, it is these very figures which necessitate movement by road."

1.56 Explaining the position further, the Executive Director, Oil Coordination Committee, stated :

"Vis-a-vis slate there is a shortfall in the loading. There are two things here. One is the target as fixed by the Railway. Actual loading may be higher than the target. But still the loading may be lower than the slate. Slate is what the oil industry gives on a monthly basis. For each month a slate is fixed for the entire country, where Railways also participate. This slate is based on two components. One is the estimated demand and the other is ullage capacity available at the upcountry depots. Our effort is always to fill up upcountry depots. Suppose, the estimated demand in a month is 100, the slate may be fixed at 105 to take care of the ullage in upcountry depots. Even if the Railway move 100, while the demand may have been met, there may be shortfall as compared to the slate. The unfilled ullage of 5 will get reflected in the slate of next month.

This slate get affected by two reasons. Firstly, there may be a variation in demand and secondly the ullage filling may not take place."

1.57 In this connection, the Executive Director (Traffic-Transportation), Railway submitted :

"The share of the rail movement of Petroleum products is around 50% but in actual practice we have carried more than our share. Instead of 50% we have been carrying 52% unless its movement was affected by reasons outside the control of Railway."

1.58 The Executive Director, Railway Board, further stated :

"As regards the slate, we are not taken into confidence while the slate is fixed. Slate is determined by the Ministry of Petroleum and we approve it. If the product is available, we are able to carry or if we want some changes, we suggest it."

The representative added :

"The total performance of movement of petroleum products is reviewed every month. There is a sub-committee called

Railway Inland Petroleum Movement Sub-Committee. They record in their minutes the reasons for shortfall. We have recorded in some cases as under :

Bombay—April, 1982 : Loading was less due to product shortage. There was massive idling of tank wagons.

Kandla : Loading was less.

The point is that if we are able to meet the projected requirement in full at macro level, the performance at the micro level cannot get so vitiated as to lead to any serious distortion or shortage. Our movement did fall short of target only in the North-Eastern region, that is N. F. Railway partly because the situation was not under our control and partly because we had very serious movement constraints in that area. From November 1985 onwards, these constraints have been removed. Today we are meeting full demand of oil industry. There can be variations in day to day. From overall point of view, we are meeting the full demand. As far as slate is concerned, day to day variations are there.”

1.59. In reply to a query, the Joint Secretary, Ministry of Petroleum and Natural Gas, admitted :

“We do agree that there are delays on our part in some cases in filling up the wagons and sending them off. We are trying to improve the loading and unloading arrangements and we hope that with the commissioning of these facilities, the time will be reduced.”

1.60 Audit Para 1.5.6 (ii) points out that according to the Ministry of Petroleum and Natural Gas, targets were not achieved because of Railways' inability to supply wagons of right type, ineffectiveness of wagons, poor turn-round, etc. Explaining their views, the Ministry of Petroleum and Natural Gas have stated as under :

“Rail movement of products like Naphtha, ATF, AV Gas, Hexane etc. calls for specialised type of wagons. No-availability of the right type of wagons for loading these products or lack of proper fittings detected at the loading gantries result in shortfalls on some occasions.

Non-materialisation of demand for reasons as rains, disturbed civic conditions or emergency/unscheduled shut-down of major consumers such as fertilizer plants, power houses, etc. also lead to fall in demand and consequent non-achievement of the projected slate."

The Ministry of Railways (Railway Board) opined as follows :

"The wagons received in the yards, before placement under the gantry for loading undergo an elaborate check regarding undergear fittings and bottom valves. Wagons found unfit are segregated. These examined wagons are then placed under the gantry where these wagons undergo another check. This maintenance check is undertaken to ensure that top fittings are in position and master valve is in a proper working order. Some wagons are again rejected at the gantry due to defects in the top fittings and master valves. These fittings cannot be checked outside the yard since most of the yards dealing with tank wagons have overhead Electrical Wires (OHE). High level platforms are also not available in the yards, necessitating second check at the gantry where high level platform is available. Due to the procedure explained above, many tank wagons are rejected at the gantries also.

Unsuitability of wagons and wrong placement take place under the gantry, in case the specific type of product is not available for loading. Wagons placed under the gantry for a specific product do not find an alternative use due to stringent quality control regulations for petroleum products. A TK wagon placed for loading Aviation Fuel is rejected by the Oil Industry in case it has been previously loaded with HSD. Only those wagons which have been previously loaded with Aviation Fuel or kerosene are accepted for loading ATF. Similarly, a TP wagon previously loaded with HSD or Motor Spirit is not loaded with naphtha. Only such TP wagons which have been previously loaded with kerosene or ATF are accepted for naphtha loading. Similarly, TK wagons which are utilised for black oil and white oil loading are not accepted for white oil loading in case they have been previously loaded with black oil. The Railway staff do not have any machinery to determine the previous loading done in these wagons before they are placed for loading. Due to demand

fluctuations and non-availability for a particular type of product, it is not possible to utilise all the wagons placed under the gantry. This does, at times result in a situation where wagons are made available for loading but remain unutilised."

1.61 In regard to the poor performance at loading bases in the Eastern Sector, the Ministry of Railways (Railway Board) in their note have explained :

"Under para 1.5.9, performances for the year 1983-84 of the loading bases situated at Barauni, Haldia, Rajbandh, Budge-Budge, Siliguri and Bongaigaon have been mentioned.

Barauni : "The slate was met for six months. For four months, slate could not be achieved due to less demand from the consumers, I.R. problems and other factors attributable to the Ministry of Petroleum. For the remaining two months, slate was not met due to operating problems mainly because of derailments leading to increased turnrounds.

Haldia : The full slate was met for six months. For the remaining six months, slate could not be achieved due to Port strike, go-slow adopted by the Calcutta Port Trust, Railways, non-availability of CPT Railways locomotives, and inability of the Port Trust Railways to place wagons under the gantry due to various other factors.

Rajbandh : The slate was met during two months. For the remaining 10 months, slate could not be achieved due to I.R. problems of the Oil Industry labour at Rajbandh, less demand of products from this base, and bunched receipt of loaded rakes leading to idling and increased turn-rounds.

Budge-Budge : The slate was met for 3 months. For 7 months, slate could not be achieved due to industrial relation problems of the oil industry labour, less demand from this base and Port strike. For the remaining two months, due to bunched receipt of wagons there was increase in the turn rounds.

Siliguri-Bongaigaon : Railways, have line capacity constraints for the movement of freight traffic towards the N. E.

region, on via Farranka single line B. G. route. In spite of these limitations, due to various innovations, Railways have brought forth considerable improvement in the movement of traffic on this route. During 1980-81, Railways moved only 352 wagons from Eastern to N. F. Railways, in 1981-82 movement improved to 426 wagons and in 1982-83 to 464 wagons. In spite of this increase, due to movement of other essential goods like foodgrains, salt, sugar and fertilisers, movement of POL to the required extent could not be organised.

Bombay: The slate was met during four months. For 7 months, slate could not be achieved due to less demand from the consumers and for the remaining one month, due to Port strike at Bombay Port Trust.

Koyali: The slate was met during six months. For the remaining six months, slate could not be met due to less offer from the Oil industry and less demand from the consumers.

Vizag: The slate was met during two months. For six months, slate could not be achieved due to less demand from consumers and less offer of traffic from the oil sector. For the remaining four months, slate could not be achieved due to Port strike, breaches on S. C. Railway leading to long lead of traffic.

On the Metre Gauge bases, demand was met in full from Mathura and Trichy. The slate could not be achieved on the M.G. bases located in the N. F. Railway, primarily due to Assam Agitation leading to immobilisation of Railway stock and poor turn-rounds."

1.62 The Committee pointed out that on the metre gauge, while there was shortfall in loading in Eastern Sector at Siliguri, Tinsukia and Bongaigaon, tank wagons were idling in the Western Region and asked what were the constraints in diverting the surplus MG Wagons to the Eastern Sector. The Ministry of Railways in a note have stated :

"The availability of tank wagons in the Eastern Sector was not a constraint for achieving the slate. Due to Assam agitation, which led to disruptions in the day-to-day activities, there was very severe impact on the mobility of the Railways. The

additional movement of wagons from the Western Sector for these bases would not have solved the basic issue which was leading to poor mobility."

1.63 The Committee enquired the reasons from the representatives of the Ministry of Petroleum and Natural Gas during evidence for shortfall in loading by Railways and the reasons for resorting to road movement. The Executive Director, Oil Coordination Committee, stated :

"I have given reasons for the shortfall in the demand which has led to the shortfall in railway traffic. When the shortfall in demand was to the extent of app. 3.2 million tonnes, it would obviously lead to a shortfall in the loading as well. We supply various Petroleum products. We have today 11 refinery locations plus another about 11 supply points. In other words, there are app. 22 supply Points from where railway wagons are loaded and the receiving locations are over 100. We know that the supply has to go every nook and corner. We do this planning on a five yearly basis, on a yearly basis, on a quarterly basis and even on a monthly basis. In the case of Petroleum product, the demand varies to the extent of 10 to 15 per cent between one month and another month. There are demand variations even within a month. If we have to meet peak requirement, then a large exception has to be carried by somebody. While we work out an average rate, it does not take care of any exigency. We may have a refinery shut down, we may have a spurt in demand, we may have some road breaches which may lead to non-movement of traffic, we may have a delay in receipt of import parcel, in such a large and diverse situation where there are 22 loading points and even a hundreds receiving points. We supply 8-10 major products then there is a situation where there is a mismatch between the actual demand and the availability in turn a situation which would perhaps happen more often than not. Because of this various factors sometimes there may be a situation of idling and sometimes there may be a situation of shortage. The position is monitored day-to-day in conjunction with the Railways. Our coordination is not only monthly; even on day-to-day we are having coordination with them. There are various factors affecting availability of products."

1 64 As desired by the Committee, the Ministry of Petroleum and Natural Gas have furnished the following a few instances where refineries had to resort to cut in processing crude because of shortfall in loading :

- (i) In the month of August 1982 both BRPL and Gauhati refineries were forced to cut crude due to movement constraints by rail.
- (ii) Bongaigaon refinery was once again operated at the rate of 1.0 MTPA instead of 1.15 MTPA during the month of January 1983 in view of rail movement constraints in the North-Eastern region.

Similarly, the Gauhati-Siliguri pipeline was shutdown for 851 hours during 1983-84 due to ullage problems at HJP on account of rail movement constraints.

1 65 Another important matter which the Audit has raised is that despite increase in tank wagon fleet the Railways were unable to meet the slate (target for daily loadings). The shortfall in loading vis-a-vis the slate was 7.2 per cent in 1980-81, 8.5 per cent in 1981-82 and 10.2 per cent in 1982-83 and 10.9 percent in 1983-84. The Audit has further pointed out that the shortfall was chronic at Kandla, Mathura, Siliguri, Tinsukia, Bongaigaon and Tiruchi. A base wise analysis of the loadings vis-a-vis slate during 1983-84 showed that out of 28 bases (BG 15 and MG 13) none of the bases were able to meet the slate. This only strengthens the view of the Committee that the management of POL tank wagons and the Railways' ability to meet the slate has been poor in all these years.

1.66 According to the Ministry of Petroleum and Natural Gas the slate is fixed in association with the Railways whereas the Railways have pointed out that their experts were associated at the stage when OCC had already finalised their requirement through computer study. According to them, "the slate should have been in conformity with the actual loading done by the Railways." The Railways have further stated that their failure to meet the slate was confined mainly to the North-Eastern region due to severe line capacity constraints and the then prevalent law and order situation. From November, 1985 onwards, these constraints have been removed and they were meeting the full demand of the oil industry at present. The Committee hope that with a better dialogue between the two concerned Ministries, it would not be difficult for the Railways to meet the slate in full in future.

1.67 The performance of the Railways in the movement of POL traffic in tank wagons when reviewed in the light of targets fixed by the Planning Commission seems to be satisfactory. The Railways had been consistently going above the targets since 1981-82. The Railways have also claimed during evidence that the over all movement of petroleum and diesel in the country exceeded the target in each month. The Committee, however, are given to understand that at certain locations at micro level the loading by the Railways had not been according to the slate fixed by the oil industry. It did not meet the demand level. This was due to wagons in short supply and the paucity of suitable wagons resulting in transport of POL by road. This easily could have been avoided with so much of surplus of tank wagons at their disposal. The Committee desire that the Ministry of Railways (Railway Board) should keep the position under constant review and make sustained efforts to minimise shortfalls in loading at micro levels. With this end in view the Committee would like the Ministry to undertake a thorough study with a view to identifying the locations where shortfall in loading habitually take place and exploring ways and means to ensure adequate supply of suitable wagons as per requirement.

II. Road bridging

1.68 Road bridging or road movement of POL products to rail fed areas is resorted to by oil companies

- (a) On account of non-availability of tank wagons,
- (b) due to lack of adequate loading facilities at terminal depots,
- (c) to meet urgent increase in demands which could not be met by rail

1.69 The Government reimburses the additional expenditure on account of difference between road haulage charges and rail freight to the oil companies. The expenditure incurred by the Government on such subsidy was

	(Rs. Lakhs)
1980-81	664.33
1981-82	473.57
1982-83	276.55
1983-84	394.28
1984-85	314.00
1985-86	542.00

The above subsidy is met from the Freight Surcharge Pool collected on sales of petroleum products.

1.70 The Government was requested to furnish the quantity (tonnage) of POL products carried by road which should have normally been carried by rail, during the years 1980-81 to 1983-84 and the justification for avoidable expenditure of Rs. 18.09 crores. The Ministries in their replies have stated :

Petroleum and Natural Gas

“The yearwise break up of total road bridging for the period 1980-81 to 1983-84 was as follows :

	<u>1000 Kls</u>
1980-81	1367
1981-82	1582
1982-83	1054
1983-84	1179

The expenditure of Rs. 18.09 crores on the road bridging detailed above was unavoidable in the following circumstances;

- (a) Inadequate tank wagon availability as in the case of North East bases and at times at certain other bases.
- (b) Spurt in demand due to factors such as delayed monsoon,

sudden power cuts etc. leading to requirements higher than the slate for a limited period.

- (c) Temporary break-down in rail transportation such as breaches, floods, law and order situation. IR problems and railway operating constraints such as derailment etc.
- (d) Non-availability of product from the normal source of supply because of IR problems/unplanned shut down of refineries necessitating alternative distribution plans and leading to reduced availability of tank wagons owing to longer leads and higher turn-round time of wagons. This reduced tank-wagon availability had to be supplemented by road movement.
- (e) Inadequate availability of suitable tank wagons for special products such as AV Gas, Nexane, Solvent Oil, Mineral Turpentine Oil, Bulk Lubricants etc.
- (f) Facility constraints at certain receiving/despatching locations. Tatanager, Namkun, Balasore and Ranchi are some of the receiving locations where inadequate tankage/siding facilities lead to tankwagon detention. Similarly, during the period under review, there were loading constraints at Madras due to inadequate siding capacity. These constraints have the following adverse effects :
 - (1) Inadequate tankage leads to dry-outs between rake receipts leading to rescue road movement.
 - (2) Inadequate siding capacities necessitate multiple placements thereby increasing wagon detention and reducing utilization.
 - (3) Inadequate sidings at loading bases increase the loading time thereby limiting the daily loading capacity.

These constraints have been overcome at most locations and the industry is progressively in the process of augmenting the facilities."

Railways (Railway Board)

"Certain road movements are built in, within the POL distribution system in the country. These movement take place to the

locations, which are within the close proximity of the refinery, pipeline terminal, pipeline tap off points, and to locations where rail heads are not available. Hence, expenditure on road movement is inevitable. As referred to under item 1.2.5, there has been a substantial drop in these road movements during the past four years and these road movements have come down from 2.5 million tonnes to 1.8 million tonnes."

1.71 Explaining the position on road-movements, the Chairman, Railway Board, stated :

"While, on the one hand, we are saying that there is a surplus of wagons, on the other hand, there is some road movement which is costly. Suppose we grant for arguments sake that there was some micro failures by the Railways and they had to move the traffic by road. If you are to avoid such micro-shortages and cover all that to make it 100% with all the improvement the Railways productivity that has taken place, that means we have to provide even for greater surplus of wagons. But if you want to make it 100% insurance against road movement like this, it would not be economic, as the 'surplus' would then have to be much more than 1%. Therefore, my submission is that this Committee should not feel concerned over the situation."

1.72 The Member (Traffic), Railway Board also added :

"But for short distances it has to be there because it will be uneconomic to move by rail."

1.73 According to the Audit Paragraph (1.5.24) the Railways' policy is to move POL traffic in block rakes in train loads (72 wagons). Piece-meal movement is done for special products (lubricants) from Bombay, HSD oil for Railways and Defence and furnace oil to certain customers. The total picemeal movement is of the order of 10 per cent. This policy of the Railways would also seem to have affected the traffic, as many terminal depots have restricted facilities. Consequently the oil companies resort to road bridging. Instances of such road-bridging are between Tinsukia and Jorhat, Gauhati and Haibergaon and Bombay and Manmad, Jalgaon, Sholapur.

1.74 Explaining their position the Ministry have stated in a note as follows :

“Railways, as a policy, have taken a decision that the POL movement would be organised in block loads. The movement in block loads is much more economical to the Railways when compared to the piece-meal movement. This is applicable not only in case of POL traffic but also for all other commodities moving on the Indian Railways. Hence, gradually, Railways over a period of time have converted all piece-meal consumers/demand areas into block rakes demand concept. This policy has paid very rich dividends. Railways have made major inroads into the road movement of POL products. The road movement, which was 2.5 MT (million tonnes) in the year 1979-80, came down to 1.8 MT in the year 1983-84. During this period Railways lifted 3.7 MT of additional traffic.

On the Indian Railways, 50 BG terminals and 12 MG terminals are required to be developed for handling full block loads. A total investment of around 12 crores would be necessary for developing these terminals. The oil industry will have to develop the matching facilities.”

1.75 As regards the sectors in which road movement is resorted to as a regular measure on account of inadequate tank wagons or inadequate rail facilities, the Ministry of Petroleum and Natural Gas have stated :

“The break up of the expenditure on road bridging on account of inadequate tank wagon availability and inadequate availability of suitable wagons is not maintained by the oil industry.

In the relevant period road movement was resorted to as a regular measure in the Eastern and Southern sectors owing to inadequate tank wagons and/or inadequate facilities.

During the period under review, there was a shortfall in wagon availability both on MG and BG vis-a-vis movement requirement. This constraint has also been accepted by the Railways at various forums and rail movement plans were drawn taking into account the constraints. The balance requirements were not by road movement.

In the Southern sector the rail facilities at loading/unloading points were inadequate during the period under review resulting in lower materialisation of tank wagon movements. These constraints were faced at Tondiarpet, Cochin and Vizag

bases which have since been augmented to required capacities and the constraints eliminated.

As far as unloading points are concerned, there were capacity limitations at Baiyapanahalli (Bangalore), Salem and Erode etc. which have also since been overcome and full rake unloading facilities have been commissioned.

Similarly, works are in progress for extension of capacity at Kochuveli, West Hill and Elataur etc. and as these facilities get commissioned road movement, if any, will get reduced, if not eliminated."

1.76 The maximum utilisation of tank wagons and augmentation of storage capacity was recommended by the Committee on Public Undertakings (1975-1976) in their 49th Report (5th Lok Sabha) on Indian Oil Corporation arising out of that Report the Committee asked the Ministry of Petroleum and Natural Gas and Department of Railways to explain the slow progress in the creation of proper infrastructure for distribution of petroleum products. In their replies, the Ministries have stated :

Railways (Railway Board)

"The above Report contains two important items concerning the Ministry of Railways;

- (i) Development of adequate tank wagons fleet to reduce road bridging
- (ii) Development of terminal facilities to improve turn-rounds.

The Railways developed adequate tank wagon fleet to ensure that road bridging was brought down to the bare minimum essential level. As has been indicated under para 1.2.5, Petroleum traffic carried by road, came down from 2.5 million tonnes (MT) in the year 1979-80 to 1.8 MT in the year 1983-84. During this period i.e. 1979-80 to 1983-84, Railways lifted 3.7 MT of additional POL traffic.

In pursuance of the above Reports, Railway undertook a detailed review of all the BG POL terminals in order to identify the facilities that were required to be developed at these terminals for handling full block rakes. In pursuance of a meeting in the Cabinet Sectt. after detailed survey

of all B.G. POL siding which look after around 90% of the POL movement following picture emerged :

The Indian Railways have 80 BG terminals receiving POL traffic, for the oil industry. Out of these depots only 7 depots had the facilities to handle block rakes in one placement. The facilities to be developed for handling block rakes at all the other terminals were identified. After the identification, works were undertaken on hand to develop full rake unloading facilities initially at the important terminals. During the past three years, Railways have develop 17 terminals which can handle full block rakes. Works are in progress to develop 13 additional terminals.

Due to paucity of resources, development of facilities at the other important terminals could not be taken on hand."

Petroleum and Natural Gas

"Consequent to the recommendations by the Committee on Public Undertakings in 1975-76 the industry has undertaken a programme of augmentation of their infrastructure for better utilisation of tank wagons and augmentation of storage capacity.

As far as the infrastructure for tank wagon handling is concerned the industry has developed full rake loading capacities at all loading bases in the country and also adequate infrastructure to load these rakes within the free time allowed. As far as unloading is concerned, similar facilities have been developed by the industry at all the major unloading depots. At the few places, where matching facilities are not available, the industry is in the process of augmenting siding and pumping capacities to handle full rakes.

During the intervening period the infrastructure for handling full rakes has been developed at Cochin and Vizag where the existing capacity has been extended from 100 tank wagons to 152 and 94 tank wagons to 122 respectively. POL sidings, at eighteen points are being extended for handling full rakes.

