REPORT OF THE
COMPTROLLER AND AUDITOR GENERAL OF INDIA

FOR

THE YEAR 1972-73

UNION GOVERNMENT (RAILWAYS)

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PREFATORY REMARKS

This Report relates mainly to matters arising from the Appropriation Accounts of Indian Government Railways for 1972-73 together with other points arising from audit of the financial transactions of the Railways.

2. The cases mentioned in this Report are among those which came to notice in the course of test audit during the year 1972-73 as well as those which have come to notice in earlier years but could not be dealt with in previous Reports; matters relating to the period subsequent to 1972-73 have also been included, wherever considered necessary.

3. The points brought out in this Report are not intended to convey or to be understood as conveying any general reflection on the financial administration by the Ministry of Railways.

CHAPTER 1

COMMENTS ON THE APPROPRIATION ACCOUNTS, 1972-73 AND CONNECTED DOCUMENTS

1. Financial Results

(*a*) The Railway budget for the year 1972-73 envisaged a surplus of Rs. 32.53 crores. The actuals showed a surplus of only Rs. 2.92 crores and this was credited to Railway Development Fund. The shortfall of Rs. 29.61 crores in the surplus occurred due to increase in revenue expenditure (Rs. 47.24 crores) and payment of dividend to General Revenues (Rs. 1.81 crores) partly off-set by increase in receipts (Rs. 19.44 crores).

The anticipated and actual gross revenue receipts and expenditure for 1972-73 and actuals for the preceding two years are shown in the table below :—

	Actuals 1970-71	Actuals 1971-72	Budget 1972-73	Actuals 1972-73	Variations
			(crores of rupees)		
Gross revenue receipts	1006.96	1096.97	1143.33	1162.77	+19.44
Deduct					
(*a*) Revenue expenditure	862.72	927.89	951.10	998.34	+47.24
(*b*) Payment to General Revenues	164.58	151.24	159.70	161.51	+1.81
Surplus (+) or Deficit (—)	—19.84	+17.84	+32.53	+2.92	—29.61

(*b*) For the first time, the payment (Rs. 143.35 crores) to the General Revenues, after excluding Rs. 16.25 crores for payment to States in lieu of passenger fare tax and Rs. 1.91 crores as contribution towards safety works, was less than Rs. 143.53 crores representing interest on loan capital at the average borrowing rate (*viz.*, 4.77 per cent during 1972-73) of Central Government applicable to commercial undertakings during the year. In other words, the return to the Central Government on the capital invested in the Railways fell below its average borrowing rate during 1972-73. This reduction in the return was primarily due to concessions and exemptions of Rs. 24.01 crores obtained on the basis of recommendations of the Railway Convention Committee, 1971 in its Interim Report approved by Parliament in December 1971. The value of similar concessions and exemptions for the year 1971-72 was Rs. 22.06 crores.

(*c*) The Railway Convention Committee, 1971 also recommended in its Sixth Report, approved by Parliament in April 1973, that the arrangements proposed by it for the period 1971-72 to 1973-74 may be given retrospective effect to cover the first two years of the Fourth Five year Plan, *i.e.*, 1969-70 and 1970-71, as well and that these arrears of reliefs may be suitably adjusted in the current year's accounts. It was decided that such arrears of relief amounting to Rs. 36.29 crores should be used to reduce the loan liability of the Railways to the General Revenues on proforma basis. Accordingly, Rs. 19.56 crores were adjusted to extinguish completely the loan liability of Railway Revenue Reserve Fund and the balance of Rs. 16.73 crores was used to reduce the loan liability of Railway Development Fund.

(*d*) For the sixth year in succession the Railways had to obtain loan from General Revenues for financing works chargeable to the Railway Development Fund and also for payment of interest on the loans obtained earlier. The Fund closed with a nominal balance of Rs. 1.96 crores on 31st March 1973 and the total loan liability of this fund to General Revenues was Rs. 85.65 crores at the end of 1972-73 as against Rs. 86.65 crores at the end of the preceding year.

(*e*) There were net accretions during the year to Railway Revenue Reserve Fund, Depreciation Reserve Fund and Pension Fund which closed with balances of Rs. 33 lakhs, Rs. 174.16 crores and Rs. 125.06 crores respectively at the end of 1972-73.