The industry has also developed a foreshore terminal at Kandla for handling Naphtha export, the tankages provided are :

4 × 7900, and
3 × 6300

The siding has a capacity to unload 80 tank wagons on single spur. Matching facilities have been provided so that the tank wagons can be unloaded during the free time allowed by the Railways.

As regards augmentation of storage capacity, a feasibility report prepared by the oil industry in June 1981 indicated the need for putting up additional tankage of 3.16 million Kls to take care of the estimated demand of petroleum products and provide 45 days cover by 1986-87. The financial outlay for putting up these facilities was estimated as Rs. 148 crores. However, because of resources' constraint, it was decided to set up the required additional tankage in a phased manner. The oil industry has already taken up the following projects in this regard :

	Tankage (Million Kls)	Cost (Rs. in crores)
Phase I	0.96	80.69 (Revised Cost estimates)
Phase II-A	0.37	30.58
	1.33	111.27

Phase I tankage project is in final stages of completion. The work on Phase II-A tankage project has already commenced and is expected to be completed next year. With the setting up of these tankage facilities, 40 days coverage will stand achieved. The oil industry has been advised to make concerted efforts to achieve the objective of 45 days cover by formulating a well thought out course of action and identifying the locations to set up the required additional tankage. As resources' constraint might continue, the oil industry has also been advised to consider the possibility of leasing the required tankage."

1.77 The Audit Paragraph (1.5.28) says that for transport of Low sulphur heavy stock (LSHS) (which is used by industry in lieu of furnace oil), the Railways use a special type of tank wagon (TOH) with heating elements. The number of such wagons owned by Railways increased from 786 in 1978-79 to 2,099 in 1983-84 (increase of 167 per cent). The traffic carried (in terms of wagons loaded) however, increased by 35 per cent only during this period. Even in 1983-84 there was a short fall of 8 per cent in loading with reference to slate. Besides, the slate accepted by Railways was less than the demand in some months. Explaining the position, the Ministry of Railways (Railway Board) have stated :

“The Railways provided for LSHS wagons based on the specific projections given by the Ministry of Petroleum. The Ministry of Petroleum had indicated that by the year 1983-84, 2.9 MT (million tonnes) of LSHS would be available for rail transportation. The actual offer was only 2.2 million tonnes. This brought forth idling of this dedicated fleet. On an average, around 218 wagons remained stabled throughout the year, in spite of utilising, a large number of these rakes for lifting Furnace Oil traffic to those consumers who could absorb F.O. in LSHS rakes. The turnround of these rakes in the year 1983-84 was 6 days.”

1.78 The Committee note that road bridging or road movement of POL products to rail fed areas is being resorted to by Oil companies mainly due to (i) inadequate tank wagon availability, (ii) inadequate availability of suitable wagons, (iii) lack of terminal facilities, (iv) spurt in demand due to delayed monsoon, sudden power cuts, etc. and (v) temporary breakdown in rail transport due to breaches, floods, law and order situation, etc. Road movement was resorted to as a regular measure in the North Eastern and Southern sectors owing to inadequate tank wagons and/or inadequate rail facilities during the period under review. In the Southern sector the rail facilities at loading and unloading points which were inadequate resulting in lower materialisation of tank wagon movement have since been augmented to the required capacity and the constraints eliminated. In the North Eastern Sector, the Railway have line capacity constraints for movement of freight traffic on single line B. G. route via Farraka and higher priority to essential food items and fertilisers

The Ministry of Railways (Railway Board) have also pointed out that certain road movement of POL products are inevitable due to locations with in the close proximity of the Refinery pipeline terminals and tap off points

and to locations where rail heads are not available. The Railways have also stated that for short distances it is uneconomical to move POL by rail. The Committee, however, feel that in view of the large expenditure incurred by the Ministry of Petroleum and Natural Gas on road-bridging on the plea of inadequate tank wagons, there is scope for re-appraisal of road-bridging policy and identifying expeditiously the areas where road-bridging can be eliminated.

Movement of liquified petroleum gas (LPG)

1.79 According to Para (1.5.29) the holdings of LPG wagons and the traffic carried were as under :

Year	No. of wagons Holding	of wagons Loading	Number of loadings per annum per wagon	Traffic carried (thousand tonnes)	Consump- tion
1978-79	128	6066	46	82	408
1979-80	128	5402	46.8	73	410
1980-81	132	5596	42.4	78	405
1981-82	248	7550	30.4	100	492
1982-83	784	9692	12.4	124	602
1983-84	852	9706	11	149	747

1.80 Audit Para 1.5.32 mentions that :

It will also be observed that even with a holding of 128 wagons only, the Railway had achieved a total loading of 6066 wagons in 1978-79. The wagon holdings had increased 6 times but the loading had increased by 1.6 times only resulting idling of the capacity created. Average annual loading per wagon dropped from 46 times per annum in 1978-79 to mere 11 loadings in 1983-84. The Oil Companies had reported that while on the one hand the gas is being flared in the refineries, on the other hand it has not been possible to meet

the public demand due to inadequate transportation capacity of the Railways. The product at times is even being imported to meet the demand in Port areas.

1.81 Giving the basis for addition to LPG wagons and turn-round of such wagons, the Ministry of Railways (Railway Board) have stated :

“The holding of LPG tank wagons was 255 in the year 1978-79 and not 128 as indicated in Audit Para 1.5.29. The addition to this special fleet was, on the basis of forecast given by the Ministry of Petroleum regarding the future projections of LPG consumption in the country.

The turn-round of LPG tank wagons in the year 1983-84 was 22 days.”

1.82 Reacting to the Audit Para 1.5.32, the Ministry of Railways (Railway Board) have stated :

“Almost all the LPG tank wagons are jointly owned with the oil industry, except 54 wagons which are wholly owned by the Railways. Maintenance of barrels, including POH of these tank wagons, as a policy, is to be organised by the Oil Industry, Railways maintain underframes only. M/s. HPCL and BPCL was undertaking this maintenance activity at Trombay refinery. During the past four years, IOC added more than 300 tank wagons to their fleet. In spite of this clear policy, IOC did not develop any facilities to organise POH of their jointly owned wagons. In the year 1982, they approached the Railways for assistance in organising POH. As a rescue measure Railways came forward to undertake POH of IOC owned tank wagons on Western Railway. LPG barrels is a pressure vessel requiring extreme care and elaborate facilities for maintenance. Since Railways did not have adequate facilities for the maintenance of these barrels, a time lag developed before these facilities could be brought on a proper footing. This had brought forth 150 IOC owned tank wagons becoming overdue POH, hence not available for loading. M/s. HPCL also did not increase maintenance facilities in their siding commensurate with the increase in their fleet and throughout the year 1983-84, as many as 30 HPCL owned wagons remained stabled requiring maintenance and degassing,

The movement of LPG suffered a severe set back due to a fire in LPG terminal at Shakur basti. As a result of this fire the unloading points of IOC were decommissioned. After this fire a committee was appointed to study, and lay-down safety norms for the LPG bottling plants.

This committee came up with very stringent safety regulations. None of the existing bottling plants fully satisfy these regulations, as far as rail loading/unloading are concerned. This resulted in a severe set back to the development of LPG sidings, which were already under the process of development. No new sidings/tankages could be developed for the past two years leading to inadequate tankages and inadequate unloading facilities."

1.83 The Committee enquired whether the Ministry of Petroleum and Natural Gas conducted a study of the economics of transport of LPG by rail and by road, what was the average load for LPG and what was the difference between road freight and rail freight. In a note, the Ministry have stated :

"The freight rate for transportation by road varies substantially between different destinations. The cost varies from 75 paise to 125 paise per tonne per kilometre. Similarly, because of telescopic railways freights the per tonne per kilometre railway freight also varies. We are tabulating below the per tonne per kilometre cost of moving LPG by rail for different distances :

LPG in bulk—Effective 1-6-1986

Distance (Kms)	Rate per Quintal	Rate per MT/Km
100	Rs. 7.80	0.78
200	Rs. 12.79	0.64
300	Rs. 17.52	0.58
400	Rs. 22.11	0.55
500	Rs. 26.70	0.53
600	Rs. 34.02	0.56
700	Rs. 38.68	0.55
800	Rs. 43.33	0.54

The above freight rates have to be paid by the oil companies in addition to providing for the following costs :

1. Cost of providing bullet for railway tankwagons.
2. Cost of maintaining the bullet.

The investment for providing loading and unloading facilities for LPG movement by rail is also higher than the same for achieving movement by road.

The average load of LPG is currently about 800 kms. This, however, will keep on changing depending upon new sources of supply/additional availability and the change in demand pattern."

1.84 On being asked to state, what was the percentage of LPG production transported by road and why this traffic could not be offered to rail in national interest in view of heavy investment. The Ministry of Petroleum and Natural Gas have stated in a note :

"Out of the total production, about 25% of LPG on Km. tonne basis is being transported in bulk by road. This will reduce further as unloading facilities under implementation at some locations get commissioned."

1.85 According to the Ministry of Petroleum and Natural Gas 25 per cent of LPG was being transported by road which cost Rs. 400 per tonne more than the rail transport for the average load. The committee enquired what was the expenditure on road movement of LPG and whether it was not incumbent on Ministry of Petroleum and Natural Gas in coordination with Railways to develop the necessary repair and terminal facilities so that costlly road movement was avoide and the utilisation of LPG tank wagons maximised. Explaining the position, the Ministry have stated in a subsequent note :

"During the period under review, the position of the LPG Bottling Plants based on mode-wise receipt facilities was as follows :

Type	Capacity ('000 MT/month)
Rail fed plants	18.9
Road fed Plants	18.0
Refinery Plants	36.8

Total :	73.7

Supplies to rail fed plants were made mainly by rail and only marginal quantities were moved by road to take care of requirements in between arrival of rakes.

During the period under review, at a number of terminals industry has developed rail loading/unloading facilities, details of which are given in the following statement :

Status of LPG rail unloading facilities at bottling plants

	Plant	Existing siding facilities	Proposed siding facilities
BPC	Shakurbasti	9TWs per placement	—
	Coimbatore	36 TWs per placement	—

Plans for expansion of siding at Coimbatore/ Shakurbasti had to be dropped due to lack of adequate space as laid down by the Chief Controller of Explosives, Nagpur.

HPC	Khapri	24 TWs per placement	34 TWs per placement. Addl. land acquired.
	Charlapalli	36 TWs per placement	Addl. land acquired for developing full rake siding.

Rail siding facilities plans which were abandoned because of Vasudevan Committee report were for (a) Indore, (b) Bangalore and (c) Khapri."

1.86 The Committee pointed out that the LPG wagons were jointly owned by the Railways and Oil Companies and enquired what efforts were made by oil companies to ensure that the turn-round time was kept at the minimum. In reply the Ministry of Petroleum and Natural Gas have stated:

"The oil companies are quite concerned about the heavy turn-round of LPG tank wagons. However, the transit time is

totally controlled by the Railways. Loading and unloading constraints to meet the Railways' requirements of full rake movements result in higher turn round time. All efforts are being made to review the loading and unloading constraints as early as possible."

1.87 In regard to commitment of Government to release 16 lakh gas connections in 1984 the Ministry of Petroleum and Natural Gas have stated :

"As against a commitment of 16 lakh gas connections the oil industry has released 16.1 lakh connections during the year 1983-84, thus over fulfilling the targets."

1.88 The Committee note that almost all the LPG tank wagons, except 54 wagons, are jointly owned by the Oil Industry and the Railways. Maintenance of barrels, including POH of these tank wagons, as a policy, is to be organised by the oil industry. Railways maintain the under frames only. Whereas the Hindustan Petroleum Corporation Ltd. and the Bharat Petroleum Corporation Ltd. have maintenance facilities, the Indian Oil Corporation Ltd. has not developed these facilities. It was only in 1982 that the Railways came to their rescue on being approached by them. Thus the overdue POH wagons were not available for loading. Hindustan Petroleum Corporation did not increase maintenance facilities to be commensurate with the increase in their fleet rendering more wagons stabled. Thus non-availability of wagons coupled with non-availability of terminals for handling resulted in longer detention at unloading points. Consequently in spite of increase in LPG wagon holding the loading had not increased proportionately and unnecessary expenditure was being incurred on road-bridging by the Ministry of Petroleum and Natural Gas. The Ministry of Petroleum and Natural Gas have only expressed concern by saying, "the oil companies are quite concerned about the heavy turn round of LPG tank wagons...All efforts are being made to review the loading and unloading constraints as early as possible." The Committee feel that the performance of the Ministry of Petroleum, Oil Companies and the Ministry of Railways in the matter of movement of LPG has to improve in a big way, since the production and consumption of LPG is going to increase manifold in the near future.

*Utilisation of Tank Wagons
Indenting and supply of Wagons*

1.89 A review by Audit of the indents placed by oil companies, supply of tank wagons and their loading showed that—

- (1) the indents placed by the oil companies were higher than the slate,
- (2) the supply was in excess of the indent/slate, and
- (3) the number of wagons loaded was less than those supplied.

1.90 Audit Paragraph 1.5.40 mentions that the reasons for the excessive indenting appear to be oil companies' apprehension about unfit wagons being supplied. The excess supply by Railway is due to excess availability of stock. The reasons for shortfall in loading with reference to supply are generally

- (a) unsuitability of wagons.
- (b) wagons being marked sick for mechanical defects,
- (c) wrong placement, and
- (d) wagons being detained by oil companies for loading on next day.

1.91 As regards the reasons for supply of tank wagons in excess of the indents/slate, the Ministry of Railways (Railway Board) in a note have stated :

“The slate is tabled on a monthly basis. During the course of the month, due to certain unforeseen factors, demand for the petroleum products from certain areas registers a sudden increase. On demand from the oil sector, Railways supply additional wagons, over and above the slate, to meet with these unforeseen factors.”

1.92 Asked why the wagons supplied in excess of the indent/slate were unnecessary idling, the Railway Board in a note have explained :

“The wagons which are in excess of the demand, are required to be stabled near the refinery locations, with the basic idea to ensure, that in case of increase in demand, Railways do not fail to supply the full requirement of wagons.”

1.93 On being asked what remedial measures had been taken to check rejections of wagons because of their unsuitability, being marked sick for mechanical defects and wrong placement, the Ministry of Railways (Railway Board) in a note have explained :

“Wagons received in the yards, before placement under the gantry for loading, undergo an elaborate check regarding undergear fittings and bottom valves. Wagons found unfit are segregated. Those examined wagons are then placed under the gantry where those wagons undergo another check. This maintenance check is undertaken to ensure, that top fittings are in position and master valve is in a proper working order. Some wagons are again rejected at the gantry due to defects in the top fittings and master valves. These fittings cannot be checked outside the yard since most of the yards dealing with tank wagons have Overhead Electrical Wires (DHE). High level platforms are also not available in the yards, necessitating second check at the gantry where high level platform is available. Due to the procedure explained above, many tank wagons are rejected at the gantries also.

Unsuitability of wagons and wrong placement take place under the gantry, in case the specific type of product is not available for loading: Wagons placed under the gantry for a specific product do not find an alternative use due to stringent quality control regulations for petroleum products. A TK wagon placed for loading Aviation fuel is rejected by the oil industry in case it has been previously loaded with the ES,D. Only those wagons which have been previously loaded with Aviation fuel or kerosene are accepted for loading ATF. Similarly, a TP wagon previously loaded with HSD or Motor Spirit is not loaded with naphtha. Only such TP wagons which have been previously loaded with kerosene or ATF are accepted for naphtha loading. Similarly, T.K wagons which are utilised for black oil and white oil loading are not accepted for white oil loading in case they have been previously loaded with black oil. The Railway staff do not have any machinery to determine the previous loading done in these wagons before they are placed for loading. Due to demand fluctuations and non-availability of a particular type of product, it is not possible to utilise all the wagons placed under the gantry. This does at time result in a situation

where wagons are made available for loading but remain unutilised."

1.94 The Committee referred to the observation contained in Para 1.5.41 of the Audit Report that in a test check on Central Railway, out of the average monthly supply of 8680 tank wagons, 3.6 per cent are rejected as 'sick' by the train examining staff after placement, 4 per cent by oil companies (as unfit for product) and 19 per cent were left over and detained by the oil companies in their sidings. The Committee enquired the rejection of tank wagons due to sickness and reasons therefore. Explaining the position, the Member (Mechanical), Railway Board stated :

"The target at which we aim is that we should not exceed 4 per cent. This is the average for the entire wagon holdings. In the case of tank wagons it is not merely the mechanical road-worthiness of the vehicle which is relevant, this can be detected by visual examination on the ground..... A preliminary examination in respect of a wagon may show it is very good when we examine its springs, its wheels and brakes which are visible to the naked eye. That preliminary examination is not with respect to the body fittings. If there is leakage, unless I put in liquid into the tank, I cannot find that it is leaking.

.....are rejected due to crossloading. It implies that the commodity for which the wagon is positioned is not suitable for transport. If you carry kerosene oil in a tank wagon, it cannot be used for petrol unless you clean it. Second, certain commodities require certain fittings. At times these are difficult and we cannot upgrade the tank wagon."

1.95 The Chairman, Railway Board added :

"The figure of rejection includes cross-loading which is not rejection in the sense of ineffectiveness."

1.96 The Chairman Railway Board, further stated :

"It can be utilised for some other commodity rather than getting it from somewhere else. It is better to clean the wagon. Cross-loading itself is not a bad thing. But at a particular place, it is treated as rejection."

The ineffective percentage of POL wagons on Indian Railways, is less than 4%, that is even below the target."

1.97 When enquired why there should be cross-loading and efforts made to avoid cross-loading, the Member (Mechanical), Railway Board, stated :

“Basically, once a tank wagon is used for a lower product it immediately stands the potential risk of having to be rejected on the next trip because, if it has been used for any lower product, before it can be used for a higher product, it has got to be steam-cleaned ; and steam-cleaning is a tedious and long-drawn process. Theoretically, what you say is absolutely correct : if only a particular group of products is to be used day in and day out, then everything would be bright and beautiful. But once a higher grade product, for certain reasons, is replaced by a lower grade product, on the next trip, you are faced with this problem. It is this problem which we are not able to tackle and it is resulting in cross-loading. I tried to find out whether it would be possible to do same thing, but it does not seem to be within the realms of possibility to solve this. The point is this. Suppose there is a particular demand for rushing kerosene, then all the wagons are polluted. What can I do ? I have to meet the public demand for kerosene. If I have put in kerosene, then I have to clean the tank. To that extent, it means extra work.”

1.98 The Executive Director, Railway Board, added :

“This is inbuilt in the system to provide for cross-loading. Because there are seasonal fluctuations in demand. For example, when there is flood so many things have to be rushed to the spot such as taking the army people for relief work, food packets etc. If there is Kumbh Mela more buses are to ply on that route, so we have to supply more diesel. Things like that keep on happening and the pattern of demand is not fixed.”

The witness further stated :

It is inherent in the system where a few types of tank wagons have been provided for a large variety of products. With demand for products fluctuating cross-loading is unavoidable. It is economical too for otherwise large fleets of each type of other tank wagons will be required. However, it is not necessary to clean every wagon which has been cross loaded.

For example, a wagon has come which has been previously loaded with diesel, need not be cleaned if it has to be loaded with kerosene. But if it has been previously loaded with black oil, it has necessarily to be cleaned if white oil is to be carried."

1.99 In reply to a question, the Executive Director replied :

"Only a small percentage goes for cleaning: Not all wagons."

1.100 Audit Para (1.5.45) mentions that the matter of positioning the Train Examiner staff and carrying out all preparatory operations by Railway staff before loading has been under discussion between Ministry of Railways and Ministry of Petroleum since 1981. No decision has been taken so far.

1.101 When enquired whether any decision has been taken on the matter, the Ministry of Railways (Railway Board) have informed :

"Item 40 perhaps refers to utilisation of train examination staff to attend to the operation of master valves and closing of man-hole covers etc. at the loading/unloading stations. So far as this aspect is concerned, Railway Board's decision is already available, which was disputed by the Oil Industry. On their request, details were collected from all Depots and it was decided that there was no case for reviewing the Board's decision."

1.102 Enquired why the Railways were not levying any penalty on the oil companies by way of forfeiture of wagons registration fees in respect of wagons supplied as per indents but not loaded, the Ministry of Railways (Railway Board) have explained :

"This question is based, on para 1.5.46 of the Audit Note. Reference has been made, regarding non-forfeiture of registration fee on Southern and Northern Railways.

During July '81 to May '83, 110000 tank wagons were loaded on Southern Railway, 648 tank wagons remained un-utilised. In addition, 512 tank wagons were declared unfit on mechanical account. The reasons for not utilising these tank wagons were :

- (i) Excess supply of black oil tank wagons.
- (ii) Wagons out of position,
- (iii) Loading gantry ladder broken, and
- (iv) Oil industry fill pipe in improper working order.

The tank wagons which were not utilised for loading did bring forth forfeiture of registration fees. The IOC represented against this forfeiture. It was considered by the Railways. Since there was no deliberate intention on the part of the oil industry for not utilising these tank wagons, earlier orders of forfeiture were waived since it was considered by the Railways, that forfeiture amounted to only 0.28% of the originating loading of POL products.

On Northern Railway, non-utilisation of tank wagons was primarily due to the unsuitability of these tank wagons on mechanical account. Hence, no forfeiture was imposed since the oil industry was not accountable for non-utilisation of these tank wagons."

Productivity and Turn-sound of Tank Wagons

1.103 According to Adit Paragraph 1.5.47, the performance and utilisation of tank wagons could be gauged from :

- (a) the index of net tonne kilometers per wagon day which takes into account the load, speed and hours of utilisation of wagons, and
- (b) the index of turn-round days showing the interval between two successive utilisations (loadings) of a wagon.

The table below shows three indices in respect of tank wagons.

Year	Broad Gauge		Metre Gauge	
	NTKM per wagon day	Turn-round days	NTKM per wagon day	Turn-round days
1	2	3	4	5
1979-80	1136	12.6	1123	16.0

1	2	3	4	5
1980-81	1177	12.9	1271	16.2
1981-82	1146	12.4	1071	16.0
1982-83	952	12.6	1097	16.2
1983-84		12.6		16.0

It will be observed that there has been a decline in the out put (NTKM) per wagon in 1982-83 and 1983-84 while the turn-round has more or less remained constant. This is indicative of poor utilisation of the wagon fleet. This reduces the profit margin on such traffic. The decline in net tonne kilometres per wagon day is attributable to,

- (a) drop in traffic (tonnage carried),
- (b) drop in lead,
- (c) excessive number of wagons on line.

1.104 Audit Para 1.5.53 further points out that the turn-round time of 12.6 days (BG) given in table above, represents the turn-round time of the entire POL fleet and is considered to be very high as will be explained below :—

An analysis of turn-round time shows :

	Days	Remarks
1	2	3
Base detentions	2	The time allowed for oil companies for loading is 5 hours, but the average time taken is above 2 days.
Transit time per trip for a lead of 800 km at the average speed of goods train viz. 22 km. ph.	3	
		$\left(\frac{800 \times 2}{22} = 72 \text{ hrs}\right)$

1	2	3
Terminal detentions	2	Time allowed for decanting is 10 hrs. The time taken for placement is however more than one day.
Total	----- 7	
Unaccounted for detentions etc.	5	
Turn-round observed	----- 12	

It will be seen from the above that though the transit time and terminal detentions account for 7 days only of the turn-round time, the unaccounted for detentions in yards i.e. detentions to wagons before placement in base stations and after release from the terminal depots are very high.

1.105 Confirming that the productivity of tank wagons measured in terms of net tonne kilometres per wagon day was low on account of drop in lead and excessive holding of wagons, the Ministry of Railways (Railway Board) have stated as follows :

“There was a drop, in the net tonne kilometres per wagon day, for POL tank wagons due to the reduction in the lead for POL traffic, after the commissioning of Mathura refinery and Mathura-Jalandhar pipeline, and due to inadequate offer of traffic in relation to the forecast given by the Ministry of Petroleum. As a result of these factors, a large number of tank wagons remained stabled for want of demand, which in turn, affected traffic indices. Whenever a refinery or a pipeline is commissioned, there is a sudden drop in the lead which in turn affects the operating indices.”

1.106 The Committee enquired why the turn-round time was as high as 12.6 days on B.G. and 16 days on M.G. against 7 days required. Explaining the position, the Ministry of Railways (Railway Board) have stated as follows :

“This para is based on a presumption, that entire tank wagons holding of the Indian Railways is being utilised for movement of POL products in block loads, all the tank wagons are fit for loading, and all the tank wagons are moving in established close circuits. This presumption is erroneous. On the Indian

Railways, a large percentage of tank wagons move in piecemeal, are utilised for the loading of non-POL products, due to maintenance and repair activity. certain tank wagons are not available for loading and certain tank wagons are utilised for other social needs like transportation of water to the scarcity areas. As analysis of the year 1983-84 regarding the utilisation of tank wagons on the Indian Railways brings forth following position :—

(i) Total tank wagons holding	28,600 T/Ws
(ii) Tank wagons utilised for piecemeal movement. (Railways' load 225 piecemeal tank wagons per day ; 150 for Railways, 40 for defence and 35 for carrying special lubricating oils, and other special products. Since these wagons move in piecememeal, the turnround of these tankwagons, is on an average, 30 days. 30×225 gives a figure of 6750 tank wagons).	6,750 T/Ws
(iii) Tank wagons stabled for want of demand during the year.	1,700 T/Ws
(iv) Tank wagons sick at the rate of 4%.	1,100 T/Ws
(v) Tank wagons utilised for carrying water (600 tank wagons were utilised for 180 days for carrying water. Thus, the average per day utilisation come to 295).	295 T/Ws
(vi) Tank wagons utilised for imported edible oil movement and Molasses export movement.	790 T/Ws
GRAND TOTAL	10,635 t/wagons

Thus, from the above analysis it would be noticed that only 17,965 tank wagons out of a total fleet of 28,600 were available for block rake movement.

During the year 1983-84 average loading per day 2122.5 t/wagons was

Average piecemeal loading per day was 225 t/wagons

Average loading in block rakes was = 1897.5 t/wagons

Hence, Railways achieved a loading in block rakes of 1897.5 tank wagons per day, with a fleet of 17,965 tank wags available, for this loading with a turn round of 9.3 days for block rake movement. The table included in this para presumes, that once a rake is loaded, it completes its round trip with the same locomotives. On the Indian Railways due to change of traction, locomotives of these rakes have to be changed enroute, more than one time in a single trip. The tank loads are regulated enroute due to carriage and wagon examination and completion/shedding of load, due to gradient limitations.

This presumption also does not take into account, on line agitation, law and order problems, derailments and stabling of loaded rakes enroute due to sudden drop in demand from the core sector due to unplanned break-downs "

1.107 A study of requirement of tank wagons for the period 1978-83 undertaken by the Railway Board in September 1979 assumed that with the commissioning of Mathura Refinery there would be a reduction in lead and turn-round would be 11.2 days. The Committee enquired as to why these assumptions did not materialies. The Ministry of Railways (Railway Board) in their reply have stated :-

"It was indicated by the Ministry of Petroleum, that after the commissioning of Mathura refinery, the entire requirements of North-West would be met from the Mathura refinery only. However, after the commissioning of this refinery, it was noticed, that due to considerable increase in the consumption of petroleum products in the North Western region, Mathura refinery alone, was not able to look after the full requirements of this region and long lead movements from Koyali and Kandla continued to remain in operation, even after the commissioning of this refinery. The turn-round of 11.2 days was based on the earlier assumption, keeping in view the full feeding of North West States from Mathura only."

1.108 In regard the machinery in the Railway Board and Zonal Railways to keep a check on the turn-round time, the Ministry of Railways (Railway Board) have stated :

"In the Railway Board's office, a Joint Director, assisted by a Central Organisation, has been positioned to co-ordinate movement of POL products with the Ministry of Petroleum and the Oil Coordination Committee.

The posts of Chief Tank Wagon Superintendents are in operation at Bombay and Calcutta. The tank wagon organisations based at these two locations co-ordinate balancing of tank wagons fleet within the various Zonal Railways, keeping in view, the demand fluctuations. The turn-rounds of tank wagons as well as detentions are monitored by the Zonal Railways, as is being done in case of other commodities, moving on the Indian Railways."

1.109 The Committee pointed out that according to analysis of turn-round time made by the Audit, actual turn-round time should have been about 7 days only whereas turn-round time observed by the Railway was 12 days. When asked to state the reasons, the Executive Director (Traffic-Transportation) Railway Board, stated :

"Certain terminals are not fully equipped for loading and unloading. Then in some cases change of traction from diesel to electric is involved. There are certain places where the traction has to be changed even twice. When you change the traction, the train suffers detention for four hours. So, when you switch over from diesel to electric or vice-versa, detention takes place at that point.... In certain cases there are two changes involved. Now at each change of traction point we lose a few hours. Then the topography of the country is such that it is undulating and we have to detain our trains for load adjustment or load shedding. To give you an example, take Bombay to Igatpuri. Now Bombay is approached by steep ghats. We cannot carry more than about 48 or 47 wagons on those ghats. But not to lose the transport capacity beyond the ghat section, we detain the train to complete the load... This load shedding and adjustment takes place at quite a few places which affects the turn-round of wagon. The other point is that the surplus stock makes the turn-round worse. If I were to take out the surplus wagons which Railway were saddled, the turn-round will become better... Another factor which led to higher turn round in detention in ports which in certain cases is as high as four to five days."

1.110 Enquired whether they were suffering from surplus, the witness admitted :

“We never denied that.”

1.111 As regards steps taken to reduce detention of wagons at loading and unloading points, the Joint Secretary of the Ministry of Petroleum and Natural Gas, stated :

“We do agree that there are delays on our part in some cases in filling up the wagons and sending them off. We are trying to improve the loading and unloading arrangements and we hope that with the commissioning of these facilities, the time will be reduced.”

1.112 The Committee enquired whether with an average speed of 22 km. per hour it could have been possible to achieve a turn round of 7 days by avoiding detentions enroute/at terminals, etc. The Ministry of Railways (Railway Board) in a note explaining the reasons have stated :

“As wagon turn round is the function of many variables like loading, block rake or piecemeal, movement wagon holding, lead, detention enroute and at terminals etc., no such firm affirmation can be made. Moreover, in a situation where surplus fleet is available, there is a slowing down of the stream of traffic. However, it is possible to achieve a turn round of 7 (seven) days in selected circuits where loading is entirely in block loads over a lead of 500 of kilometres. In fact, Railways have achieved turn round varying from 5 to 7 days in cases of block rakes moving over such leads.

As a number of tank wagons move in piecemeal, some are utilised for loading products other than petroleum products, and a certain percentage of tank wagons are always not available for use on account of being under repair in sick lines, workshops or undergoing periodical over-haul etc., it is not possible to achieve a turn round of 7 days for the total fleet.

There are certain other constraints like detention to tank wagon loads due to change of traction, detention due to carriage and wagon examination enroute, detention on account of load adjustment etc. These affect the turn round of wagons.

Another factor affecting the turn round of tank wagons is the excessive detention in ports where refineries and loading depots are located. The detention to tank wagons vary between 3 to 6 days at those port terminals."

1.113 As regards measures proposed to be taken to improve the turn round, the Ministry of Railways (Railway Board) in a note have stated :

"Tank wagons form a part of the overall fleet of rolling stock deployed by Indian Railways for the movement of freight traffic including petroleum products. As a result of concerted efforts made there has been considerable improvement in the turn round of tank wagon fleet used on the system. The figures given below speak for themselves :

Year	Turn-round	(BG Tank Wagons (days)
1980-81	12.7	
1981-82	12.4	
1982-83	12.5	
1983-84	12.6	
1984-85	12-0	
1985-86	11.7	

Some of the important steps taken to bring about this improvement are :

- (a) Overall intensive monitoring of freight movement.
- (b) Switch over to block rake movement ;
- (c) end to end running skipping intermediate yards ;
- (d) strengthening of terminals facilities ;
- (e) increased provision of locomotives ;
- (f) monitoring of working of terminals ; and
- (g) close watch of movement to avoid congestion on routes and/or at terminals.

It may, however, be mentioned that wagon turn round as an index of efficiency and productivity has a limited use. The real index is net tonne kilometres per wagon day where Indian Railways have taken significant strides towards improvement as will be seen from the following figures :

Year	Net tonne B.G.	Kilometre per wagon day M.G.
1980-81	986	522
1981-82	1112	538
1982-83	1123	576
1983-84	1112	566
1984-85	1150	565
1985-86	1288*	670*
		(*Provisional)

1.114 A review by the Audit of the indents placed by oil companies, supply of tank wagons and their loading reveals that (i) the indents placed by the oil companies were higher than the slate; (ii) supply was in excess of indents/slate; and (iii) number of wagons loaded was less than those supplied. Reasons for excessive indenting is oil companies' apprehension about unfit wagons being supplied and for excessive supply by the Railways is to meet the unforeseen factors. The reasons for shortfall in loading with reference to supply are unsuitability of wagons, wrong placement, and wagons being marked sick due to mechanical defects.

The Committee fail to understand the rationale behind excessive indenting by the oil companies. Supply of tank wagons in excess of indent/slate by the Railways is also not desirable except in exceptional circumstances. There should be better coordinated efforts between the oil companies and the Railways.

The Committee recommend that the oil companies should place indents for wagons as per their requirement to meet the slate after taking into consideration the possible rejections and supply by the Railways accordingly.

1.115 The very important issue so far as the economic use of tank wagon is concerned, is the turn-round time. The Audit has pointed out that had the

action been taken to eliminate or minimise the unjustifiable detentions and optimise the utilisation of wagons, the procurement of a large number of tank wagons could have been avoided. Reduction of even one day in the turn-round time would mean saving of 2250 tank wagons with an investment of Rs. 25 crores at present day cost.

According to an analysis of turn-round time made by the Audit, actual turn-round time should have been 7 days only whereas turn-round time observed by the Railways was 12 days. The period of five days unaccounted for detention in yards i.e detentions to wagons before placement in base stations and after release from the terminal depots was very high. In a note to the Committee, the Ministry of Railways (Railway Board) have stated that turn-round is affected due to lack of terminal facilities, lead, block rake or piece-meal movement, detention enroute and at terminals, topography of the area, change of traction from diesel to electric, repair in sick lines or workshop, periodic overhaul etc. and excessive detentions in ports where refineries and loading depots are located. According to an analysis made by the Railways in 1983-84 regarding utilisation of tank wagons, only 17,965 tank wagons out of a total fleet of 28,600 were available for block rake movement and achieved a turn-round of 9.3 days. They have also achieved turn-round varying from 5 to 7 days in cases of block rakes moving over a lead of about 500 kilometres. As certain percentage of tank wagons are always not available for use on account of being under repair in workshops or undergoing periodic overhaul, and certain unforeseen factors, it is not possible to achieve a turn round of 7 days for the total fleet, the Ministry have pointed out. However, as a result of concerted efforts made by them there has been improvement in the turn round of tank wagon fleet from 12.7 days in 1980-81 to 11.7 days in 1985-86. It is hardly necessary for the Committee to point out that if the Railways are to make optimum utilisation of their tank wagons fleet, the second thing (after provision of terminal facilities) they have to do is to bring significant improvement in turn-round time. In a note to the Committee, the Ministry have stated that a number of important steps have been taken to bring about improvement in turn-round. These inter alia include switch over to block rake movement, end to end running skipping intermediate yards, strengthening of terminal facilities and close watch on movement to avoid congestion on routes and/or at terminals. The Committee found that performance of the Southern Railway with regard to movement of tank wagons was of a very high order. There is no reason why other Railways are not able to match the performance of Southern Railway. The Committee recommend that the Railway Board may take adequate steps to achieve the same efficiency in other Railways.

Terminal Detentions

1.116 According to details given in Annexure V to Audit Paragraph 1.5.57 showing the detentions at some base stations and the time taken for placement and removal and for loading while time taken for loading (placement to removal) ranges from 6 hours at Tondiarpet (Madras) to 43 hours at Budge, Budge the time taken by Railways for placement, and removal & despatch ranged from 17 hours at Trombay to 103 hours at Gauhati and Barauni (MG). The total detention has also shown increase at Budge, Budge' Cochin, Haldia and Barauni (MG) though the total number of wagons loaded had come down at Haldia and Budge Budge.

1.117 When asked to state the reasons for such abnormal detentions, the Ministry of Railways (Railway Board) have stated :

“The detention to tank wagons at the loading bases is primarily governed by the gantry capacity available for loading and the layout of the yard serving these loading bases. Annexure V has commented upon the performance of following bases :

Baraunti (MG) : This base is served from Garhara yard. On arrival at Garhara after examination, rakes are pushed into Barauni refinery for loading. There is only one gantry available for white oil loading for BG as well as MG. Wherever a BC rake is underloading, the MG rake is detained for placement loading to detentions. After loading, rakes are drawn into the Garhar yard wherein they are given intensive examination before despatch. This factor results in detention to these MG rakes.

Budge Budge : The loading at Budge-Budge is exclusively organised for the N.F. Railway. Due to inadequate gantry capacity, 3 placements are given before the rake can be completed. This leads to heavy delay in forming block rakes. The principal products being loaded from this base is STF which requires very strict quality control considerations. Hence, there are some rejections to tank wagons leading to completion of rakes from other wagons. After the rakes are formed due to line capacity constraints on via Farakka route, rakes are detained for passage.

Haldia : The detention to wagons at this base has been primarily due to non-availability of Port locomotives. Against the requirement of about 12 locomotives, only 2 to 3 locomotives remain in operation leading to very excessive time in formation of these rakes in the Calcutta Port Trust Railways.

Gauhati : This refinery is served by the New Gauhati yard. Wagons arrive in this yard in piece-meal and are collected to form block rakes. The process of collecting piecemeal wagons for the formation of block rakes leads to built in detention to wagons at this base. After loading, these wagons are again drawn in the New Gauhati yard wherein they are given intensive Carriage and wagon examination before despatch resulting in overall detention to these wagons.

Tondiarpet : At this base, gantry capacity does not exist to lead full block rakes in single placement. Hence, after loading, groups of wagons are pulled out from the yard and are detained in the yard for completion from the next group of wagons which are loaded from the gantry. This process of completion of rakes at Tondiarpet results in detentions to the tank wagons for the formation of rakes. There has been no expansion to this gantry even though there has been progressive increase in tank wagons loading at this base leading to held up of wagons resulting in overall wagons detention."

1.118 The Committee pointed out that detention on account of carriage and wagon examination formed 50 to 60 percent of total time taken from arrival to despatch at terminals and enquired what steps had been taken to minimise such detentions. Explaining the position, the Ministry in a note have stated :

"(1) The detentions presumably are as indicated in Annexure V of Para 1.5.57 of the Advance Report of the Comptroller & Auditor General of India for the year 1983-84 and the sum of columns 4 and 6 of the Annexure, referred to is attributed to carriage & wagon examination. This however would not be a correct appreciation as explained below :

(i) Arrival to Placement (COL.4)

On arrival of a train in a yard, the train is offered to this Train Examiners. After receipt of this advice, the train examination going goes for train examination and mechanical sick marking and, thereafter, as early as possible, the train handed back to the Operating staff. The time in this column can be on account of both mechanical examination and operating exigencies which have not been indicated separately

(ii) Removal to despatch (COL. 6)

Once the wagon has been removed after loading from gantry, the process is similar. The detentions at this stage are minimal. The total detentions are a function of yard configuring and other operational exigencies.

(2) The following steps are being taken to minimise detentions to tank wagons :

(i) Introduction of an intermediate examination as practised at Tondiarpet when feasible. This system of examination in electrified yards visualises the switching off of electrical overhead and physical examination and closing of master valves. This is a hazardous undertaking and is being tried out as an experimental measure ;

(ii) Large scale trials with self-lubricated plug type (AUDCC) valves are being conducted and the old conventional sluice type bottom discharge valves will be replaced, if the experiment proves a success ;

(iii) Continuing experimentation is being done to improve the Master Valve/Master Valve Spindle securing."

1.119 The Committee enquired functions of the wagon controllers and whether they maintained any record of detentions to tank wagons at oil company depots and submit regular reports of detentions to the Chief Operating Superintendent and the Chief Commercial Superintendents. In their reply, the Ministry of Railways (Railway Board) have stated as under :

- (a) Wagon controllers, under the Tank Wagon organisations monitor placement of tank wagons depending on the day-to-day fluctuations of demand for various products. For this purpose, deployment of special type of tank wagons between the various Zonal Railways are controlled by them.
- (b) The records for detention to tank wagons at the major terminals are maintained by the Wagon Controllers and are furnished to the Operating officials of the Zonal Railways for the corrective action."

1.120 Asked whether the Railway Board was satisfied with the existing system of monitoring, the Ministry have replied :

"Tank wagon Controllers are an integral part of the overall Railway organisation to monitor the deployment of tank wagon fleet. The present system is considered satisfactory. The functioning of the system has resulted in considerable overall improvement in the freight management on the Indian Railways."

1.121 At the instance of the Committee the Ministry of Railways (Railway Board) have furnished a note on the implementation of the decisions taken during the interministerial meeting held in Cabinet Secretariat in January 1981 and the achievements as mentioned in Audit Para 1.5.60, as follows :

- "(1) A copy of the record note of discussions is enclosed (See Appendix II). The major issue discussed in this meeting was, regarding the development of facilities to handle full block rakes at the unloading terminals.
- (2) In pursuance of the decisions taken at this meeting, a detailed review, in consultation with the Ministry of Petroleum was undertaken, of all the B.G. POL sidings on the Indian Railways. As a result of this review the position that emerged was as under :
 - (i) The Indian Railways have 80 BG terminals receiving POL traffic, for the Oil Industry. Out of these depots only 7 depots had the facilities to handle block rakes in one placement The

facilities to be developed for handling block rakes at all the other terminals were identified. After the identification, works were taken on hand to develop full rake unloading facilities initially at the important terminals. Railways, have, during this period, developed facilities to handle full block rakes at 15 additional terminals. The works are in progress/sanctioned for 8 other terminals.

- (ii) Due to paucity of resources, development of facilities at the other important terminals could not be taken on hand.
- (iii) In consultation with the Ministry of Petroleum various streams of traffic were identified and implemented.
- (iv) Action by the Ministry of Petroleum.
- (3) All these plants have facilities to handle block rakes.
- (4) Action was initiated as indicated under item 5.
- (5) Inadequate availability of shunting engines at Haldia still persists. This issue has been taken up with the Ministry of Shipping and Transport.
- (6) Ministry of Defence has not created facilities to handle full block rakes at Bhareli.
- (7) Necessary action, as indicated in the note, has been taken by SAIL regarding development of sidings.
- (8) To be answered by the Ministry of Petroleum.
- (9) To be answered by the Ministry of Petroleum.
- (10) This issue was taken up with the Oil Industry in various forms.