(*f*) As on 31st March 1973 the Railways also owed Rs. 72.17 crores on account of deferred dividend payments on new lines, which is in the nature of a contingent liability.

(*g*) The following table gives the anticipated and actual Plan outlay during 1972-73 :—

	Budget 1972-73	Actuals 1972-73	Variations
	(crores of rupees)		
Capital	158.70	209.32	+50.62
Depreciation Reserve Fund	120.00	113.60	—6.40
Development Fund	20.00	21.49	+1.49
Open Line Works Revenue	7.00	7.08	+0.08
TOTAL	305.70	351.49	+45.79

2. Operating Ratio

The operating ratio of the Railways which is the percentage of total working expenses (including Appropriation to Depreciation Reserve Fund and Pension Fund) to the gross traffic receipts was higher during 1972-73 than in the past four years as shown below :—

1968-69	82.60 per cent
1969-70	82.66 per cent
1970-71	84.13 per cent
1971-72	83.11 per cent
1972-73	84.47 per cent

This ratio takes into account the increases in fares and freight rates on the one hand and the increases in working expenses on the other, but does not take into account the liability of the Railways for payment of dividend to General Revenues.

The operating ratios of Northern, Southern, South Central, South Eastern and Western Railways worsened in 1972-73 as compared to 1971-72. Details for all railways are given below :—

Railways	1970-71	1971-72	Budget 1972-73	Actuals 1972-73
Central	73.18	71.95	73.1	71.04
Eastern	92.98	101.55	94.1	99.81
Northern	84.90	82.26	82.7	83.41
North Eastern	101.80	98.65	96.2	97.35
Northeast Frontier	139.49	144.14	139.6	143.82
Southern	98.44	94.75	92.7	97.89
South Central	82.65	82.24	79.8	83.95
South Eastern	71.20	68.61	68.0	73.65
Western	74.72	71.71	71.8	74.14
All Railways	84.13	83.11	81.8	84.47

The steepest decline was in the South Eastern Railway. There the operating ratio increased from 68.61 per cent in 1971-72 to 73.65 per cent in 1972-73 because the working expenses increased by 10.6 per cent while earnings increased by 3.1 per cent only.

3. Revenue Receipts

The revenue receipts during 1972-73 were Rs. 1,162.77 crores which were more than the budget estimates by Rs. 19.44 crores. The details are shown below :—

	Actuals 1971-72	Budget 1972-73	Actuals 1972-73	Variations
		(crores of rupees)		
Passenger earnings				
Upper classes	39.09	38.80	41.38	+2.58
Third class	281.04	290.07	302.43	+12.36
TOTAL	320.13	328.87	343.81	+14.94
Other Coaching earnings	69.43	66.39	65.64	—0.75
Goods earnings	675.30	716.24	720.68	+4.44
Sundry earnings	36.83	35.50	35.60	+0.10
Suspense	—5.10	—3.90	—3.31	+0.59
Gross Traffic receipts	1096.59	1143.10	1162.42	+19.32
Miscellaneous receipts	0.38	0.23	0.35	+0.12
Total Revenue Receipts	1096.97	1143.33	1162.77	+19.44

At the time of presentation of the Railway budget in March 1972, an increase of about 3 per cent on the passenger traffic over the previous year was anticipated and including the effect of adjustment of fares of suburban and non-suburban season tickets, the estimates of passenger earnings were placed at Rs. 328.87 crores which were Rs. 12.87 crores more than those in the revised estimates for 1971-72. Expecting an addition of about 9.5 million tonnes of revenue-earning goods traffic over the traffic in 1971-72 and also after adjustments in the freight rates as proposed in the budget, goods earnings were placed at Rs. 716.24 crores, representing an increase of Rs. 51.24 crores over the revised estimates of 1971-72.

To offset the increases in working expenses due to higher wage and fuel bills, the budget proposed rationalisation of the structure of fares and freights.

A supplementary charge of 5 per cent on parcels and luggage traffic was introduced. Passenger fares for upper classes and monthly season tickets were enhanced. A supplementary charge for journeys undertaken by super-fast express trains was also levied. These increases in passenger fares were expected to yield additional revenue of Rs. 2.37 crores.

In the revised freight structure, classification of certain low-rated commodities was raised by one step (upto class level 52.5). The minimum weight for charge for loading certain bulky articles was also raised. The combined effect of these adjustments was expected to yield additional revenue of Rs. 12.67 crores.

The actual earnings for 1972-73 were Rs. 1162.42 crores, that is, Rs. 19.32 crores more than the budget estimates and Rs. 65.83 crores more than the actuals of the previous year. Passenger traffic in terms of passenger kilometres was 133,527 millions, that is, 6.5 per cent more than that in the previous year.

The anticipated increase of 9.5 million tonnes in revenue-earning traffic did not fully materialise. The revenue-earning traffic carried during the year was 175.3 million tonnes which was only 5.2 million tonnes more than that carried in the preceding year. However, the shortfall in originating traffic was partly made good by increase in average lead and proportion of high rated commodities.

4. Revenue Expenditure

The revenue expenditure during 1972-73 was Rs. 998.34 crores. The details are shown below :—

	Actuals 1971-72	Budget 1972-73	Actuals 1972-73	Variations
A. Working Expenses:—		(crores of rupees)		
(*i*) Staff Administration, Staff Welfare and Operating Staff	291.84	296.68	305.67	+8.99
(*ii*) Repairs and maintenance	272.74	282.70	309.90	+27.20
(*iii*) Fuel	155.93	158.95	162.37	+3.42
(*iv*) Miscellaneous expenses including operation other than staff and fuel, payment to worked lines and suspense	74.97	70.96	78.83	+7.87
(*v*) Appropriation to Depreciation Reserve Fund	105.00	110.00	110.00	—
(*vi*) Appropriation to Pension Fund	11.38	15.85	15.85	—
B. Miscellaneous expenditure such as cost of Railway Board and its attached offices, surveys, Audit and subsidy paid to branch line companies	8.73	8.96	8.64	—0.32
C. Open Line works-Revenue	7.30	7.00	7.08	+0.08
TOTAL	927.89	951.10	998.34	+47.24

The increase of Rs. 47.24 crores over the budget was mainly due to payment of interim relief to staff sanctioned by Government from Ist August 1972 (Rs. 9.33 crores), increased expenditure on shed and shop repairs to rolling stock (Rs. 8.02 crores), more consumption of diesel oil {Rs. 5.58 crores—includes arrear adjustment (Rs. 1.23 crores) and increase in cost (Rs. 1 crore)}, more expenditure on repairs and maintenance of electrical and signal services (Rs. 3.71 crores), more payment of compensation for goods lost or damaged (Rs. 3.05 crores), increase in expenditure on catering stores, clothing and stationery (Rs. 3.49 crores), restoration of flood damages to track etc. (Rs. 2.67 crores), more expenditure on mileage, overtime, travelling and other compensatory allowances (Rs. 2.03 crores), increase in prices of materials (Rs. 2.51 crores), adjustments under suspense heads (Rs. 1.80 crores), increase in expenditure on electricity for traction purposes (Rs. 1.60 crores) and for other than traction purposes (Rs. 1.23 crores), more payment of rent for open line wires of Posts and Telegraphs department (Rs. 1.40 crores), repairs and maintenance of service and residential buildings (Rs. 1.33 crores), more expenditure in railway hospitals on drugs, medicines and diet charges (Rs. 1.19 crores) and aggregate of minor variations of less than Rs. 1 crore each (Rs. 4.17 crores).

These increases were partly off-set by savings due to less consumption of coal (Rs. 2.93 crores) and fluctuations in adjustments from stock adjustment account (Rs. 2.94 crores).

The provision of Rs. 158.95 crores for fuel included the requirements for carrying additional 9.5 million tonnes of revenue-earning goods traffic and for increase of three per cent in passenger traffic expected during the year. Supplementary grants of Rs. 1.85 lakhs and Rs. 4.35 crores were obtained in December 1972 and March 1973 respectively, mainly for meeting expenditure on account of increase in the price of coal (Rs. 2.11 crores), arrear adjustments of previous years mainly under diesel oil (Rs. 1.08 crores) and more consumption of fuel due to increase in traffic (Rs. 1.48 crores). The anticipated increase in goods traffic did not fully materialise during the year.