1.122 Enquired why there was no progress on the work of extension of sidings to accommodate full rake and whether the augmentation of this facility required joint investment by Railways and oil companies. In their reply, the Ministry of Railways (Railway Board) have explained :

“Railways have initiated steps to develop important terminals for handling full block rakes. During the past two years, 15 terminals have already been developed and works are in progress/sanctioned for eight other terminals. Due to paucity of resources, development of facilities at the other important terminals could not be taken on hand.

These terminals, which are treated as railway sidings, railways provide for full investments and the oil industry provides for unloading facilities. These terminals which are privately owned by the oil industry, full investments in the development of the terminals as well as unloading facilities has to be incurred by the oil industry.”

1.123 One of the Audit objections relates to heavy detention at base stations and terminal depots. According to an analysis made by the Audit, unaccounted detentions in yards i. e. detention to wagons before placement in base stations and after release from the terminal depots are very high. Detentions at some base stations for loading (placement to removal) ranges from 6 hours at Tondiarpet (Madras) to 43 hours at Budge Budge (Eastern Railway). Total detentions from arrival to placement, placement to removal and removal to despatch is high at Budge Budge, Gauhati and Barauni whereas it has shown an increase at Haldia. As regards the reasons, the Ministry of Railways (Railway Board) have stated that detention at loading bases at Budge Budge, Gauhati and Barauni is primarily due to limited gantry capacity available for loading and lay-out of the yard serving these loading bases and at Haldia due to non-availability of Port locomotives. The Committee need hardly point out such detentions stand in the way of optimum utilisation of rolling stock by the Railways. The Committee would like the Railways to take effective steps to reduce detentions to wagons in these areas to the barest minimum. The Railway administration should take up the matter with Haldia Port authorities at appropriate level and impress upon them the urgency in the matter. In case of Budge Budge, Gauhati and Barauni, the Committee recommend the Railways and the refinery authorities to examine feasibility of the expansion to the gantry capacity on priority. The Committee would like to be apprised of the steps taken in this direction.

1.124 One of the reasons for excessive detentions at destination is the lack of adequate loading facilities. In this connection, the Committee are informed that Railways have initiated steps to develop important terminals for handling full block rakes. During the past two years, 17 terminals have

already been developed and works are in progress/sanctioned for 13 other terminals. Paucity of resources has held up development of facilities at the remaining 43 BG terminals. The Committee observe that procurement of tank wagons fleet without necessary infrastructural and operational facilities reveals lack of proper timely planning.

1.125 The Committee feel that the provision of adequate terminal facilities is crucial to the efficient functioning of the transport capacity created for POL tank wagons. Whether it is a question of avoidable terminal detentions or excessive turn-round resulting in poor availability of wagons for loading or road bridging due to paucity of tank wagons or abnormally high detention to LPG wagons—all these deficiencies can be overcome to a considerable extent by strengthening the infrastructural facilities.

1.126 The Committee on public Undertakings had in their 49th Report (5th Lok Sabha) in 1975-76 inter alia emphasised the need for augmentation of storage capacity, development of adequate tank wagon fleet to reduce road bridging and development of terminal facilities for better utilisation of tank wagons. The Committee are informed that the oil industry in June 1981 indicated the need for additional tankage of 3.16 million kls. by 1986-87 requiring estimated financial outlay of Rs. 148 crores. However, because of constraint of resources expansion of tankage capacity is being done in a phased programme. The Committee further note that 43 BG and 12 MG terminals receiving POL traffic still lack facilities for handling full block rakes and matching facilities by the oil industry. The Railways have already procured surplus tank wagon fleet. As these facilities are essential inputs for better utilisation of tank wagons and optimisation of Railways productivity, the Government ought to have gone in for integrated programme for development of these facilities along with the procurement of tank wagons during Sixth Plan. The Committee are surprised to find that one hand the Ministry of Petroleum and Natural Gas had been insisting upon the Ministry of Railways to plan procurement of adequate tank wagon fleet for movement of POL traffic, while they have not made provision of matching facilities for their better utilisation. The Committee feel that constraint of resources should not be allowed to come in the way of development of these facilities. The Committee are of the firm opinion that provision of infrastructural facilities for handling POL traffic are to be accorded high priority in order to ensure that heavy resources already invested are optimally utilised. The Committee note that the matter regarding development of infrastructural facilities was discussed in an inter-Ministerial meeting

held in January, 1981. The decisions taken have not, however, been implemented in full. The delay in provision of terminal facilities will inevitably affect the intensive utilisation of assets created in tank wagons. The Committee desire that there should be a time bound programme of development at the earliest and it should be adhered to also.

1 127 The Committee were informed that the investment needs to improve the loading/unloading and yard facilities inside the premises of the oil companies is to be met by them and their response in the matter is not encouraging. The Committee strongly deprecate such tendency and would urge that sectorial approach should be given up keeping in view over all national interest.

NEW DELHI;
28, April 1987
Vaisakha 8, (Saka)

E. AYYAPU REDDY
Chairman,
Public Accounts Committee

APPENDIX I

(See Para 1.1 of the Report)

[Paragraph 1 of the Advance Report of C&AG of India for the year 1983-84, Union Government (Railways) relating to Procurement and Utilisation of Tank Wagons].

PROCUREMENT AND UTILISATION OF TANK WAGONS

Introduction

1.1.1 Petroleum products constitute an important high rated freight traffic carried by the Indian Railways and are an essential input for industry and agriculture in the country. These account for 7.6 per cent of total traffic in tonnes and 12.5 per cent of revenue from goods. Unlike general goods, the transport of petroleum products (POL) requires use of special type of tank wagons.

The total fleet of such tank wagons (including those for carriage of vegetable oils, molasses, etc) owned by Railways at the end of 1983-84 was 30,666 (BG) and 4,901 (MG).

1.1.2 The transport of POL products also involves investment in exclusive terminal facilities which can not be utilised for other commodities. Optimisation of the investment, and intensive utilisation of tank wagon fleet and the facilities created become essential to ensure productive employment of capital. The procurement of tank wagons, for the Sixth Plan period was not, however, done by the Ministry of Railways (Railway Board) in a realistic manner and consequently a large number of tank wagons had remained surplus and idle.

1.2 Growth of POL traffic

1.2.1 The table below gives details of growth of petroleum products and Railways' share of traffic during the years 1977-78 to 1983-84.

(Figures in thousand tonnes)

Year	Production	Imports	Consumption*/Sales	Percentage increase	Transported by				
					Rail @	Percentage increase	Pipe line	Coastal liners	Road
1	2	3	4	5	6	7	8	9	10
1977-78	23,219	2,879	25,539	...	13,062	...	...	2,300	...
1978-79	24,193	3,878	28,241	10.6	14,302	9.5	...	2,800	...
1979-80	25,794	4,724	29,833	5.8	14,266	0.3	4,501	2,850	...
1980-81	24,123	7,289	30,896	8.4	14,954	4.8	4,650	2,654	8,216
1981-82	28,182	4,884	32,523	5.3	16,955	13.4	4,906	3,171	7,250
1982-83	31,067	5,028	34,657	6.6	17,342	2.3	5,030	2,789	8,780
1983-84	32,886	4,052	35,601	2.7	17,949	3.3	6,730	3,630	6,436

*Excludes refinery fuel.

@Revenue earning traffic only.

1.2.2 It will be observed that while the consumption of petroleum products increased by 39.4 per cent during the period 1977-78 to 1983-84, the POL traffic carried by Railways increased by 37.1 per cent only. The rate of growth of POL traffic on railways was 6.2 per cent simple (5.4 per cent compound) against the rate of 6.6 per cent (5.7 per cent) in consumption, indicating a small decline in railway's share of traffic. The Railways' share of traffic had increased from 51.1 per cent in 1977-78 to 52.1 per cent in 1981-82, but declined to 50.3 per cent in 1983-84. A statement showing the share of Railway traffic product-wise is given in Annexure-I.

1.2.3 The growth of traffic on Railways has not been steady and corresponding to the growth in consumption. For instance in 1979-80, the POL traffic was stagnant while the consumption increased by 5.8 per cent. Similarly in 1982-83 the traffic increased by 2.3 per cent only against 6.6 per cent increase in consumption.

1.2.4 The transport of POL products through pipelines was below the rated capacity (except Koyali Ahmedabad) as indicated below and to that extent the traffic carried by railways was higher.

Pipeline	Capacity (million tonnes per annum)	throughout (million tonnes)				
		1979-80	1980-81	1981-82	1982-83	1983-84
1. Koyali—Ahmedabad	0.70	0.90	0.93	0.94	0.86	1.11
2. Gauhati-Siliguri	0.56 0.82 (from 1982-83)	0.28	0.26	0.37	0.49	0.63
3. Haldia-Barani-Mourigram-Rajbandh	2.65	1.86	2.53	1.89	1.50	1.50
4. Barauni-Kanpur	1.8	1.46	0.93	1.80	1.40	1.61
5. Mathura-Delhi-Ambala-Jalandhar	3.7 2.2 1.35	...	...	...	0.79	1.76
		4.50	4.65	5.0	5.04	6.61

1.2.5 In addition, the traffic which was normally required to be carried by rail (excluding the road fed traffic between rail heads but was carried by road (being short lead traffic) was about 2.5 million tonnes in 1979-80, 1.75 million tonnes in 1980-81 and 1.5 million tonnes in 1981-82 and 1.8 million tonnes in 1983-84.

1.3. *Transport capacity*

1.3.1 As mentioned in the earlier paragraph (para 1.2.2) the POL traffic had increased at an average rate of 6.2 per cent per year. However, the holding of tank wagons had increased at a much faster rate as indicated below :

Year	Broad gauge		Metre gauge	
	Traffic originating* (thousand tonnes)	POL tank wagon holdings	Traffic originating* (thousand tonnes)	POL tank wagon holdings
1978-79	11,871	19,951	2,829	4,573
1979-80	12,027	21,104	2,674	4,622
1980-81	12,667	23,047	2,706	4,747
1981-82	14,441	25,299	2,750	4,629
1982-83	15,316	28,101	2,741	4,376
1983-84	16,122	28,702	2,681	4,162

*Includes diesel for railways.

(Note :—The traffic shown above includes traffic moving by conventional wagons. Such traffic is approximately 10 per cent of total traffic).

1.3.2 It will be seen that between 1978-79 and 1983-84, on the broad gauge (which carries about 85 per cent of POL traffic) the tank wagon holdings had increased by 44 per cent against 35 per cent increase in traffic. The capacity created by way of addition to the tank wagons fleet in successive years was far ahead of the materialisation of traffic. Besides, even in the years 1979-80 and 1980-81 the utilisation of tank wagons was not intensive. There were excessive detentions as explained later and the turn-round was 13 days. Considering 90 per cent of the traffic was moving in closed circuit and in block rakes, the turn-round days could have been reduced further by avoiding terminal detentions. Even assuming a turn-round of 11 days on BG and 13 days on MG, the transport capacity was 17 million tonnes (13.5 BG and 3.5 MG) against 14 million tonnes carried in 1978-79. The capacity at the end of 1983-84 was about 22 million tonnes (19 BG and 3 MG) against 17 million tonnes carried in 1983-84. Thus, the capacity created was far in excess of the materialisation of traffic.

1.4 *Ownership of wagons*

1.4.1 The tank wagons are special type wagons used exclusively for movement of POL traffic (except for about 1000 tank wagons used for edible oils, etc.) of oil companies. However, the ownership of tank wagons rests with Railways and the investment for procurement of tank wagons is made in Railway Sector. At present-day cost the total investment is of the order of Rs. 350 crores. However, LPG tank wagons numbering about 700 are jointly owned—the railways owning the underframes and the Oil Companies owning the bullets. The other special types of wagons like TOH wagons (with heating elements) used exclusively for transport of Residual Fuel Oil (or LSHS) are, however, owned by the Railways only.

Procurement of tank wagons during Sixth Plan

1.4.2 (i) A study of requirement of tank wagons for handling POL traffic during the period 1978-83 was done by Railway Board in September 1979. Taking into account the average annual growth rate of around 7.7 per cent (simple) in the POL traffic, it was expected that 18 million tonnes would be required to be handled by Railways in 1982-83. The growth was primarily expected to be on BG.

(ii) The study assumed that with the commissioning of Mathura Refinery there would be a reduction in lead and the turn-round would be 112 days on BG. The additional tank wagons required over the fleet on 31st March 1979, to carry the anticipated 18 million tonnes of POL traffic in 1982-83 and additional traffic in edible oils, molasses etc. requiring use of tank wagons were assessed as :

	(wagons in units)	
	BG	MG
(a) Additional tank wagons required for POL traffic	4,824	321
(b) For traffic anticipated in edible oils, molasses etc.	1,150	—
(c) On replacement account	116	151
Total	6,090	472

The assessment made in the study report was accepted the Railways Board.

1.4.3 The outstanding orders on the wagon industry at the end of March 1979 was for 3,439 BG and 350 MG wagons leaving a balance at 2,651 and 122 MG wagons to be procured by 1981-82. No provision was, however, made in the Rolling Stock Programme of 1979-80. A provision of 640 BG and 50 MG tank wagons was made in the Rolling Stock Programme of 1980-81.

1.4.4 While considering the placement of orders against 1979-80 and 1980-81 Rolling Stock Programmes for wagons, the Railway Board decided (December 1979, May 1980 and August 1980) to place orders for 6,828 BG tank wagons i. e., 4,177 wagons in excess of assessment made. Formal orders on the wagon builders were placed in October 1980 bringing the total tank wagons on order to 10,617. Of these, 8,036 wagons were received by 1981-82, and another 1,668 in 1982-83 and the balance in 1983-84 and 1984-85.

1:4.5 The decision to place orders for 6,828 wagons *i.e.* 4,177 wagons in excess of the assessment made lacked justification and resulted in idle investment of Rs. 46 crores. These are explained below :

(a) Though no provision had been made in the Rolling Stock Programmes except for 640 BG tank wagons, the Railway Board converted the provision made for other wagons to enable placing orders for tank wagons.

(b) The decision to place orders for tank wagons was taken in November 1979 (2,650 wagons), May 1980 (4,033 wagons) and again in August 1980 (170 wagons). At no stage, the Railway Board reviewed the justification for ordering such large number of tank wagons nor was the number to be ordered correlated with the conclusions of study made in September 1979.

(c) The assessment itself did not take into account correctly the effect of commissioning Mathura Refinery and Mathura-Jalandhar pipe line. Even in 1978, the Railway Board had assessed that with the commissioning of Mathura refinery and Mathura-Jalandhar pipe line about 3,866 wagons would be rendered surplus. The study, in September 1979, however, merely assumed that with the Commissioning of Mathura Refinery the turn-round would be reduced by one day (from the level of 12.2 days to 11.2 days). No allowance was made for the traffic to be diverted to Mathura-Jalandhar pipe line and consequent shift in pattern of traffic. On the other hand the Railway Board took the view that reduction in lead might not be realistic should there be slippage in the commissioning of the Mathura Refinery.

(d) It was also known to the Railway Board, in 1979, that Hindustan Petroleum Corporation's (HPC) proposal for pipe-line between Bombay and Pune was pending with Government. The project was cleared by Government in September 1980. With the commissioning of the project about 500 tank wagons would be rendered surplus. This aspect was also not taken into account while working out the requirement of tank wagons. The Ministry of Railways have now (August 1984) calculated that after the pipeline is commissioned (expected in December 1984), the loss of freight to railways would be around Rs. 8 crores per annum besides the facilities at Bombay becoming surplus for quite some time.

(e) The turn-round of 11 days assumed was also high as discussed in

the section on Performance—c.f. para 1.5 below. A reduction of even 2 days in turn-round, by improving operational efficiency as pointed out in para 1.5.57 et. seq. could have reduced the requirement by 4,500 tank wagons at the quantum of 16 M.T. of traffic. In other words, with the existing tank wagons additional 3.5 million tonnes of traffic could be carried.

(f) As already mentioned in para 1.3 2, the transport capacity existing in 1978-79 was about 17 million tonnes. This was understated because the actual utilisation was poor (the turn-round being high at 13 days).

(g) Even during 1978-79, the tank wagons were idling/surplus. The daily average idling was 427 BG (cost Rs. 4.7 crores at the average cost per wagon) and 155 MG wagons (cost Rs. 1.7 crores) indicating surplus capacity. The number of tank wagons idling/stabled were as under :

Year	BG	MG
1979	518	150
1980	506	101
1981	1401	169
1982	1327	196
1983	2099	424
1984	1362	411

The idling of BG and MG wagons were mostly in Western region (Central and Western Railways) Mathura Refinery was commissioned in January 1982 and the Mathura-Jalandhar pipe-line in April 1982—December 1982. Thus the surplus arisings started even before commissioning of the refinery, indicating imbalance in assessment of requirements.

(h) The requirement of additional tank wagons for edible oils, molasses, etc., assessed at 1,150 (for the period up to 1982-83) was again ad hoc and was not based on past data or the growth of traffic.

1.4.6 The holding of tank wagons (BG) for vegetable oil. molasses, etc., was about 1,800 on 31st March 1979. The traffic in edible oils,

molasses etc., had not shown any growth. The traffic carried was

Year	(Thousand tonnes)			
	Edible oil	Molasses	Alcohol	Acids
1977-78	754	235	17	16
1978-79	606	252	16	15

(Note :—The traffic carried shown above includes packed consignments moving in conventional wagons. The traffic in tank wagons was much less).

1.4.7. The daily average loading of edible oils, etc., was only 68 tank wagons. However, it was assumed that the daily average loading would go up to 110 tank wagons. Thus, there was no basis for assuming that additional 1,150 tank wagons would be required for the increase in traffic. Actually the traffic carried in 1880-81, 1981-82 and 1982-83 was much less than that in 1977-78.

1.4.8 In February 1982 the Railway Board realised that in view of large scale idling of tank wagons, the orders placed for manufacture should be curtailed. The tank wagon orders expected to be outstanding on 1st April 1982 was 2,141 (In fact manufacture against the orders placed on M/s. Jessop—800 TORXC wagons and M/s. Cimnico—400 TPRC wagons had not been commenced by these firms). Meetings with wagon builders held in February 1982 and August 1982 were of no avail. The Railway Board decided (November 1982) to continue with the manufacture of tank wagons as inputs (such as wheelsets, couplers, etc.) valued at Rs. 5 crores had already been procured and cancellation of tank wagon orders might result in surplus inventory.

1.4.9 The large scale idling of tank wagons even before the commissioning of Mathura Refinery and the belated efforts by Railway Board to cancel the order clearly show that the orders placed in October 1980 for 6,828 tank wagons were excessive. The transport capacity created would seem to be adequate to carry the anticipated traffic in 1987-88 (assuming 5 per cent growth). The premature procurement of tank wagons has resulted in idle investment of Rs. 46 crores and a burden on Railways' capital-charge. The expenditure on payment of dividend alone works out to Rs. 6 crores. The extra expenditure (Rs. 29.6 lakhs) in the procurement of wheelsets for these tank wagons was mentioned in paragraph 8—Import of wheelsets, in the Advance Report of Comptroller and Auditor General of India for the year 1982-83—Union Government (Railways)—

1.5 Performance and utilisation of tank wagons

A. Performance

I. Loading vis-a-vis target

1.5.1 The programme for daily loading of tank wagons is fixed by Oil Co-ordination Committee in the monthly supply plan meetings (in which the Railways are represented) taking into account the demand, the production schedule and the linkage etc. The slate or target for tank wagon loadings laid down in these meetings becomes the Railway's commitment to lift the traffic.

1.5.2 In order to monitor the tank wagon loadings and watch the programme and utilisation of tank wagons there is an organisation of Chief Tank Wagon Superintendent in Central Railway at Bombay controlling the movement of tank wagons in Western sector (Central, Western, Southern, South Central and Northern Railways) and a Tank Wagon Superintendent in Eastern Railway controlling the movement on Eastern sector (Eastern, North Eastern, North East Frontier and South Eastern Railways).

1.5.3 Para 1.3.1 above mentioned the total rail traffic in POL which included a portion (roughly 10 per cent) carried in conventional wagons. The tank wagon loadings, *vis-a-vis* the slate (target) are discussed in the following paragraphs.

1.5.4 The total tank wagon loadings on BG and on MG during the years 1978-79 to 1983-84 are shown in Annexure II. Though these figures show an increase from year to year, the performance with reference to slate (target of daily loadings) was poor. The following table gives the performance with reference to slate.

(Daily average number of wagons)

Year	Broad gauge		Metre gauge			
	White oil*		Black oil*		Slate	Loading
	Slate	Loading	Slate	Loading		
1980-81	1164	1108	385.5	346.8	328	274.9
1981-82	1408	1288.7	363.8	304.9	357.3	285.2
1982-83	1527.5	1369.3	384.8	356.0	352.3	267.3
1983-84	1629.1	1456.7	382.8	352.6	313.6	260.2

*White oil : —Mainly Motor spirit, Kerosene, HSD oil, etc.,

Black oil :—Mainly furnace oil, LSHS—(Low sulphur heavy stock).

1.5.5 It will be observed that on broad gauge there is a shortfall of about 11 per cent in white oil, 8 per cent in black oil and on the metre gauge the shortfall is 17 per cent during 1983-84. The shortfall occurred in spite of procurement of large number of tank wagons.

1.5.6 The reasons for not achieving the slate are :

- (i) according to Railways, the slate was fixed high, demand does not materialise or product is not available, and
- (ii) according to Ministry of Petroleum, Railway's inability to supply wagons of the right type, ineffectiveness of wagons, poor turn-round etc.

1.5.7 The fact the slate accepted by the railways was at a lower level than the demand, as a regular feature in the Northeast region, and on several occasions in other regions. Consequently though there was traffic offering, the Railways were unable to lift it.

1.5.8 A product-wise analysis of the loadings *vis-a-vis* slate during 1983-84 showed that the shortfall of 11 per cent in white oil with reference to slate was under Motor spirit (9.5), Naphtha (18.4), Kerosene oil (6.6), Aviation fuel (13.5) and HSD oil (10.5) and in black oil under Light Diesel oil (20.6) and furnace oil (5.0) and LSHS (8.9). The comparatively higher percentage of shortfall under Naphtha and Aviation fuel is attributable to Railway's inability to supply the right type of wagons to ensure quality control requirements of the product.

1.5.9 A base-wise analysis of the loadings *vis-a-vis* slate showed that during 1983-84 out of 28 bases (BG 15 and MG 13) none of the bases were able to meet the slate (target). A statement showing the base-wise slate and loadings during 1983-84 is given in Annexure-III. The shortfall in the loading bases situated in the Eastern sector, *viz.*, Barauni, Haldia, Rajbandh, Budge Budge, Siliguri, Bongaigaon were generally more than the shortfall in bases in Western sector.

1.5.10 For instance, at Rajbandh and Siliguri which are pipe line terminals, the shortfall was 36 per cent and 27 per cent (average) respectively. At these places in 11 out of 12 months the slate was not met. At Bombay the shortfall was 18.3 per cent and at Koyali it was marginal (1.4 per cent). At Barauni and Vishakapatnam also the slate could not be achieved in 7 and 10 months respectively during 1983-84. On the metre-gauge the shortfall was chronic at Kandla, Mathura, Siliguri, Tinsukia,

Bongaigaon and Tiruchi though MG tank wagons were idling in Western region.

1.5.11 The consequences of shortfall in loading with reference to slate are generally :

- (a) oil companies have to resort to road movement (road bridging) of products incurring additional expenditure on road transport-which amounted to Rs. 1,808.73 lakhs during 1980-81 to 1983-84,
- (b) production loss in refineries on account of non-availability of tank wagons,
- (c) high inventories and containment problem at refineries leading to imposition of cuts in processing crude,
- (d) product shortages and depot dryouts necessitating increased road-bridging, and
- (e) shutdown of product pipe lines because of uliage problems.

1.5.12 All these consequences had arisen in the refineries in North Eastern Region and in some measure in other refineries during the year 1981-84.

II. Road bridging

1.5.13 Road bridging or road movement of POL products to rail fed areas is resorted to by oil companies—

- (a) on account of non-availability of tank wagons,
- (b) due to lack of adequate unloading facilities at terminal depots,
- (c) to meet urgent increase in demands which could not be met by rail, &c.

1.5.14. The Government reimburses the additional expenditure on account of difference between road haulage charges and rail freight to the

oil companies. The expenditure incurred by the Government on such subsidy was

	(Rs. Lakhs)
1980-81	664.33
1981-82	473.57
1982-83	276.55
1983-84	394.28
Total	1,808.73

1.5.15 Though the entire expenditure may not be attributable to non-availability of tank wagons, considering the chronic shortfall in tank wagon loading *vis-a-vis* slate mentioned above it would appear that a major portion of the expenditure was on account of Railways' inability to lift the traffic in spite of the wagons being surplus and idling.

III. Non-availability of tank wagons in North Eastern Region

1.5.16 In the North Eastern Region, the non-availability of adequate MG/BG tank wagons to meet the requirements and to move the surpluses has been a perennial feature causing a loss of movement resulting in depot dryouts—refinery crude-cuts and shutdown of Gauhati-Siliguri pipe line due to lack of ulage.

1.5.17 The Railway slate was brought down from 90 tank wagons to 80 tank wagons on MG from 1st January 1984 and the materialisation was at a level of 60 to 66 tank wagons only per day. On the BG there was a serious constraint on the movement/availability, mainly due to restriction in movement via Farakka and the slate at Bongaigaon Refineries and Petrochemicals Limited (BRPL). Siliguri is pegged at 110 tank wagons per day and the actual performance was 100 tank wagons per day.

1.5.18 Consequently the oil industry is deploying 186 tank trucks for deliveries and road bridging.

1.5.19 Refinery production from the three refineries in North Eastern Region was :

	(thousand tonnes)				
	1979-80	1980-81	1981-82	1982-83	1983-84
A.O.D./IOC *(0.5)	391	477	474	501	549
Gauhati *(0.8)	606	577	667	733	871
Bongaigaon *(1.0)	154	37	381	515	649
Total	1,151	1,091	1,522	1,749	2,069

*Figures in brackets are installed capacity in million tonnes.

1.5.20 As the demand in North Eastern Region is less than 50 per cent of the production (for instance, the demand in 1982-83 was 761,000 tonnes) the balance has to be moved out of the region. Taking into account the normal operating levels of refineries at Digboi and Gauhati, the local products demands and availability of tank trucks it would be necessary to operate a BG slate of about 134 tank wagons per day if BRPL is to operate at 1.0 MTPA. Like-wise a MG slate of about 92 wagons per day would have to be operated in the North-Eastern Region. The Railways however, were not able to provide adequate transport, in spite of the fact that BG and MG tank wagons were idling in the West Region [vide para 1.4.5 (g)]. Consequently the oil companies had to resort to road-bridging, as a regular measure. It has been estimated that in 1984-85 a quantity of 260 thousand tonnes would have to be bridged to make up for the short-fall in tank wagons, if the refinery throughput is to be kept at their capacity level. The additional expenditure on such road bridging has been estimated at Rs. 3.73 crores during 1984-85 and was expected to increase to Rs. 10.7 crores in 1985-86.

1.5.21 The actual crude processing at BRPL has been about 0.65 MTPA against the Annual Plan target of 1.0 MTPA. The shortfall has been on account of restricted crude availability due to product ullage constraints.

Bongaigaon Refinery was advised that in view of various constraints a crude throughput level of only 0.65 to 0.70 MTPA appeared to be achievable against 1.0 MTPA. Consequently the demand in other regions will have to be met by imports to the extent of shortfall in capacity utilisation at the refineries in North Eastern Region.

IV. Diversion of traffic to road

1.5.22 Besides North Eastern, road bridging is also resorted to frequently between Haldia and Namkum, Tata, Rourkela to cover tank wagon shortfall.

1.5.23 Another point that arises out of large scale road bridging is that the traffic gets permanently diverted to road once certain infrastructure is created. It may be difficult for the Railways to retrieve the traffic.

1.5.24 The Railways' policy is to move POL traffic in block rakes in train loads (72 wagons). Piece-meal movement is done for special products (lubricants) from Bombay, HSD oil for Railways and Defence and furnace oil to certain customers. The total piecemeal movement is of the order of 10 per cent. This policy of the Railways would also seem to have affected the traffic, as many terminal depots have restricted facilities. Consequently the oil companies resort to road bridging. Instances of such road-bridging are between Tinsukia and Jorhat, Gauhati and Haibergaon, and Bombay and Manmad, Jalgaon, Sholapur. The insistence by the railways that they would carry only train loads and also the fact that rail freight rates had increased steeply in recent years has resulted in diversion of traffic to road. Products threatened by diversion to road include petrol, lubricants, furnace oil, bitumen, LPG etc. The rail traffic in petrol has dipped from 1,036 thousand tonnes in 1981-82 to 945 thousand tonnes in 1983-84, lubricants from 313 thousand tonnes in 1982-83 to 198 thousand tonnes in 1983-84, and bitumen from 719 thousand tonnes in 1981-82 to 478 thousand tonnes in 1983-84

1.5.25 Bitumen. The total consumption/sales of bitumen in the country and the movement pattern was

Year	Consumption	Bulk	(thousand tonnes)	
			Movement in Packed	Total loaded on Railways
1982-83	1379	329	1050	726
1983-84	1014	320	694	478

1.5.26 The drop in loading of bitumen was mainly under packed consignments. According to the Ministry of Petroleum, the requirements of

customers are less than a rake-load and railways have not been able to supply BOX wagons for piece-meal movement. At Mathura no rail loading of bulk bitumen is undertaken and packed consignments move out of refinery by road.

1.5.27 On the North East Region, Railway was committed to give 5 rakes per month. However, this was not adhered to. Consequently, the oil industry had made arrangements for moving bitumen from Haldia to Pandughat by water-ways involving an extra expenditure of Rs. 280 per tonne.

Low sulphur heavy stock (LSHS).

1.5.28 For transport of LSHS (which is used by industry in lieu of furnace oil), the Railways use a special type of tank wagon (TOH) with heating elements. The number of such wagons owned by railways increased from 786 in 1978-79 to 2,099 in 1983-84 (increase of 167 per cent). The traffic caused (in terms of wagons loaded) however increased by 35 per cent only during this period. Even in 1983-84 there was a shortfall of 8 per cent in loading with reference to slate. Besides, the slate accepted by railways was less than the demand in some months.

V. Movement of liquefied petroleum gas (LPG).

1.5.29 The holdings of LPG wagons and the traffic carried were as under :

Year	No. of wagons Holding	No. of wagons Loading	Number of loadings per annum per wagon	Traffic carried (thousand tonnes)	Con- Sump- tion (tonnes)
1978-79	128	6066	46	82	408
1979-80	128	5402	46.8	73	410
1980-81	132	5596	42.4	78	405
1981-82	248	7550	30.4	100	492
1982-83	784	9692	12.4	124	602
1983-84	852	9706	11	149	747

1.5.30 The increase in wagon holdings was the result of ordering 850 LPG tank wagons during 1978-79 to 1980-81 and 1982-83. Another 197 LPG tank wagons have been received upto August 1984.

1.5.31 It will be seen that the Railways carried only 20 per cent of the product though their wagon holdings had increased six-fold. (Majority of these wagons are jointly owned with oil companies). The actual transport capacity of the Railways was 0.42 million tonne per annum (with a turn-round of 11 days), but the actual traffic lifted was 1/3rd of the capacity.

1.5.32 It will also be observed that even with a holding of 128 wagons only, the Railway had achieved a total loading of 6066 wagons in 1978-79. The wagon holdings had increased 6 times but the loading had increased by 1.6 times only resulting in idling of the capacity created. Average annual loading per wagon dropped from 46 times per annum in 1978-79 to mere 11 loadings in 1983-84. The Oil Companies had reported that while on the one hand the gas is being flared in the refineries, on the other hand it has not been possible to meet the public demand due to inadequate transportation capacity of the Railways. The product at times is even being imported to meet the demand in Port areas.

1.5.33 It will be observed from the table above that most of the LPG wagons were put on line in 1982-83 and 1983-84. However, it was reported by Indian Oil Company (IOC) in September 1984 that out of the total fleet (of about 807 tank wagons), the number of tank wagons available at its base loading stations were about 400 only. Actually, in the Western Sector the holding was shown as 306 wagons only in 1983-84. Even in March 1983, the Ministry of Petroleum and Ministry of Railways were aware of continued back-logs on LPG in all the markets in the country due to lack of planning and transport bottle-necks. However, no concerted action was taken by the Ministries in spite of increase in tank wagon holdings to monitor the availability of LPG wagons and to improve the loadings. The poor performance was found to be due to :

- (i) High incidence of sickness [In April 1984 about 17 per cent of the holdings, viz., 141 were either under periodical overhaul (POH) or marked sick against the norm of 4 per cent].
- (ii) Excessive detention to wagons at base stations : For instance, at Bajuwā (Western Railway) the time taken for loading a wagon was 94 hours in 1981, 126 hours in 1982 and 118 hours in 1983, of which 35, 67 and 55 hours respectively, were the time taken by

Railways for placement and removal of wagons.

Wagons—A few instances are given below :

- (iii) Idling of wagons—A few instances are given below :
- (a) In the month of January 1984, there was hold-up of LPG tank wagons at Oil Company terminals for 15 days at Sanatnagar and for 10 days at Miraj due to improper planning of movement.
- (b) 70-90 LPG tank wagons were idling during 15th to 23rd January, 1984 due to shut-down of refinery units and weighing bridge being out of order at Koyali.
- (c) At Trombay 80 tank wagons were idling inside the refinery from August 1984 but were not taken up by Oil Company for degassing and repairs.
- (iv) Excessive turn-round time :
The turn-round of LPG tank wagons in use (allowing 20 per cent ineffectives) was :

1980-81	17 days
1981-82	17.2 days
1982-83	15.5 days
1983-84	24.6 days

Consequently, the Railways have been accepting lower slate (target) than demand.

For instance, the Railways accepted a slate of 30, 35 and 36 wagons per day against the demand 49, 53 and 43 wagons per day in August 1984, September 1984 and October 1984 respectively.

1.5.34 The performance was much less than the slate as shown below :

Daily Average

Actual

LPG wagons. It was reported that the supply of LPG wagons was short by 1000 tonnes at Koyali Refinery in July 1984. Further, in order to meet the demand, a shortfall, the industry was advised to move the product by road.

1.5.35 The performance of the Ministry of Petroleum, Oil Company and the Ministry of Railways in the matter of movement of LPG was far from satisfactory, considering that the Government had been committed to release 16 lakh new gas connections in 1984.

B. Utilisation

I. Indenting and supply of wagons

1.5.36 According to the procedure laid down by Ministry of Railways (Railway Board) the oil companies are permitted to place indents for PC tanks as and when necessary, in units of rakes. The indents are permitted to be cancelled by the indenter after 3 days from the date of indenting. At the end of the month oldest outstanding indent equivalent to 3 days' loading should be carried forward and the rest treated as cancelled.

1.5.37 The oil companies are also required to pay lump sum deposit for wagon registration fee (equivalent to 3 days' loading) and the normal rules for forfeiture and refund of registration fee apply in the case of tank wagons also.

1.5.38 A review by Audit of the indents placed by oil companies and supply of tank wagons and their loading showed that—

- (1) the indents placed by the oil companies were higher than the available slate,
- (2) the supply was in excess of the indent/slate, and
- (3) the number of wagons loaded was less than those supplied.

1.5.39 It will be seen from the statement showing the number of wagons indented, supplied and loaded (as given in Annexure IV) that, on an average,

- (i) the supply of wagon was more than the indent on all railways (36 per cent). Eastern Railway (32 per cent), Western Railway (33 per cent), South Central Railway (M

29 per cent—BG, 84 per cent—MG), while it was less than the indent on South Eastern Railway (3 per cent) and South Central Railway (Vascoda-gama—13 per cent).

- (ii) the percentage of wagons not loaded was Central-33, Eastern-39, Northern-7, North Eastern-59, Southern-4.7 BG and 20.1 MG, South Central (Manmad)-23, South Eastern (Haldia)-7 and Western-Railway 22 BG and 47 MG.

1.5.40 The reasons for the excessive indenting appear to be oil companies' apprehension about unfit wagons being supplied. The excess supply by Railway is due to excess availability of stock. The reasons for shortfall in loading with reference to supply are generally—

- (a) unsuitability of wagons,
- (b) wagons being marked sick for mechanical defects,
- (c) wrong placement, and
- (d) wagons being detained by oil companies for loading on next day.

1.5.41 A test check by Audit on Central Railway for the period July 1982 to November 1983 showed that at Bombay, out of the average monthly supply of 8650 tank wagons, 3.6 per cent were rejected as 'sick' by train examining staff after placement, 4 per cent by oil companies (as unfit for product) and 19 per cent were left over and detained by oil companies in their sidings. At Budge Budge on Eastern Railway, out of 4707 wagons supplied during 1983-84, 2.7 per cent were marked sick, 16.7 per cent were rejected by oil companies and 19.2 per cent were not loaded. At Tondiarpet, out of 67,697 tank wagons placed for loading during 1982-83, 0.22 per cent were rejected as sick or defective, 1.1 per cent on account of wrong placement and 1.4 per cent for want of demand. Similarly, at Bajuwa on Western Railway, during 1982-83, out of 1,64,765 wagons supplied 7,224 (4.4 per cent) were rejected—1,360 for want of calibration, 2,270 marked sick, 1,021 unfit for product 98 pre-loaded and 2,475 for want of programme.

1.5.42 The above factors were observed in earlier years also.

1.5.43 The excessive supply of wagons and their remaining unloaded and marked sick entails unnecessary detention to wagons and at times empty haulage as noticed on North Eastern Railway at Gorakhpur

Fertiliser Plant where tank wagons were hauled empty from refinery to consumer and back, entailing infuretuous expenditure of Rs. 16.7 lakhs during the period November 1981 to February 1984 as mentioned in para 1.9.2.

1.5.4 The very high percentage of rejections after placement on Central, Eastern and Western Railways indicate inadequacy of examination of wagons before placement by train examining staff of mechanical department. It was stated by Western Railway, that empty tank wagon loads on arrival were offered for examination in the yard where high level platform was not available for proper examination of master valves and barrel fitments. The wagon were again subjected to further examination after placement on the loading gantry to eliminate the wagons with mechanical defects. This practice of Train Examiner (TXR) examination after placement in the gantry involves unnecessary haulage of wagons from yard to loading gantry and back. As the Railways should deliver wagons to the oil industry after making them fit for loading the examination of and attention to tank wagons should be done before placement under the gantry. Such a system is prevalent at Madras (where the percentage rejection for sickness and defectiveness was 0.22 per cent only), where the tank wagons are thoroughly examined for loading and only fit tank wagons are placed under the gantry.

1.5.45 The matter of positioning the TXR staff and carrying out all preparatory operations by Railway staff before loading has been under discussion between Ministry of Railways and Ministry of Petroleum since 1981. No decision has been taken so far.

1.5.46 Incidentally, it was also noticed that in respect of wagons indented and not loaded on oil companies' account, the Railways were not levying any penalty on the oil companies by way of forfeiture of wagon registration fees. Instances are given below.

Railway	Period	No. of wagons	Amount due for forfeiture Rs.
Northern	1982	151	34,050
	1983	76	
Southern	1981-82	371 |	72,000
	1982-83	108 |	
	May-83	579	86,850

11 Productivity and turn-round of tank wagons

1.5.47 The performance and utilisation of tank wagons could be gauged from,

- (a) the index of net tonne kilometres per wagon day which takes into account the load, speed and hours of utilisation of wagons, and
- (b) the index of turn-round days showing the interval between two successive utilisations (loadings) of a wagon.

1.5.48 The table below shows these indices in respect of tank wagons.

Year	Broad Gauge		Metre Gauge	
	NTKM per wagon day	Turn-round days	NTKM per wagon day	Turn-round days
1979-80	1136	12.6	1123	16.0
1980-81	1177	12.9	1271	16.2
1981-82	1146	12.4	1071	16.0
1982-83	952	12.6	1097	16.2
1983-84		12.6		16.0

1.5.49 It will be observed that there has been a decline in the ou (NTKM) per wagon in 1982-83 and 1983-84 while the turn-round has i or less remained constant. This is indicative of poor utilisation o wagon fleet. This reduces the profit margin on such traffic. The de in net tonne kilometres per wagon day is attributable to,

- (a) drop in traffic (tonnage carried),
- (b) drop in lead,
- (c) excessive number of wagons on line.

1.5.50 There has been no drop in total traffic in these years though under certain commodities like petrol, lubricants and bitumen there has been a decline in 1983-84 (cf. Para 1.5.24). On the contrary the Railways were unable to carry the traffic offered, as explained in an earlier section (cf. Para 1.5.4).

1.5.51 The lead of POL traffic had increased from 631 km. in 1977-78 to 780 km. 1980-81, but has dropped to 574 km. in 1983 primarily due to commissioning of Mathura Refinery in January 1982 and Mathura-Jalandhar pipe line in December 1982.

1.5.52 Excessive ordering of wagons due to incorrect estimation of requirements resulting in excessive holding and also the surplus arising out of commissioning of Mathura Refinery have been dealt with in para 1.4 above.

III. Analysis of turn-round

1.5.53 While the overall turn-round in 1983-84 was 12.6 days, a further analysis of turn-round for typewise wagons (assuming 5 per cent ineffective) shows that turn-round of POL tanks was 13.3 days; LSHS wagons 6.2 days and tank wagons 29 days.

analy.

showed the

days, LPG tanks

days in the case of tank wagons (90 per cent of which are empty loads) comprise :

The turn-round of

move in closed circuit train

tation, and

(a) case detention.

(b) transit time to and from base

(c) terminal detentions.

table above, represent :

considered to be very high

The turn-round time of 12.6 days (BG) given in the table above represents the turn-round time of the entire POL fleet and is composite. It is as will be explained below :

An analysis of turn-round time shows :

	Days	Remarks
1	2	3
Terminal detentions		The time allowed for oil companies for loading but the

1	2	3
Transit time per trip for a lead of 800 km at the average speed of goods train viz. 22 km ph.	3	
$\frac{800 \times 2}{22} = 72 \text{ hrs}$		
Terminal detentions	2	Time allowed for decanting is 10 hrs. The time taken for placement is however more than one day.
Total	7	
Unaccounted for detentions etc.	5	
Turn-round observed	12	

It will be seen from the above that though the transit time and terminal detentions account for 7 days only of the turn-round time, the unaccounted for detentions in yards i.e. detentions to wagons before placement in base stations and after release from the terminal depots are very high.

1.5.54 For purposes of procurement of wagons the Railway Board has adopted a turn-round of 12 or 11 days, though as given above the actual turn-round should have been about 7 days only.

1.5.55 If action had been taken to eliminate or minimise the unaccounted for detentions and optimise the utilisation of wagons the procurement of a large number of tank wagons could have been avoided (c.f. Para 1.4.5.e). It may be mentioned here that reduction of one day in the turn-round time would mean saving of 2,250 tank wagons with an investment of Rs. 25 *crores at present day costs.

1.5.56 An analysis of the reasons for excessive time taken at bases stations, terminal stations and transit time are dealt with in the following paragraphs.