5. **Budgetary Control**

The number of demands voted for the year 1972-73 was twenty-one. During the year fourteen supplementary grants for Rs. 131.99 crores were obtained against thirteen supplemetary grants for Rs. 50.52 crores in the previous year.

The number of charged appropriations in the year was seven. During the year nine supplementary appropriations for Rs. 86 lakhs were obtained.

The disbursements during the year showed a net shortfall of Rs. 44.90 crores over the total grants and appropriations as shown below :—

Particulars	Voted Grants	Charged Appro-priations	Total
		(crores of rupees)	
1. Original	1932.68	0.87	1933.55
2. Supplementary	131.99	0.86	132.85
3. Total	2064.67	1.73	2066.40
4. Total disbursement	2019.98	1.52	2021.50
5. Net excess (+) shortfall (—)	—44.69	—0.21	—44.90
6. Percentage of net shortfall to total Grants/ Appropriations	—2.17	—12.14	—2.17
7. Percentage of net excess (+) or shortfall(—) in the previous year	+0.5	—6.3	+0.5

The savings in 1972-73 have been analysed in paragraph 6.

6. Savings in grants and appropriations

A. *Savings in voted grants*

The net shortfall of Rs. 44.69 crores mentioned in paragraph 5 is made up of shortfall under fifteen grants (Rs. 54.90 crores) and excess under four grants (Rs. 10.21 crores).

The bulk of the shortfall occurred under three grants, *viz.*, (i) 18-Appropriation to Development Fund (Rs. 17.58 crores), (ii) 19-Appropriation to Revenue Reserve Fund (Rs. 12.03 crores) and (iii) 20-Payment towards amortisation of overcapitalisation, Repayment of loans from General Revenues and interest thereon—Revenue Reserve Fund (Rs. 12.33 crores). The budget had anticipated a surplus of Rs. 32.53 crores and it was proposed to appropriate Rs. 20.50 crores to Development Fund and Rs. 12.03 crores to Revenue Reserve Fund with a provision for withdrawal for repayment of loans taken from General Revenues and for payment of interest thereon (in Grant 20). The actual surplus was Rs. 2.92 crores only which was appropriated to Development Fund, resulting in substantial shortfall of Rs. 17.58 crores under grant 18-Appropriation to Development Fund and total shortfall in grant 19-Appropriation to Revenue Reserve Fund. Further, as a result of adjustment of arrears of relief for payment of dividend to General Revenues pertaining to the years 1969-70 and 1970-71, the loan liability of Revenue Reserve Fund was completely extinguished. This led to a total

shortfall in grant 20-Payment towards amortisation of over-capitalisation, Repayment of loans from General Revenues and interest thereon—Revenue Reserve Fund.

A shortfall of Rs. 6.63 crores occurred under grant 14-Construction of New Lines, mainly due to slow progress of certain works, shortfall in receipt of materials and delay in finalisation of plans, estimates and contracts etc.

A shortfall of Rs. 1.68 crores occurred under grant 12-Dividend to General Revenues due to less payment of deferred dividend and more loss on strategic lines which is taken as reduction in payment of dividend.

A shortfall of Rs. 0.80 crore occurred under grant 17—Repayment of loans from General Revenues and interests thereon—Development Fund due to reduction in the loan liability and consequent decrease in interest as a result of adjustment of arrears of relief (Rs. 16.73 crores) in dividend payable pertaining to 1969-70 and 1970-71.

The balance of shortfall of Rs. 3.85 crores occurred under eight revenue grants and one miscellaneous grant; this was made up of minor variations.

B. *Shortfalls in charged appropriations*

The net shortfall of Rs. 21 lakhs in charged appropriations was made up of shortfalls (Rs. 21.42 lakhs) under eight appropraitions and excess (Rs. 0.09 lakh) under one appropriation. The bulk of the shortfall (Rs. 9.3 lakhs) was under appropriation 8-Operation other than staff and fuel, due to less payments on account of decrees granted by courts.

7. Excesses over grants and appropriations

During the year under report excesses occurred under four voted grants and one charged appropriation as against nine voted grants and one charged appropriation in the previous year. The extent of excess was Rs. 10.21 crores as against Rs. 46.21 crores in the previous year. The details of the excesses during 1972-73 which require to be regularised under Article 115 of the Constitution of India are as under :—

A. *Voted Grants*

Grant	Final grant	Actual expenditure	Excess	Percentage of excess
	Rs.	Rs.	Rs.	
5. Working Expenses—Repairs and maintenance	3,33,34,48,000	3,34,17,15,775	82,67,775	0.25

The excess occurred on all railways except Central, Southern and South Central Railways.

The original grant was Rs. 309.59 crores and supplementary grants of Rs. 23.75 crores (Rs. 5.52 crores in December 1972 and Rs. 18.23 crores in March 1973) were obtained for meeting expenditure on additional interim relief to staff sanctioned with effect from Ist August 1972 (Rs. 5.52 crores), running repairs and workshop repairs to rolling stock (Rs. 11.72 crores), repairs to electric locomotives and multiple unit stocks and maintenance of signal and telecommunication installations (Rs. 4.04 crores), repairs to tracks, building etc., damaged by floods and cyclones (Rs. 3.08 crores), arrear rental for open line wires payable to Posts and Telegraphs department (Rs. 1.52 crores) and other miscellaneous items (Rs. 0.51 crore); these increases were expected to be partly counter-balanced by savings due to more credit adjustments in the stock adjustment account (Rs. 1.47 crores) and various economy measures (Rs. 1.17 crores).

The actual excesses over the final grant were due to extra expenditure on shed and shop repairs to rolling stock (Rs. 99.0 lakhs), repairs and maintenance of electrical and signal services (Rs. 22.7 lakhs), payment of interim relief and dearness allowance (Rs. 13.9 lakhs) and emergency watering arrangements (Rs. 7.9 lakhs); these increases were partly off-set by savings due to adjustment of credits under stock adjustment account (Rs. 30.7 lakhs), less rental for open line wires paid to Posts and Telegraphs department (Rs. 11.2 lakhs), less expenditure on repairs to track, service and residential buildings, etc., (Rs. 5.4 lakhs) and minor variations (Rs. 13.5 lakhs).

The actual expenditure on interim relief was only Rs. 3.87 crores as against the provision of Rs. 5.52 crores.

10. Working expenses—				
Staff welfare	30,47,27,000	30,57,15,574	9,88,574	0.32

The original grant was Rs. 29.33 crores and supplementary grants of Rs. 1.14 crores (Rs. 0.39 crore in December 1972 and Rs. 0.75 crore in March 1973) were obtained for meeting expenditure on payment of interim relief, medical stores and educational facilities.

The excess was due to more expenditure on medical stores, drugs and diet charges.

13. Open Line Works—				
Revenue	7,00,36,000	7,08,66,949	8,30,949	1.19

The excess was mainly due to expenditure incurred during the year on some urgent and throw-forward works.

15. Open line Works—Capital, Depreciation Reserve Fund and Development Fund	7,34,38,27,000	7,43,58,03,995	9,19,76,995	1.25

The original grant was Rs. 652.19 crores and supplementary grants of Rs. 82.19 crores (Rs. 4.54 crores in December 1972 and Rs. 77.65 crores in March 1973) were obtained. The supplementary grants were made up of :

(*i*) 'Stores Suspense' (Rs. 49.18 crores) mainly for more purchases of stores required for works and general purposes and also because of increase in prices of stores;

(*ii*) 'Manufacture Suspense' (Rs. 14.42 crores) due to more progress in manufacture of rolling stock, drawal of more stores for manufacture and payment to workshop staff of interim relief sanctioned by Government with effect from 1st August 1972;

(*iii*) 'Miscellaneous Advances' (Rs. 10.50 crores) mainly for procurement of imported steel and raw materials for fabrication;

(*iv*) 'Rolling Stock' (Rs. 14.08 crores) mainly due to upward revision of selling prices of locomotives manufactured at Diesel Locomotive Works and for procurement of spares of electric/diesel locomotives, speedy progress of manufacturing programmes etc., and procurement of 15,000 wagons; these excesses were partly offset by savings under 'Works' (Rs. 5.84 crores) mainly due to less receipts of materials for track renewals and slow progress of certain works and less expenditure (Rs. 0.15 crore) on taking over open line wires from Posts & Telegraphs department.