1.5.57 It will be observed from the statement showing the detentions

*Average cost of tank wagon as per orders placed was Rs. 1.1 lakhs.

and the time taken for placement and removal and for loading given in Annexure V, that while time taken for loading (placement to removal) ranges from 6 hours at Tondiarpet (Madras) to 43 hours at Budge Budge, the time taken by Railways for placement, and removal & despatch ranged from 17 hours at Trombay to 103 hours at Gauhati and Barauni (MG). The total detention has also shown increase at Budge Budge, Cochin, Haldia and Barauni (MG) though the total number of wagons loaded had come down at Haldia and Budge Budge.

1.5.58 Besides the detentions in respect of wagons placed for loading, the wagons rejected and sick wagons also suffer detention in the yards. The wagons rejected on account of wrong placement, unsuitable for product etc., are detained for more than a day before being offered for loading again. Similarly the sick wagons have to be attended to in sick line and are detained there unnecessarily. For instance on the Eastern Railway at Budge Budge in 1983, 2,343 wagons were detained on an average for 20 hours at sick line disrupting flow of movement of such wagons and leading to heavier detention to entire rake.

In addition, the daily average number of wagons stabled/idling as surplus on all railways was

Year	BG	MG
1979	518	150
1980	506	101
1981	1401	169
1982	1327	196
1983	2099	424
1984	1362	411

(upto July 84)

1.5.59 Transit time and terminal detentions

A record of detentions to tank wagons at oil company depots (other than base stations) and at the premises of major users (such as power-

houses) is not maintained by the tank wagons controllers. However, extent of such detentions could be gauged from the following figures :

Base Station	Total turn- round days	Base deten- tion days	Transit time and detention at destina- tion (days)
Bajuwa (Western Railway) (January 1984 to July 1984) and Gandhidam	12.2 to 13.3	2	10.2 to 11.3
Vizag (average 1983)	8	2	6
Haldia (average 1983)	11	4	7
Barauni (average 1983)	10	2	8
Rajbandh (average 1983)	8.8	1	7.8
Wadala (Bombay) (April 1984 to July 1984)	13	3	10

1.5.60 One of the reasons for excessive detentions at destination is the lack of adequate unloading facilities. In an inter-ministerial meeting held in Cabinet Secretariat in January 1981, it was decided that a joint review of the loading and unloading facilities should be undertaken by the Department of Petroleum and Ministry of Railways to determine the facilities for long term handling of POL products by rail. Meeting were held with the Zonal Railways and Oil Industry to consider the long-term requirements of handling POL traffic. Some of the issues considered and their progress were :

(i) Tank wagon discharge facilities

While the oil industry desired a full take POL siding in two spurs the Railways considered it uneconomical. Though the issue related to development of future POL sidings, a final decision has not been taken so far (August 1984).

(ii) Extension of sidings

1.5.61 It was decided to extend the existing sidings to accommodate

full rakes of POL tanks and develop the sidings at railways cost as common sidings.

Accordingly, amongst other stations, Tatanagar, Rourkela, Cuttack, Bhubaneswar, Berhampore, Sambalpur and Balasore on South Eastern Railway and Rajbandh on Eastern Railway were chosen for development of full rake facilities. However, it was noticed that even after a lapse of 3 years no progress has been made as the respective railways have failed to finalise the plans and arrange for joint inspection in consultation with IOC. Consequently the detentions at these places continue to be high. For instance, the turn-round time between Barauni and Tata was 12 days (March 1983). Bondamunda 13.5 days (July 1983).

1.5.62 According to Railways, the handling of a rake in two placements (instead of one placement if a full rake siding is provided), involves extra detention of a minimum of 24 hours at the terminal. The loss of earnings to the Railways as a result of extra detention to tank wagons alone for additional period of 24 hours (at the rate of 7 rakes per month) is of the order of Rs. 13 lakhs per annum. Consequently, the Railways are incurring huge loss on account of delay in completion of the works which would have reduced terminal detentions.

1.5.63 The detention to wagons at railway diesel sheds are dealt with in the next paragraph.

1.6. Loading of Diesel oil for Railways

1.6.1 Railways have 160 fuelling points including 40 diesel sheds. At most of these locations the storage provided by oil companies is inadequate. The capacity at 87 installations was less than 15 days consumption and at 62 installations the average daily consumption is less than half a tank wagon, say 13 kilolitres (Kls). At 11 installations there are no storage facilities and direct fuelling from tank wagons is resorted to. According to the agreement with IOC, the company provides storage facility at its cost for 15 days' offtake. Though 87 installations have storage capacity of less than 15 days' consumption, the Railways have not provided permanent storage facilities because of delay in finalisation of plans, location, etc., in consultation with IOC as was observed in the case of Satna *vide* sub-para 16.13 below.

The despatch of HSD oil tank wagons to fuelling points on Railways has to be regulated such that the wagons are not detained unnecessarily.

But, it was observed that in practice the despatches to fuel installations of Railways was not properly programmed with the result that the wagons suffered enormous detentions.

1.6.2 The despatches to Railway diesel installations are in piece-meal. The monthly loading of tank wagons to Railways were about 3000 BG and 180 MG. However, these wagons appeared to take more than 45 days for completing a trip (against 11 days for all tank wagons), considering the detentions at fuelling points, Some instances of such detentions are mentioned below,

1.6.3 Ernakulam diesel shed is situated 10 kms from the supply point (Cochin) with a storage capacity of 140 kl. against the average daily issue of 16 kl. The oil siding has a capacity to hold 8 wagons. As per the present monthly programme, 24 tank wagons of diesel oil are to be supplied from Cochin at the rate of 3 tank wagons one in 4 days. The above programme is hardly adhered to and mostly 5 tank wagons are booked resulting in detention to wagons up to 22 days.

1.6.4 Arakkonam : Direct fuelling from tank wagons was in vogue during the year 1983-84. The average issue was about 1 to 2 Kl. a day. The average detention to tank wagons during 1982-83 and 1983-84 was 35 days and 47 days, and in one case 103 days.

1.6.5 Rewari : The average issue is about 15 Kl. in 2 tank wagons after every four days. But generally the shed was receiving 10 to 12 wagons causing heavy detention. Between January 1984 and June 1984. 64 tank wagons were received in the shed, of which 56 wagons suffered detentions of more than 5 days. The cumulative distribution of detentions were

Wagons detained (cumulative)	Period (Days)
5	26-30
12	21 days and above
20	16 days and above
40	11 days and above
56	6 days and above
68	upto 5 days

1.6.6 Yeshwantpur : The fuelling point is located within 20 km. of Baiyyapnahalli where the oil companies have their bulk oil installations. The turn-round time between Baiyyapnahalli and Yeshwantpur in respect of diesel oil tank wagons ranges between 8 and 23 days against the average turn-round time of 6 to 9 days for rakes despatched by oil companies to far off places like Shimoga, Bhadravati etc.

1.6.7 Shakurbasti Diesel Shed/Tughlakabad Diesel shed :

Shakurbasti shed was receiving HSD oil from Kandla up to December 1981 from which date, it is receiving supplies from Mrthura. Tughlakabad shed also receives supplies from Mathura.

1.6.8 A test check of detentions to wagons during March 1982 and December 1983 showed the following results :

Detentions beyond free time	Number of wagons (cumulative)			
	Shakurbasti		Tughlakabad	
	March	December	March	December
	1982	1983	1982	1983
(1) 8 days and above	1	6	7	...
(2) 4 days and above	13	...	11	5
(3) 2 days and above	14	...	24	23
(4) 1 days and above	16	9	64	24
(5) upto 1 day	20	10	93	36

It will be observed that 65 per cent of wagons suffered detentions above 4 days at Shakurbasti and 12 per cent to 14 per cent at Tughlakabad.

1.6.9 Burdwan and Andal Diesel sheds :

	Year	No. of tank wagons received	Average detention (days)
1	2	3	4
Andal	1982-83	252	10.3
	1983-84	242	11.5

1	2	3	4
Burdwan	1982-83	229	17.4
	1983-84	255	22.1

The figures of detention at Burdwan represent total detention from arrival at Burdwan yard to, despatch. (The average detention in the yard itself was about 1.5 days in 1983-84).

1.6.10 In addition, POL tank wagons which arrived were diverted to other stations. During 1981-82 and 1982-83, such diverted wagons numbering 60 and 65 respectively were detained for 4 days and 8.6 days respectively.

1.6.11 Phulera (Western Railway)

Phulera diesel shed has storage capacity of 12.7 days consumption (i.e. 700 Kls.). However, due to bunching of receipts the tank wagons suffered excessive detention as below :

Year	Number of wagons	Total detention beyond free time (days)	Average detention days
June 1983	2	2.2	1.1
August 1983	26	84.0	3.2
September 1983	11	61.2	5.6
December 1983	18	40.3	2.2
January 1984	10	26.6	2.7
March 1984	6	7.6	1.3

Similarly at Vatva diesel shed (BG) during November 1983, 6 tank wagons were detained for 798 hours.

1.6.12 Gooty (South Central Railway)

The storage capacity was only 553 Kls. against the 15 days' off-take of 780 Kls. in 1980-81 and 1050 Kls. in 1983-84. Owing to limited storage

capacity detentions were excessive as below :—

Year	Tank wagons	Total days	Average days
1981	489	1316	2.69
1982	406	950	2.34

Similarly at Gooty traffic yard fuelling point, the detention in respect of 240 wagons during 1981 and 1982 was 1232 days.

The detention at Miraj and Hubli were as under :

	Year	Tank wagons	Total days	Average days
Miraj	1981	433	4189	9.7
	1982	465	3151	6.8
Hubli	1980-81	48	94.25	1.96
	1981-82	77	247.33	3.21
	1982-83	69	309.58	4.48

Guntakal (South Central Railway) : The metre gauge shed was receiving HSD oil from Vasco-da-gama (longer route) instead of from Madras as the Railway had not developed facilities for connecting the MG shed with BG yard. The delay of over 8 years in developing facilities had resulted in extra haulage cost of Rs. 6.87 lakhs during the period 1982-83 and 1983-84 (c.f. Paragraph 11 of this report)

1.6.13 Satna

A temporary fuelling installation was functioning at Satna with a limited storage capacity of 48.24 Kes. This limited storage facility could not cater to the fuelling needs of goods trains and hence the Railway Administration decided to convert this temporary fuelling installation into a permanent one with increased capacity of 621 Kl. Based on the requisition of the operating department, the Stores department placed an indent in 1976 on DGS&D for supply of 5500 Kl of HSD oil (per annum) to loco foreman at Satna. With the conversion of the temporary installation at Satna into permanent one, and additional facilities for fuelling point in New Katni Yard, it was considered by General Manager in November 1976 that the existing fuelling installation at Katni (South)

would not be necessary. The four storage tanks of 280 Kl capacity were shifted departmentally in December 1978/January 1979 to Satna.

1.6.14 The average daily consumption of HSD oil at Satna increased from 12 Kl. in 1976-77 to 23.8 Kl. in 1977-78 and 28.1 in 1978-79, 34.1 in 1979-80 and 35 Kl. in 1980-81. With the limited storage capacity of 48.24 Kl. at Satna the HSD oil tank wagons received at Satna were detained there abnormally for decanting. The number of hours such wagons suffered detention during the period from 1976-77 to 1980-81 are given below :

Year	No. of days (average) wagons were detained for decant- ing (ex- cluding free time)	Amount of demurage charges paid (Rs. in lakhs)	Loss of earning capacity of the wagon (Rs. in lakhs)
1976-77	1.2	2.117	0.307
1977-78	3.3	6.28	0.952
1978-79	4.1	7.555	1.152
1979-80	4.0	9.027	1.273
			3.684

Even now (August 1984) permanent storage facilities have not been provided at Satna. The question of providing permanent storage facilities has remained under correspondence between Railway Administration and IOC for the last 5 years, but the Railway has not been able to finalise the location. The existing siding could hold only one wagon and consequently wagons suffer detention.

1.6.15 With a view to finding ways and means of eliminating piecemeal despatches of Railway HSD oil, and improving the utilisation of tank wagons, the Railway Board in consultation with IOC decided in July 1979 that :

- (a) major diesel sheds/installations should develop full rake unloading facilities.

- (b) diesel installations which are in close proximity to IOC's main depots/installations should have pipe line transfers; and
- (c) all diesel/installations which have road approaches should take their deliveries by road from IOC's nearest depots.

1.6.16 Accordingly the Railways were asked to examine the feasibility and other aspects in respect of 55 installations for 'road bridging'; 10 installations for 'pipe line transfers' and 20 installations for development of full rake unloading facilities. The proposals could not be implemented on account of non-availability of field data. The position was reviewed in January 1981, and it was decided that the road supplies could be had at 19 (against 35) installations and full rake unloading facilities developed at 14 installations (against 20 selected earlier). The proposals for pipe line transfer was also reduced in scope, to 2 stations only, against 10. The proposal to have road supplies at 19 stations was also found to be economical. The savings due to release of tank wagons was expected to be Rs. 63 lakhs per annum against additional expenditure of Rs. 38 lakhs towards road-haulage costs and extra-sales tax, *i.e.* a net saving of Rs. 25 lakhs per annum. The Railway Board, however, decided (May 1981) that supply of HSD oil to sheds should continue in piece-meal only and supply by road should be eliminated as it was conducive to fraud and malpractices. Consequently, even those stations where road-supplies were being taken earlier *viz.* Kanpur, Anwarganj Lucknow, Chaubagh, Tinsukia, Yeslwantpur, Guntakal, Waltair and in Sabarmati, were brought on to rail supplies in piece-meal wagons resulting in crease in turn-round days.

1.6.17 Further, with this decision, it was all the more necessary for the Railways to increase the storage capacity at the Railway diesel locations in order to avoid detention to tank wagons. This was also not planned by the Railways. In several diesel sheds/Inffulling points the average daily consumption had increased $1\frac{1}{2}$ times between 1976 and 1984, but the storage capacity had not increased (*e.g.* Barauni, Erode, Gooty, Kankaria, Bilaspur). Even at places where direct fuelling from tank wagons (by diverting wagons from other points) was being done, storage tanks not been installed so far. On the Eastern and South Eastern Railways alone there were 11 such fuelling points, with a daily average consumption of 2-10 Kls. A tank wagon would have to be necessarily detained at these places for 3-15 days.

1.6.18 After the decision to give up the proposals for road supply of HSD oil the Railway Board asked (August 1981) the Railways to develop

full rake unloading facilities at selected points (18 points) half rake unloading laubties at diesel installations having a daily consumption of 20 KI and pipe line transfers etc. The Railways, however, did not consider it possible to provide for full/half rake unloading facilities at the existing locations in view of space limitations change in pattern of consumption etc. The pipe line transfers were considered to involve unnecessary blocking up of inventory as the pipe lines would have to be laid for long distances from IOCs installation to Railway diesel sheds.

1.6.19 Thus even after a lapse of 5 years, the proposal to rationalise the HSD oil supplies to Railway diesel installations with a view to improving the utilisation of tank wagons has remained on paper without implementation. Meanwhile excessive detentions to tank wagons at Railway diesel sheds continue. The Railway's objection to taking road supplies and pipe line transfers because the former was conducive to malpractices and the latter involved blocking up of inventory in pipe lines for long distance (4* to 20 km.) is not really tenable as the oil Companies are supplying HSD oil by road tankers to other consumers and their own pipe lines carry oil for distances over 500 kms.

1.7 Transportation of edible oils, molasses etc.

1.7.1 The holding of tank wagons for other than POL traffic was 1851 BG and 553 MG in 1978-79 and 1720 BG and 418 MG in 1981-84. However, as mentioned in para 1.4.2, a provision for 1150 tank wagons for transporting edible oil, molasses, alcohol, etc. was taken into account in the total requirements in terms of multipurpose TORX wagons.

1.7.2 The actual traffic in edible oil, molasses, etc. was as under :

Year	(thousand tonnes)				
	**Edible oil	Molasses	Alcohol	Acids	Caustic Soda
1977-78	754	260	19	21	197
1980-81	554	115	15	14	136
1981-82	562	106	17	015	148
1982-83	495	85	12	20	134
1983-84	536	126	83	14	111

* Upto a distance of 4 KMs pipelinces are provided free of cost by the oil companies.

(**includes imported edible oil)

1.7.3 The anticipated increase in non-POL traffic had not materialised of the 536,000 tonnes of edible-oil carried in 1983-84, approximately 310,000 tonnes were imported oil moving in tank wagons from Bombay/Kandla to refining centres.

1.7.4 The State Trading Corporation of India (STC) imports unrefined rapeseed and soyabean oil. The programme for loading in 1984 had been indicated by STC as 30 rakes at Bombay and 9 (BG) and 25 (MG) at Kandia per month. A review of loadings from January 1984 to July 1984 showed that these targets never materialised, the maximum number of rakes loaded being 9 (April 1984) at Bombay and 6 (BG) and 15 (MG) at Kandia. However, the Railway had been supplying a large number of wagons resulting in 20 per cent rejections/leftovers with attendant detentions. At Kandla 35 MG wagons were idling for 12 days for want of demand for edible oil.

1.8 *Ineffective tank wagons*

1.8.1 The number of tank wagons rendered ineffective on account of their being under repairs or under periodical overhaul was on an average 767 per month and 868 per month. *i.e.* 2.84 per cent and 3.06 per cent of the holdings respectively during 1982-83 and 1983-84. The percentage of ineffective wagons was not very high compared to the norm of 4 per cent. However, this could have been brought down further if the necessary detentions, mentioned below, had been avoided.

1.8.2 *Eastern Railways*—The time taken for periodical overhaul (POH) of 452 tank wagons in Kancharapara workshop was 25.5 days per wagon in 1982-83, of which the actual time for repairs was only 7.5 days. The detention to wagons before POH and after POH in the workshop and yard accounted for 18 days.

1.8.3 *Central Railway*—The actual time taken for POH and special repairs and the total time the wagons were in Kurla workshops were as under :

Year	No. of wagons		Actual Time		Total time (days)	
	POH	Special repairs	POH	Special repairs	POH	Special repairs
1981-82	1877	2007	2.7	1.9	8.5	7.7
1982-93	1843	2190	2.6	1.7	7.4	7.1

1.8.4 *Southern Railway*—Eighteen (18) wagons sent for POH at Parambur workshop between August 1981 and December 1983, suffered heavy detentions : the average detention being 12 months, about 9 wagons having been detained for more than 6 months.

1.8.5 *Northeast Frontier Railway*—The total detention in workshops and the actual time taken for repairs are given below :

Year	No. of tank wagons periodically overhauled	Average No. of days detained in the workshop	Average No. of days utilised for periodical overhaul
POH of tank wagons in Diburgarh workshop			
1981-82	417	8.72	5.65
1982-83	223	10.79	5.70
1983-84	218	8.89	6.72
Special repairs to tank wagons in workshop			
1981-82	7	5.43	5.28
1982-83	33	12.21	6.33
1983-84	20	18.45	7.80
POH of tank wagons in New Bongaigaon workshop			
1980-81	43	8.81	0.12
1981-82	79	11.28	5.92

Special repairs to tank wagons in New Bongaigaon workshop

1	2	3	4
1980-81	20	11.20	4.85
1981-82	9	17.00	12.66

1'9 *Other points of interest*

1.9.1 *Cleaning of tank wagons.*—It was mentioned in an earlier paragraph (c.f. Para 1.5.4) that one of the reasons for rejection of tank wagons by oil companies was that they were unfit for the product. The demand for tank wagons for loading white oil and black oil has been fluctuating from time to time. Therefore, the Railway Administration has often to resort to steam or chemical cleaning of tank wagons to make them fit for loading the traffic offered. The Ministry of Railways (Railway Board) decided (December 1981) that the Oil Industry, being solely responsible for such fluctuations, was required to bear the cost of cleaning as and when such cleaning became necessary. Subsequently, in November 1982, the Railway Board decided that the Railways should charge uniform rates for cleaning, and accordingly fixed the rate at Rs 1,200 per tank wagon including the detention charges for two days and if the detention for steam cleaning is more than two days, additional detention charges at the rate of Rs. 400 per day per tank wagon is to be recovered. Rates for chemical cleaning was also fixed in May 1983 at the rate of Rs. 200 per wagon and Rs. 400 detention charges, *i.e.*, Rs 600 per tank wagon including detention charges upto 2 days as in the case of steam cleaning and if the detention is higher, detention charges at the rate of Rs. 200 per day should be levied. The Railways have not implemented these instructions, though a large number of wagons are steam cleaned frequently in order to make them fit for loading white oil the Railways have not been recovering the cleaning charges from the oil companies. The amounts due for recovery are shown below :—

Railway	Period	No. of tank wagons		Total amount due from oil companies (Rs. in lakhs)
		M.G.	B.G.	
Southern	Dec. 1981 and Now. 1982		133	0.72
	Dec. 1982 and Jan. 1983	95	45	1.68
	May 1983 and Feb. 1984		581	6.97
	May 1982 and May 1983		820	9.84
Central	Aug. 1982 to July 1983		86	1.03
South Eastern	Dec. 1981 to March 1984		898	10.37
South Central	Jan. 82 to Sept. 84		71	0.38
Western	1981 to 1983 and upto March 1984		37340	No debits raised
Eastern	No., Dec., 1981, Dec. 1982 and		Chemical cleaning 1873	-do
	Jan. 1983 to March 1983		Steam cleaning 39	

1.9.2 *Empty haulage of BG tank wagons in naphtha rakes.*—With the change over in naphtha movements to Gorakhpur unit of Fertiliser Corporation of India, (FCI) from M.G. to B.G. with effect from November 1981, naphtha is received in BG tank wagons at Nakaha Jeengle station serves the Corporation's siding. The naphtha rakes received at FCI/Gorakhpur during November 1981 to January 1982 contained lesser number of tank wagons than that could be accommodated in the siding and also empty tank wagons. This caused shortage of feed stock for the Fertiliser factory and the matter was reported to the Railway Board who advised the Northeast Frontier Railway to run naphtha rakes with loaded wagons only.