The excess of Rs. 9.20 crores is made up of excesses on Eastern Railway (Rs. 0.09 crore), Northern Railway (Rs. 8.61 crores), North Eastern Railway (Rs. 0.94 crore), Southern Railway (Rs. 2.13 crores), South Central Railway (Rs. 3.16 crores), Western Railway (Rs. 2.16 crores), Chittaranjan Locomotive Works (Rs. 0.85 crore) and Diesel Locomotive Works (Rs. 1.54 crores); partly offset by savings on Central Railway (Rs. 2.35 crores), Northeast Frontier Railway (Rs. 1.36 crores), South-Eastern Railway (Rs. 4.84 crores), Integral Coach Factory (Rs. 0.77 crore), and Railway Board (Rs. 0.31 crore) and in expenditure on taking over of open line wires from Posts and Telegraphs department (Rs. 0.06 crore). The Railways/Production units had surrendered Rs. 0.59 crore in their final grant.

The excess is made up of :

(*i*) Manufacture Suspense (Rs. 4.64 crores)—mainly on account of drawal of more stores for manufacture from stock and through direct purchases (Rs. 2.79 crores), less issue of manufactured materials to works (Rs. 1.28 crores) and to stock (Rs. 0.21 crore) and increased expenditure on account of more outturn (Rs. 0.38 crore); partly offset by shortfall due to variations of small magnitude (Rs. 0.02 crore).

(*ii*) 'Works' (Rs. 4.48 crores)—mainly due to receipt of more stores and adjustment of debits therefor (Rs. 3.31 crores), speedy progress of certain works (Rs. 0.95 crore) and variations of small magnitude (Rs. 0.22 crore).

(*iii*) 'Stores Suspense' (Rs. 1.60 crores)—mainly on account of adjustment of more debits through stock adjustment account, clearance from purchases etc., (Rs. 2.76 crores), receipt of more debits from Pay and Accounts Officers for supply of stores by Director General, Supplies and Disposals (Rs. 1.69 crores), receipt of more stores returned from works (Rs. 0.95 crore) and minor variations (Rs. 0.59 crore); partly offset by more issue of stores for manufacture, works etc., (Rs. 3.29 crores) and less receipt of coal and high speed diesel oil (Rs. 1.10 crores).

(*iv*) 'Development Fund' (Rs. 1.50 crores)—due to more progress on certain works owing to better availability of materials.

Against these excesses, savings occurred under :—

(*i*) 'Rolling Stock' (Rs. 2.24 crores) mainly due to less production of rolling stock and non-materialisation of full payments for supply of wheelsets etc.

(*ii*) 'Miscellaneous Advances' (Rs. 0.72 crores) largely due to less receipt of debits for imported steel.

(*iii*) Taking over of open line wires from Posts and Telegraphs department (Rs. 0.06 crore) due to non-receipt of debits.

B. *Charged Appropriation*

Number and name of appropriation	Final appropriation	Actual expenditure	Excess	Percentage of excess
	Rs.	Rs.	Rs.	
6. Working expenses—Operating staff	2,23,000	2,31,557	8,557	3.85

The appropriation was obtained in March 1973 for meeting payments in satisfaction of Court decrees. The actual payments were Rs. 2,31,557 resulting in an excess.

OTHER TOPICS

8. North-east Frontier Railway—Cost of patrolling of railway track

Policing in railway premises is done by Government Railway police which is part of the State police. The duties of Government Railway police have been divided into 'crime duties' and 'order duties'. The former include detection and investigation of offences concerning railways as also arrest and prosecution of offenders in cognizable cases under the Indian Penal Code and the Indian Railways Act, 1890. The cost of police employed on 'crime duties' is borne by State Governments. The main functions under 'order duties' are control of passenger traffic in station premises, control of vehicular and other traffic in station compounds, maintenance of order in standing passenger trains, prevention of overcrowding etc. The cost of police staff solely employed on 'order duties' and one-fourth of the cost of supervisory staff including ministerial and inferior staff is borne by the Railways.

Apart from Government Railway police, the Railways have their own protection force, mainly employed to protect and safeguard railway property, remove obstruction in movement of railway property and to do any other act conducive to the better protection and security of railway property.

For maintaining rail communication, security patrolling of railway track was intensified by the Northeast Frontier Railway Administration from 1964-65. The security patrolling was discontinued from April 1972 except in two sections.