A review by Audit (March 1984) revealed that during the period November 1981 to February 1984, out of 43 naphtha rakes received from Barauni junction, 33 rakes contained 112 empty tank wagons. The avoidable expenditure on the haulage of these 112 tank wagons from Barauni junction during November 1981 to February 1984 worked out to Rs. 2.1 lakhs.

Similarly, out of 132 naphtha rakes received from other stations *viz.*, New Jalpaiguri, New Bongaigaon, Tinsukia (Northeast Frontier Railway), Barapali (South Eastern Railway), Mathura (Central Railway) and Fort Songadh (Western Railway), 61 rakes contained 252 empty tank wagons, the expenditure on haulage alone amounting to Rs. 14.6 lakhs.

1.9.3 *Unnecessary haulage of tank wagons.*—South Central Railway arranged transport of drinking water in tank wagon specials during the period from 10th April 1983 to 31st July, 1983 free of charge from Vijayawada/Rajahmundry to Madras and some other drought affected areas in Tamil Nadu 540 tank wagons were deployed in water movement circuit. The Railway Board in August 1983, decided that tank wagons released from the circuit should be kept stabled on South Central Railway. Ignoring these instructions, South Central Railway despatched 298 wagons to Southern Railway in August/September 1983 and October 1983 and another 64 wagons to Central Railway in September 1983. The Southern Railway rejected about 201 wagons as they were found deficient in fittings and returned 96 wagons to South Central Railway for repairs and reuse at Waltair (South Eastern Railway). These wagons were not however, accepted by oil companies for loading on the ground that the wagons had been used for transport of water, and were returned to Madras. The haulage of tank wagons contrary to the instructions of Railway Board for stabling the wagons, resulted in unnecessary expenditure of Rs. 2.23 lakhs.

1.9.4 *Idling of newly built wagons*—A batch of 66 newly built TORX (oil tank) wagons was received at Irimpanam yard (Cochin) on 6th September, 1982 from the manufacturers. While the wagons were placed for loading by Cochin Refineries Limited (CRL) immediately after their receipt,

the entire batch was rejected by them on the plea that revised design of the wagon (CBE type) did not suit their loading arrangement. A few wagons were loaded between 9th September, and 24th September, 1982. Thereafter the CRL authorities stopped loading these wagons. Regular loading of these wagons commenced from 27th November, 1982 apparently after discussion with the CRL authorities. Thus between 24th September 1982 and 27th November 1982 the new wagons were idling for 63 days.

On the South Eastern Railway four new tank wagons received from manufacturers in March 1982 and May 1982 were not put on line till June 1982—November 1982 as they were not calibrated.

1.9.5 *Loss of freight on POL traffic*—The POL traffic from Bajuwa and Kandla bases of Western Railway to various stations on the Northern Railway was carried by the all BG route as the shorter MG route was not available, the transshipment facilities for POL having been closed in 1956. The freight was, however, levied by the shorter route, resulting in a concession of Rs. 3.23 crores for the period February 1982 to November 1983 (c f Para 29 of this report).

1.10 *Summing up*

Rail transport of Petroleum products (POL)—an important high rated traffic is done through special type of wagons *i.e.* tank wagons as these wagons are unipurpose, adequate care in planning to minimise investment in tank wagons and other infrastructural facilities (for handling POL traffic) is necessary to ensure intensive utilisation of assets created. A review in audit of procurement and utilisation of tank wagons showed that the procurement was excessive resulting in surplus and idling of wagons and that the utilisation was below the optimum level on account of unnecessary detentions, in efficient operations, failure to provide adequate facilities, etc. The salient features noticed are summarised below :

(A) Growth of traffic and procurement of tank wagons

- Despite 39.44 per cent growth in consumption of petroleum products in the country during the period 1977-78 to 1983-84 the rail traffic in POL increased by 37.1 per cent only indicating a decline in railways' share of traffic (Para 1.2.2).
- Between 1978-79 and 1983-84 the broadgauge tank wagon holdings had increased by 44 per cent against the increase of 35 per cent

in traffic ; the capacity created was in excess of materialisation of traffic (Para 1.3.2).

- Though the POL tank wagons are exclusively meant for use of oil companies, the ownership of wagons rests with Railways and the investment for procurement is made in railway sector, except for a small number of LPG (Liquefied Petroleum Gas) tank wagons which are jointly owned by oil companies and Railways (Para 1.4.1).
- Additional requirements of 6090 BG and 472 MG tank wagons assessed for the sixth plan period was made on the basis of liberal turnround (11.2 days) and certain *ad hoc* assumptions about commissioning of Mathura Refinery, edible oil traffic, etc. (Para 1.4.2).
- The number of wagons ordered was in excess (4177) of the assessment and without justification and had resulted in idle investment of Rs 46 crores involving unnecessary payment of Rs. 6 crores dividend to general revenues (Paras 1.4.4 & 1.4.9).

(B) Performance of tank wagons

- Despite increase in tank wagon fleet the railways were unable to meet the target (slate) of loading (Para 1.5.4).
- The shortfall in loading *vis-a-vis* slate on broadgauge during 1983-84 was about 11 per cent in white oil (mainly naphtha, aviation fuel and HSD oil), 8 per cent in black oil (mainly light diesel oil) and 17 per cent on metre gauge (Para 1.5.5).
- The shortfall in loading *vis-a-vis* slate in the bases situated in the eastern sector *viz* Barauni, Haldia, Rajbandh, Budge/Budge, Sili-guri, Bongaigaon was generally more than the shortfall in bases in western sector (Para 1.5.9).
- The shortfall in loading *vis-a-vis* the slate had resulted in (i) road bridging of products involving additional expenditure of Rs. 18.08 crores during the period 1980-81 to 1983-84 (which amount was reimbursed to oil companies), (ii) production losses in refineries. (iii) high inventories and (iv) shut down of product pipe lines etc. (Para 1.5.11).

- In the North eastern region the oil companies resorted to crude cuts and road bridging (estimated extra expenditure during 1984-85 in the form of re-imbusement to oil companies—Rs. 3.73 crores) as a regular measure, due to paucity of tank wagons, despite idling of tank wagons in the western sector (Para 1.5.20).
- The Railway's policy to move POL traffic in block rakes (train loads) combined with the hike in tariff had resulted in diversion traffic to road in petrol, lubricants, bitumen, LPG etc. (Para 1.5.23).
- Though the Ministry of Petroleum and Ministry of Railways were aware even in March 1983 that the transport bottlenecks were major contributory factors in the continued back log on LPG in all the markets in the country, co-ordinated planning was not done to remove the bottlenecks; despite increase of 243 per cent in LPG wagon holdings from 248 in 1981-82 to 852 in 1983-84, the loading on railways increased by 50 per cent only from 1.0 lakh tonne to 1.5 lakh tonnes only. (Paras 1.5.33 & 1.5.29)
- Large scale incidence of sickness, excessive detention to LPG wagons by Indian Oil Corporation (IOC) for degassing and excessive turnaround time resulted in poor availability of wagons for loading—out of 852 wagons only 400 were available.
(Para 1.5.33)

(C) Utilisation of tank wagons

- The supply of wagons was in excess of indents, but the loading was less than the supply on account of unsuitability of wagons—defects, wrong placement, etc., these factors entailed unnecessary detention to wagons and at times empty haulage (Paras 1.5.50 & 1.5.41).
- The railways had not streamlined the procedure for examination of tank wagons placed for loading so as to minimise rejections by oil companies after placement (Para 1.5.45).

(D) Productivity of wagons

- The productivity measured in terms of net tonne kilometres per wagon day (pay load carried per day per wagon) had declined,

while there was no improvement in turnaround (Para 1.5.48).

- The turnaround of 12.6 days (BG) in 1983-84 (and earlier years) was abnormally excessive considering the fact that POL traffic moved in closed circuit and the transit time for a lead of 800 km was round 3 days only (and a total turnaround of 7-8 days would have been adequate) (Para 1.5.53).
- The poor turnaround was attributable to excessive detentions at loading points, at destination unloading points and in the yards before placement and after removal (Para 1.5.57).
- The daily average number of wagons stabled/idling as surplus had increased from 518 (BG) in 1979 to 2009 (BG) in 1983; similar figures for MG were 150 and 424 respectively (Para 1.5.58).
- Though in an interministerial meeting held in January 1981, it was decided that the Railways and Ministry of Petroleum should jointly review the facilities for long term handling of POL products by rail, the progress made in providing full rake POL sidings so as to avoid detention to wagons was not significant and consequently the abnormal detentions to wagons continued to occur. According to Railways themselves the loss of earnings on account of extra detention is of the order of Rs. 13 lakhs per annum for each unloading point where full rake facility does not exist. There are 32 such points entailing a loss of Rs. 4.16 crores per annum. (Paras 1.5.61, & 1.5.62).
- The detention to tank wagons at railway diesel installations was abnormally high ranging from 1 day to 30 days. (Para 1.6.2 et. seq).
- Though, in April 1979, the Railway Board had taken certain policy decisions regarding augmenting storage capacity at diesel sheds, taking supply through pipe line from nearest IOC's depots or taking delivery through road with a view to eliminating the detentions to tank wagons in diesel fuel installations, these were not implemented; on the contrary the decisions were revised from time to time giving up or diluting the earlier decisions. (Paras 1.6.15 to 1.6.19).
- The traffic in non-POL products (requiring use of tank wagons) had not materialised to the extent anticipated. (Para 1.7.1).

- The percentage of ineffective wagons (3.06) could have been brought down further if the detentions before and after periodical overhaul of tank wagons had been reduced. (Para 1.8.1).
- The charges for cleaning tank wagons were not levied. (Para 1.9.1).
- Lack of co-ordination between railways and oil companies led to unnecessary empty haulage of tank wagons (haulage expenditure Rs. 16.83 lakhs) and idling of newly built wagons. (Paras 1.9.2 & 1.9.3).
- There was a loss of freight of Rs. 3.23 crores on account of incorrect charging of freight. (Para 1.9.5).

ANNEXURE I

(cf. Para 1.2.2)

Statement showing P.O.L. loadings and consumption product-wise

(thousand tonnes)

Product	1981-82		1982-83		1983-84	
	Consump- tion	Railway loading	Consump- tion	Railway loading	Consump- tion	Railway loading
1	2	3	4	5	6	7
Diesel ...	10832	6794	12013	6985	12489	7077
Kerosene Oil ...	4693	2512	5214	2682	5505	2873
Petrol ...	1599	1036	1722	955	1885	945
Other fuel ...	1128	674	1145	984	1200	1085
Crude ...		3		56		6
Lube Oil ...	592	228	605	313	611	196

1	2	3	4	5	6	7
Other mineral oil ...	1036	64	1067	208	1093	377
Other mineral oil ...	7184	3585	7301	3174	7570	3273
(Non-dangerous)						
LPG ...	492	101	601	125	747	150
Coal Tar ...	175	112	1889	121	227	56
Petroleum Coke ...	174	70	103	113	113	180
Bitumen ...	1292	719	1379	726	1014	477
Turpentine ...		17		20		29
Naphtha ...	2963	636	2958	875	2783	1188
Total	32523	16955	34657	17342	35601	17949

Note :— Variations in totals are due to rounding off.

ANNEXURE II

(cf. Para 1.5.4)

Statement showing number of tank wagons loaded

Year		P.O.L	R.F.O	Bitumen	L.P.G.	Hexene	BG	Total MG
1		2	3	4	5	6	7	8
1978-79	...	466,060	78,094	4047	6066	372	554 639	105,363
1979-80	...	486,675	68,435	3478	5402	376	564,416	99,307
1980-81	...	531,112	57,462	631	5596	282	595,083	99,907
1981-82	...	579,034	92,971	3780	7550	227	683,562	101,497
1982-83	...	617,355	99,138	3054	9692	194	729,433	96,312
1983-84	...	665,989	105,317	4054	9706	219	785,285	94,365

ANNEXURE III

(cf. Para 1.5.9)

Base-wise analysis of loadings vis-a-vis slate during 1983-84

Metre Gauge		Daily Slate	Average Loading (Number of wagons)	Short-fall mean percent	Shortfall occurring in no. of months
1		2	3	4	5
Kandla	...	80	65	18	12
Mathura	...	25	19	24	10
Sabarmati	...	46	44	4	4
Barauni	...	8	7	13	2
Siliguri	...	24	16	33	11
Gauhati	...	13	11	4	8
Tinsukia	...	42	30	29	12

Bongaigaon	...	9	6	33	9
Vasco-da-gama	...	23	21	8	5
Manmad	...	11	10	9	8
Bangalore	...	10	11	—	3
Tiruchirappalli	...	19	17	10	10
Madras	...	3	3	25	6

Broad Guage

Base Station	White Oil				Black Oil				
	Average Loading Daily Slate (Number of wagons)		Shortfall Mean percent	Shortfall Occurring in no. of months	Average Daily Slate (Number of wagons)	Loading	Mean percent	Shortfall Occurring in no. of months	
1	2	3	4	5	6	7	8	9	
Barauni	...	43	36	17	7	7	4	42.85	9
Siliguri	...	64	45	29.68	11	46	38	17.39	8
Bongaigaon	...	14	8	42.85	11	20	10	50	12

1	2	3	4	5	6	7	8	9	
Haldia	...	57	52	8.77	7	23	28	...	3
Rajbandh	...	30	17	43.33	11	...	...	...	...
Visakhapatnam	...	164	147	10.36	10	36	33	8.33	9
Budge Budge	...	14	7	50	11	...	...	...	...
Panki	...	26	32	...	2	15	13	13.33	8
Koyali	...	331	324	2.11	7	65	60	7.69	7
Mathura	...	200	160	20	11	112	113	...	5
Bombay	...	260	234	2.30	10	24	22	8.33	5
Kandla	...	13	22	...	...	...	...	...	...
Cochin	...	184	158	14.13	12	16	14	12.5	9
Madras	...	156	148	5.12	8	19	17	10.52	7
Suchipind	...	70	62	11.42	9	...	...	...	...

ANNEXURE IV

(cf. Para 1.5.39)

Statement showing indents, supply and loading of tank wagons on Railways

Railways	Year	Indent	Supply	Loaded	Not loaded	(Number of wagons)		
						Rejection	Excess supply	Left over
1	2	3	4	5	6	7	8	9
Central	1978-79	...	140733	108057	32676	23608	9052	10016
	1979-80	...	142030	105796	36234	16090	11140	9004
	1980-81	...	155969	116130	39839	17892	15070	6877
	1981-82	...	150982	112349	38633	16344	13360	8929
	1982-83	...	127315	84854	42461	18633	15056	8772
	1983-84	...						

1	2	3	4
Eastern—Budge Budge	1982-83	3936	3792
	1983-84	3555	4707
Northern	1981-82	—	31374
	1982-83	—	23986
	1983-84 (upto December 1983)	—	13551
North Eastern (MG)	1978-79	9644	7929
	1979-80	9644	7495
	1980-81	4156	3371
	1981-82	4325	3175
	1982-83	3316	7730
Southern B. G.	1980-81	103937	107603
	1981-82	114034	115106
	1982-83	130744	129392
	1983-84	140867	136765

5	6	7	8	9
2315	1477	697	770	—
2891	1816	912	904	—
29559	1815	1220	660	—
22167	1819	1092	791	—
12483	1068	675	397	—
6245	1684	794	890	—
5685	1810	824	986	—
2421	950	358	592	—
2722	453	238	215	—
3195	4535	175	4360	—
103509	4094	4094	—	—
112165	2941	2941	—	—
121729	7663	3613	—	4047
130389	6376	6376	—	—

M. G.		1980-81	15310	16852
		1981-82	12594	14133
		1982-83	15624	15491
		1988-84	13095	13806
Sample check at Irim-				
panam	October	1982	4300	4891
	November	1982	4275	5224
Baiyyappanahalli				
	October	1982	291	463
	November	1982	392	401
South Central (MG)		1981-82	3187	5735
		1982-83	3435	5104
Manmad		1983-84	3731	4829
Vasco-da-gama		1981-82	8963	5980
		1982-83	7345	6590
		1983-84	9187	8024

15371	1481	1481	—	—
12768	1465	1365	—	—
13145	2346	2346	—	—
11025	2781	2781	—	—
			—	—
4865	26	26	—	—
4634	590	590	—	—
			—	—
283	179	179	—	—
310	91	22	—	—
2549	3186	—	—	—
2974	2130	—	—	—
3724	1105	—	—	—
5809	171	—	—	—
6517	73	—	—	—
7912	112	—	—	—

1	2	3	4
South Eastern	1982-83	35886	30903
Haldia	1983-84	32593	32082
Visakhapatnam	1982-83	59581	60896
	1983-84	71846	70041
Western B.G.	1979-80	190690	187225
	1980-81	217218	223264
	1981-82	198688	232651
	1982-83	164803	208606
Western M. G.	1979-80	69884	67307
	1980-81	68282	73419
	1981-82	60507	77311
	1982-83	46159	83819

5	6	7		8
28383	2520	—	—	—
29761	2321	—	—	—
58014	2882	—	—	—
67614	2427	—	—	—
157794	29431	—	—	—
190860	32404	—	—	—
184522	48129	—	—	—
163359	45247	—	—	—
53803	13504	—	—	—
58360	15059	—	—	—
55149	22162	—	—	—
44720	40099	—	—	—

ANNEXURE V

(cf. Para 1.5.57)

Detention to wagons at base stations/Railways

Railway	Year	Total wagons	Average hours of detention				Percentage (4+6) to 7
			Arrival to placement	Placement to removal	Removal to despatch	Total	
1	2	3	4	5	6	7	8
Central							
Trombay	1980-81	87578	3.44	16.92	13.71	34.08	50.3
	1981-82	82047	3.14	15.97	16.23	37.34	51.9
	1982-83	76446	4.56	20.96	16.29	41.84	49.8

1	2	3	4
Eastern	1983-84	93299	5.40
Budge Budge	1982-83	15073	28.0
	1983-84	13437	20.2
Northern			
Panki	1982-83	26201	17.5
	1983	15101	11.3
Nort heast Frontier			
Gauhati	June/July 1980	607	64.0
	April/May 1981	472	54.75
	January/February		
	1983	673	21.67
	April/May 1983	545	24.83

5	6	7	8
21.32	11.86	38.71	44.6
39.4	63.0	130.4	69.8
43.1	67.1	104.4	62.2
11.8	16.3	45.6	74.1
11.4	15.8	38.5	70.4
7.17	69.75	140.92	94.9
6.63	79.58	140.96	95.3
7.09	90.58	119.34	94.1
9.75	77.83	112.41	91.3

Southern

Irimpanam	...	1980-81	52713	9.54
		1981-82	56738	10.1
		1982-83	60562	9.8
		1983-84	69911	10.3
Tondiarpet	...	1980-81	50273	15.6
		1981-82	52516	22.8
		1982-83	59760	25.7
		1983-84	57037	18.4

South Eastern

Haldia	...	1980-81	34994	8.11
		1981-82	32241	9.38
		1982-83	27935	11.58
		1983-84	28877	14.13

8.13	11.7	32.5	65.4
7.0	8.8	30.0	63.0
6.5	9.0	30.0	62.7
6.4	14.8	35.6	70.5
6.3	20.9	42.8	85.3
6.7	22.6	52.1	87.1
6.1	18.9	50.7	88.0
7.4	17.8	43.6	83.0
19.78	11.33	39.22	49.6
24.06	12.44	45.88	47.6
23.76	13.31	48.65	51.2
25.73	14.13	53.99	52.3

1	2	3	4
Western			
Koyali	1981	11176	5.8
	1982	10210	5.8
	1983	10888	4.6
North Eastern (MG)			
Baraunia	1982	3398	40.1
	1983	3476	57.94

5	6	7	8
15.0	11.0	39.8	42.2
10.4	22.1	38.3	72.8
10.9	23.7	39.2	72.2
7.8	52.75	100.65	92.2
8.8	44.87	111.61	92.1

APPENDIX II

Statement of observations/Recommendations

Sl. No.	Para No.	Ministry/Deptt. concerned	Observations/Recommendations
1	2	3	4
1	1.37	Railway (Railway Board and Petro- leum and Natural Gas	Petroleum products play a prominent role in the development of national economy. Equally important is the role of the Railways as it provides for the most economical mode of transport for POL traffic in bulk. It is, therefore, necessary that due importance and high priority is accorded to the movement of POL traffic by rail.
2	1.38	—do—	The Committee note that as a result of review of procurement and utilisation of tank wagons, the Audit has raised two basic issues viz. (i) procurement of tank wagons in excess of their requirement by the Railways during Sixth Five Year Plan was without justification and had resulted in idle investment of Rs. 46 crores and (ii) the utilisation of tank wagons was below the optimum level due to lack of adequate infrastructural facilities for handling POL traffic, excessive detention, long turnround period and inefficient operations.
3	1.39	—do—	In April 1979, the Oil Coordination Committee (OCC) of the Ministry of Petroleum and Chemicals made projections on a computer study regarding rail transport requirements of POL traffic for

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the Sixth Five Year Plan period (1978-79 to 1982-83). It projected POL traffic at 19.6 million tonnes in 1981-82 and 19.7 million tonnes in 1982-83 for transport by rail tank wagons. As these projections were considered to be on the high side and not likely to materialise, another study of requirement of tank wagons was undertaken by the Railways, which projected the need to procure tank wagons on the basis of 18 million tonnes of POL traffic by 1982-83. However, there was criticism that Railways had not made adequate provision for procurement of additional tank wagons in keeping with the projections given by the Oil Coordination Committee. So, a further study was undertaken in 1980 and orders were placed for procurement of 11,476 tank wagons against earlier assessment of 7,033 tank wagons.

The following are figures of Oil Coordination Committee's projections, Railway's projection and actual materialisation vis-a-vis targets fixed by the Planning Commission for movement of POL traffic in tank wagons :-

(In million tonnes)

Year	OCC's projec- tions	Rail- ways' projec- tions	Tar- get	Actual Materi- alisa tion
1980-81	18.80	16.50	15.00	14.95
1981-82	19.60	18.00	15.70	16.56
1982-83	19.70	18.00	16.00	17.35
1983-84		—	17	17.95
1984-85			18	18.14
1985-86			18	18.62

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It would be seen from the above figures that Oil Coordination Committee's projections which were the basis for planning procurement of unipurpose tank wagons by the Railways were not based on realistic perspective estimation and consequently a large number of tank wagons (approximately 15 per cent in 1981-82 and 12 per cent in 1982-83 in terms of the capacity created) had remained surplus. These unrealistic traffic projections by the Oil Coordination Committee is a sad commentary on the demand estimation and projection of Railways' share of POL traffic in tank wagons. The Committee expect that greater indepth study be made by the Ministry of Petroleum and Natural Gas in future so that percentage of error in making demand estimation for POL traffic in tank wagons is reduced to a tolerable minimum.

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The procurement of tank wagons was made by the Ministry of Railways (Railway Board) on the basis of assessment of POL traffic to be moved by Railways, made by the Oil Coordination Committee of the Ministry of Petroleum and Chemicals after taking into consideration the demand estimates made by the Indian Institute of Petroleum (IIP), Dehradun in its Report dated September 1978 for long range projections of petroleum consumption. As regards the reasons for shortfalls in materialisation of POL traffic, the Committee are informed that out of a total shortfall of 3 million tonnes in 1982-83, 1 million tonne is accounted by Naptha

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and 1.5 million tonnes is accounted by furnace oil. As per estimates made by IIP in September, 1978, for Naptha consumption in 1982-83 was 4 million tonnes. But actual consumption was three million tonnes. Delay in expansion of IPCL affected the consumption of Naptha. In case of furnace oil, Kakinada and Haldia Fertiliser Plants which were supposed to come up got delayed, resulting in a fall in consumption.

The Committee do appreciate the submission made by the Ministry of Petroleum and Natural Gas that it is necessary to initiate advance action to meet the anticipated requirements of the next few years as even facilities take 2-3 years to be developed and Railways require 2-3 years to provide wagons. However, wisdom lies in prudent utilisation of the scarce resources by proper synchronisation of additional capacity and actual requirements. There is a gap of about three years between the projections of rail borne POL traffic made by Oil Coordination Committee in 1978 and the final procurement of wagons by the Railways on the basis of projected movement of POL traffic of 19.7 million tonnes by 1982-83. Having planned the projections of POL products to be transported by rail, the Ministry of Petroleum and Chemicals failed to coordinate the progress on its proposed refineries and plants and modify the transport projections accordingly. The Committee would like to impress on the Ministry of petroleum and Natural Gas that they should

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not inflate transport requirements of their products in and adopt an over cautious approach as investment needs of rail transport are not met from their budget.

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—do—

An analysis of the quantum of POL traffic in tank wagons for transport by rail as per figures available during the 3 years from 1980-81 to 1982-83 during the Sixth Plan period reveals that against projections of 18.8, 19.6 and 19.7 million tonnes in 1980-81, 1981-82 and 1983-83 respectively, the targets fixed by the Planning Commission were 15, 15.7 and 16 million tonnes only. The Committee wonder why the Ministry of Railways (Railway Board) did not try to find out reasons for fixation of lower targets *vis-a-vis* Oil Coordination Committee projections. The substantial gap of about 3 MTs between Oil Coordination Committee projections and the Planning Commission targets strengthens the belief of the Committee that the Planning Commission was aware of non-materialisation of anticipated consumption of naphtha and furnace oil on account of delay in completion of fertiliser projects. The Committee have every reason to observe that had the Ministries then with a little foresight kept vigil over the stage of commissioning of the proposed projects, a lot of scarce resources could have been saved from idle investment. The Committee trust that this aspect will be taken into consideration while formulating transport projections for rail transport and requirement of tank wagons in future.

1	2	3	4
6	1.42	—do—	<p>The Railways as a core national carrier has to discharge the responsibility assigned to them. However, keeping in view of the excessive procurement of tankwagons in the past and fixation of lower targets by the Planning Commission <i>vis-a-vis</i> capacity created, and under-utilisation of capacity for movement of POL traffic in tank wagons the Committee find that there is lack of proper coordination among the Ministries of Petroleum and Natural Gas, Railways and the Planning Commission in these matters. The Committee desire that in future an integrated view of investment in the economy and full utilisation of the capacity created should invariably be taken. With this end in view, the Committee recommend that there should be an established formal system of consultation among these wings of the Government in all aspects of procurement and optimum utilisation of tank wagons.</p>
7	1.65	—do—	<p>Another important matter which the Audit has raised is that despite increase in tank wagon fleet the Railways were unable to meet the slate (target for daily loadings). The shortfall in loading <i>vis-a-vis</i> the slate was 7.2 per cent in 1980-81, 8.5 per cent in 1981-82 and 10.2 per cent in 1982-83 and 10.9 per cent in 1983-84. The Audit has further pointed out that the shortfall was chronic at Kandla, Mathura, Siliguri, Tinsukia, Bongiogaon and Tiruchi. A base-wise analysis of the loadings <i>vis-a-vis</i> slate during 1983-84 showed that out of 28 bases (BG 15 and MG 13) none of the bases were able to meet the slate. This only strengthens</p>

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			<p>the view of the Committee that the management of POL tank wagons and the Railways' ability to meet the slate has been poor in all these years.</p>
8	1.66	—do—	<p>According to the Ministry of Petroleum and Natural Gas the slate is fixed in association with the Railways whereas the Railways have pointed out that their experts were associated at the stage when OCC had already finalised their requirement through computer study. According to them, "the slate should have been in conformity with the actual loading done by the Railways." The Railways have further stated that their failure to meet the slate was confined mainly to the North Eastern region due to severe line capacity constraints and the then prevalent law and order situation. From November, 1985 onwards, these constraints have been removed and they were meeting the full demand of the oil industry at present. The Committee hope that with a better dialogue between the two concerned Ministries, it would not be difficult for the Railways to meet the slate in full in future.</p>
9	1.67	—do—	<p>The performance of the Railways in the movement of POL traffic in tank wagons when reviewed in the light of targets fixed by the Planning Commission seems to be satisfactory. The Railways had been consistently going above the targets since 1981-82. The Railways have also claimed during evidence that the overall movement of petroleum and diesel in the country exceeded the target in each month. The Committee, how-</p>

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ever, as given to understand that at certain locations at micro level the loading by the Railways had not been according to the slate fixed by the oil industry. It did not meet the demand level. This was due to wagons in short supply and the paucity of suitable wagons resulting in transport of POL by road. This easily could have been avoided with so much of surplus of tank wagons at their disposal. The Committee desire that the Ministry of Railways (Railway Board) should keep the position under constant review and make sustained efforts to minimise shortfalls in loading at micro levels. With this end in view the Committee would like the Ministry to undertake a thorough study with a view to identifying the locations where shortfall in loading habitually take place and exploring ways and means to ensure adequate supply of suitable wagons as per requirement.

10 1-78

— do —

The Committee note that road bridging or road movement of POL products to rail fed areas is being resorted to by Oil companies mainly due to (i) inadequate tank wagons availability, (ii) inadequate availability of suitable wagons, (iii) lack of terminal facilities, (iv) spurt in demand due to delayed monsoon, sudden power cuts, etc. and (v) temporary breakdown in rail transport due to breaches, floods, law and order situation, etc. Road movement was resorted to as a regular measure in the North Eastern and Southern sectors owing to inadequate tank wagons and/or inadequate rail facilities during the period under review. In the

Southern sector the rail facilities at loading and unloading points which were inadequate resulting in lower materialisation of tank wagons movement have since been augmented to the required capacity and the constraints eliminated. In the North Eastern Sector, the Railways have line capacity constraints for movement of freight traffic on single line B. G. route via Farraka and higher priority to essential food items and fertilisers.

The Ministry of Railways (Railway Board) have also pointed out that certain road movement of POL products are inevitable due to locations within the close proximity of the Refinery, pipeline terminals and tap off points and to locations where rail heads are not available. The Railways have also stated that for short distances it is uneconomical to move POL by rail. The Committee, however, feel that in view of the large expenditure incurred by the Ministry of Petroleum and Natural Gas on road-bridging on the plea of inadequate tank wagons, there is scope for re-appraisal of road-bridging policy and identifying expeditiously the areas where road-bridging can be eliminated.

11 1.88

—do—

The Committee note that almost all the LPG tank wagons, except 54 wagons, are jointly owned by the Oil Industry and the Railways. Maintenance of barrels, including POH of these tank wagons, as a policy, is to be organised by the oil industry. Railways maintain the under frames only. Whereas the Hindustan Petroleum

Corporation Ltd. and the Bharat Petroleum Corporation Ltd. have maintenance facilities, the Indian Oil Corporation Ltd. has not developed these facilities. It was only in 1982 that the Railways came to their rescue on being approached by them. Thus the overdue POH wagons were not available for loading. Hindustan Petroleum Corporation did not increase maintenance facilities to be commensurate with the increase in their fleet rendering more wagons stabled. Thus non-availability of wagons coupled with non-availability of terminals for handling resulted in longer detention at unloading points. Consequently inspite of increase in LPG wagon holding the loading had not increased proportionately and unnecessary expenditure was being incurred on road-bridging by the Ministry of Petroleum and Natural Gas. The Ministry of Petroleum and Natural Gas have only expressed concern by saying, "the oil companies are quite concerned about the heavy turn round of LPG tank wagons.....All efforts are being made to review the loading and unloading constraints as early as possible." The Committee feel that the performance of the Ministry of Petroleum, Oil Companies and the Ministry of Railways in the matter of movement of LPG has to improve in a big way, since the production and consumption of LPG is going to increase manifold in the near future.

12 1.114

—do—

A review by the Audit of the indents placed by oil companies, supply of tank wagons and their loading reveals that (i) the indents placed by the oil companies were higher than the slate; (ii) supply was in excess of indents/slate; and (iii)

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number of wagons loaded was less than those supplied. Reasons for excessive indenting is oil companies, apprehension about unfit wagons being supplied and for excessive supply by the Railways is to meet the unforeseen factors. The reasons for shortfall in loading with reference to supply are unsuitability of wagons, wrong placement, and wagons being marked sick due to mechanical defects.

The Committee fail to understand the rationale behind excessive indenting by the oil companies. Supply of tank wagons in excess of indent/slate by the Railways is also not desirable except in exceptional circumstances. There should be better coordinated efforts between the oil companies and the Railways.

The Committee recommend that the oil companies should place indents for wagons as per their requirement to meet the slate after taking into consideration the possible rejections and supply by the Railways accordingly.

13.

1.115

—do—

The very important issue so far as the economic use of tank wagon is concerned, is the turn-round time. The Audit has pointed out that had the action been taken to eliminate or minimise the unjustifiable detentions and optimise the utilisation of wagons, the procurement of a large number of tank wagons could have been avoided. Reduction of even one day in the turn-round time would mean saving of 2250 tank wagons with an investment of Rs. 25 crores at present day cost.

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According to an analysis of turn-round time made by the Audit, actual turn-round time should have been 7 days only whereas turn-round time observed by the Railways was 12 days. The period of five days unaccounted for detentions in yards i.e. detentions to wagons before placement in base stations and after release from the terminal depots was very high. In a note to the Committee, the Ministry of Railways (Railway Board) have stated that turn-round is affected due to lack of terminal facilities, lead, block rake or piece-meal movement, detention enroute and at terminals, topography of the area, change of traction from diesel to electric, repair in sick lines or workshop, periodic overhaul etc. and excessive detentions in ports where refineries and loading depots are located. According to an analysis made by the Railways in 1983-84 regarding utilisation of tank wagons, only 17,965 tank wagons out of a total fleet of 28,600 were available for block rake movement and achieved a turn-round of 9.3 days. They have also achieved turn-round varying from 5 to 7 days in cases of block rakes moving over a lead of about 500 kilometres. As certain percentage of tank wagons are always not available for use on account of being under repair in workshops or undergoing periodic overhaul, and certain unforeseen factors, it is not possible to achieve a turn round of 7 days for the total fleet, the Ministry have pointed out. However, as a result of concerted efforts made by them there has been improvement in the turn round of tank wagon fleet from 12.7 days in 1980-81 to 11.7 days in 1985-86.

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It is hardly necessary for the Committee to point out that if the Railways are to make optimum utilisation of their tank wagons fleet, the second thing (after provision of terminal facilities) they have to do is to bring significant improvement in turn-round time. In a note to the Committee, the Ministry have stated that a number of important steps have been taken to bring about improvement in turn-round. These *inter alia* include switch over to block rake movement, end to end running skipping intermediate yards, strengthening of terminal facilities and close watch on movement to avoid congestion on routes and/or at terminals. The Committee found that performance of the Southern Railway with regard to movement of tank wagons was of a very high order. There is no reason why other Railways are not able to match the performance of Southern Railway. The committee recommend that Railway Board may take adequate step to achieve the same efficiency in other Railways.

14 1.123 —do—

One of the Audit objections relates to heavy detention at base stations and terminal depots. According to an analysis made by the Audit, unaccounted detentions in yards i.e. detention to wagons before placement in base stations and after release from the terminal depots are very high. Detentions at some base stations for loading (placement to removal) ranges from 6 hours at Tondiarpet (Madras) to 43 hours at Budge Budge (Eastern Railway). Total detentions from arrival to placement, placement to removal and removal to despatch is high at Budge

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Budge. Gauhati and Barauni whereas it has shown an increase at Haldia. As regards the reasons, the Ministry of Railways (Railway Board) have stated that detention at loading bases at Budge Budge, Gauhati and Barauni is primarily due to limited gantry capacity available for loading and lay-out of the yard serving these loading bases and at Haldia due to non-availability of port locomotives. The Committee need hardly point out such detentions stand in the way of optimum utilisation of rolling stock by the Railway. The Committee would like the Railways to take effective steps to reduce detentions to wagons in these areas to the barest minimum. The Railway administration should take up the matter with Haldia port authorities at appropriate level and impress upon them the urgency in the matter. In case of Budge Budge, Gauhati and Barauni, the Committee recommend the Railways and the refinery authorities to examine feasibility of the expansion to the gantry capacity on priority. The Committee would like to be apprised of the steps taken in this direction.

15 1.124

—do—

One of the reasons for excessive detentions at destination is the lack of adequate loading facilities. In this connection, the Committee are informed that Railways have initiated steps to develop important terminals for handling full block rakes. During the past two years, 17 terminals have already been developed and works are in progress/sanctioned for 13 other terminals. Paucity of resources has held up development of facilities at the remaining 43 BG terminals. The

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Committee observe that procurement of tank wagons fleet without necessary infrastructural and operational facilities reveals lack of proper timely planning.

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1.125

—do—

The Committee feel that the provision of adequate terminal facilities is crucial to the efficient functioning of the transport capacity created for POL tank wagons. Whether it is a question of avoidable terminal detentions or excessive turn-round resulting in poor availability of wagons for loading or road-bridging due to paucity of tank wagons or abnormally high detention to LPG wagons—all these deficiencies can be overcome to a considerable extent by strengthening the infrastructural facilities.

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1.126

—do—

The Committee on Public Undertakings had in their 49th Report (5th Lok Sabha) in 1975-76 *inter alia* emphasised the need for augmentation of storage capacity, development of adequate tank wagon fleet to reduce road bridging and development of terminal facilities for better utilisation of tank wagons. The Committee are informed that the oil industry in June 1981 indicated the need for additional tankage of 3.16 million kls. by 1986-87 requiring estimated financial outlay of Rs. 148 crores. However, because of constraint of resources expansion of tankage capacity is being done in a phased programme. The Committee further note that 43 BG and 12 MG terminals receiving POL traffic still lack facilities for handling full block rakes and matching facilities by the oil industry. The Railway have already procured surplus tank

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wagon fleet. As these facilities are essential inputs for better utilisation of tank wagons and optimisation of Railway productivity, the Government ought to have gone in for integrated programme for development of these facilities along with the procurement of tank wagons during Sixth Plan. The Committee are surprised to find that on one hand the Ministry of Petroleum and Natural Gas had been insisting upon the Ministry of Railways to plan procurement of adequate tank wagon fleet for movement of POL traffic, while they have not made provision of matching facilities for their better utilisation. The Committee feel that constraint of resources should not be allowed to come in the way of development of these facilities. The Committee are of the firm opinion that provision of infrastructural facilities for handling POL traffic are to be accorded high priority in order to ensure that heavy resources already invested are optimally utilised. The Committee note that the matter regarding development of infrastructural facilities was discussed in an inter-Ministerial meeting held in January, 1981. The decisions taken have not, however, been implemented in full. The delay in provision of terminal facilities will inevitably affect the intensive utilisation of assets created in tank wagons. The Committee desire that there should be a time bound programme of development at the earliest and it should be adhered to also.

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ing/unloading and yard facilities inside the premises of the oil companies is to be met by them and their response in the matter is not encouraging. The Committee strongly deprecate such tendency and would urge that sectorial approach should be given up keeping in view over all national interest.

.ANNEXURE

[See para 1.121 (1) of the Report]

CABINET SECRETARIAT

Record note of decisions taken in the meeting held at 3 P.M., on the Thursday the 22nd January, 1981 in the room of Shri R. Tirumalai, Secretary (Coordination) regarding measures to speed up loading and unloading operations to facilitate improvement in rail movement of Petroleum products.

- 2. (i) It was noted that facilities at various points had been created keeping in view the tank wagon rake lengths which had been in use then in consultation with the Ministry of Railways and a general increase in the rake size to 72 as now asked for by Railways will require creation of additional facilities, which would take time. Therefore, it was felt that in the short term it is necessary to secure better performance by (a) prompt and efficient loading and unloading (b) keeping suitable reserves of the fittings required and ensuring that they are not removed while decanting and (c) optimising productivity.**
- (ii) The Department of Petroleum and the Ministry of Railways will jointly check the places where loading and unloading facilities for 72 wagon rakes are called for paying regard to the long-term and sustained patterns of movement. The joint Team will make built-in-provision for expansion in future as regards requirements of siding and handling facility for handling longer rakes.**
- (iii) The Joint Team will also consider the requirements of haulage etc. for different products to enable loading and unloading of a full rake within allowed time and without hold ups.**
- (iv) In the light of the Railways indicating larger availability of tank wagons from Bombay to up country destinations and their request that road bridging should not be shown on their account and the long-term arrangements for road bridging made by the Department of Petroleum keeping in view the gestation period required for creation of such road bridging facilities the Joint Team will also examine the long-term availability of wagons to determine the extent of road bridging required from Bombay to up country destinations. A similar assessment may also be undertaken for other locations in the country.**

The Joint Secretary, Department of Chemicals & Fertilizers indicated that all the three fertilizer plants at Bhatinda, Nangal and Panipat already have facilities for placement and decanting of rakes upto 80 wagons. In other places if there are deficiencies this could be looked into. There had been unloading delays in the Phulpur plant but the position has since

been relieved and constant watch is being kept. Phulpur was geared to handle full length naphtha rakes whose movement had been planned from end of February 1981 on regular basis. This would not curtail present level of naphtha movement to Kanpur fertilizer plant.

4. It was reaffirmed that some of the present difficulties at least arose out of irrational movements consequent on the Assam situation. Long-term investments on facilities could not be made on the basis of such *ad-hoc* requirements. It was, therefore, necessary to make the optimum use of the existing facilities. As regards Rourkela Fertilizer Plant, the loading delay at Visakhapatnam had been due to pumping limitations. It was noted that from January, 1981 onwards Rourkela supply is being arranged from Haldia.
5. In Haldia Port inadequacy of shunting engine was reported. In Bombay Port also shunting engine problem was reported and the Ministry of Shipping and Transport would look into their complaints for relieving them. Adequate multiproduct-sumps in BPT area loading lines should be provided to reduce detention to wagons and expedite loading.
6. The Ministry of Defence will take steps for creation of facilities to place and unload full rakes of 72 tank wagons at Bharoli by providing additional sumps as required and matching storage facilities.
7. It was stated that SAIL plants could handle full rakes of tank wagons in the existing pattern of supply (upto 60) but delays were due to inadequate/defective fittings and seasonal problems connected with viscosity of the product. It was stated that facilities for handling 60 wagons rakes had been created in the SAIL plants at Rourkela and Durgapur and similar facilities are being provided at Durgapur and Bhilai expansion plans as also for the plants at Visakhapatnam and Pradeep only in consultation with the Ministry of Railways. Ministry of Railways could give a second look to the facilities being created at these plants and advise the Department of Steel ahead for advance action should any augmentation be required on a long term basis.
8. Department of Petroleum agreed to have round the clock operations in places where such operation was called for in order to speed up handling.
9. Ministry of Petroleum, which had fixed a meeting with the Ministry of Finance to discuss 'bending' of tank wagons, would apprise the results of the same to the Coordination Cell.
10. Ministry of Railways will pinpoint a few locations like Shakurbasti where the problem of loss of fittings was acute and the Department of Petroleum agreed to tighten security measures there.