On the expectation that the expenditure on security patrolling would be reimbursed by the State Governments, the Railway Board instructed the Railway Administration in May 1965 to present bills to the State Governments for those charges. Accordingly, the Railway Administration had raised debits against four State Governments for recovering the cost of such patrolling which was Rs. 3.60 crores till 31st March 1973. So far (November 1973) the State Governments have not accepted the debits.

CHAPTER II

DIESEL LOCOMOTIVE WORKS, VARANASI

Introduction

9.1 In August 1961 Government decided to establish the Diesel Locomotive Works at Varanasi for indigenous production of diesel locomotives. Urgency certificate sanctioning expenditure of Rs. 13.70 crores for the project was issued in December 1961. The abstract estimate for the project, with an outlay of Rs. 19.57 crores approximately, was sanctioned in February 1963. Initially, it was planned to produce 150 broad gauge diesel locomotives or equivalent a year with fully established incentive working.

9.2 The main consideration in establishment of indigenous capacity for production of diesel locomotives was that the increasing tempo and pattern of traffic made it necessary to replace or re-inforce steam traction by either electric or diesel traction. Taking into account the capital expenditure involved in establishment of electric traction system, the time factor and availability of power, it was considered that the balance of advantage would lie in going for dieselisation to a large extent.

Collaboration Agreement

9.3 The Diesel Locomotive Works had entered into four separate agreements with ALCO Products Incorporated and its subsidiaries for technical association and allied services. These were :—

(1) Technical association for manufacture of diesel locomotives with ALCO Products Incorporated.

(2) Technical association for manufacture of diesel engines—with ALCO Products Incorporated.

(3) Supply of technical personnel for manufacture of diesel locomotives/engines—with Transworld Manufacturing Services Incorporated.

(4) Purchase and inspection of material and equipment for manufacture of diesel locomotives/engines to be obtained from U.S.A.—with Overseas Diesel Corporation.

9.4 These agreements came into force on 12th February 1962 and were valid for ten years with an option for extension. However, on ALCO being purchased by Montreal Locomotive Works (locomotive portion)

and ALCO White (engine portion), the first two agreements were re-entered into by Diesel Locomotive Works with Montreal Locomotive Works and ALCO White from 4th September 1971. The agreement with Overseas Diesel Corporation was also modified to the extent that both Montreal Locomotive Works and ALCO White were made parties to the agreement. On expiry of the original period of the agreement, fresh agreements were entered into with Montreal Locomotive Works, ALCOWhite and Overseas Diesel Corporation for five years from 12th February 1972.

9.5 The fresh technical association agreements provide for payment of annual fees of $1,000 (Canadian dollars in the case of Montreal Locomotive Works and U.S. dollars in the case of ALCO-White) to the contracting parties with a provision that payment for additional supplies/services etc., would be mutually determined.

9.6 The choice of a collaborator for manufacture of diesel locomotives was limited to U.S.A. as funds for payment of technical fees and royalties in foreign exchange were available only from U.S.A., *i.e.*, loan from the Development Loan Fund (later known as AID) and loans from the U.S. Export Import Bank. There were three leading diesel locomotive manufacturers in U.S.A. —(*a*) General Electric, (*b*) General Motors and (*c*) ALCO. Tenders were not invited but discussions were held in U.S.A. in 1961 with the parties by the Chairman and the Financial Commissioner of the Railway Board. While the product of General Electric was not considered technically suitable, General Motors did not evince sufficient interest and finally the collaboration agreement was entered into with ALCO in 1962.

Capital Structure

9.7 The abstract estimate sanctioned in 1963 for Rs. 19,57,33,000 underwent two revisions; first in 1968 and subsequently in 1969. Both the revisions merely modified the relative provisions for the Civil Engineering, Mechanical and Electrical departments and did not affect the overall cost of the project. Details are given below:—

Department	Provision in abstract estimate (1963)	Provision in first revised estimate (May 1968)	Provision in second revised estimate (May 1969)	Expenditure upto March 1972
			(thousand of rupees)	
Civil Engineering	9,59,05	7,85,79	7,89,65	7,89,03
Mechanical	8,64,74	10,42,78	10,42,78	9,68,35
Electrical	1,33,54	1,28,76	1,24,90	1,14,04
TOTAL	19,57,33	19,57,33	19,57,33	18,71,42

In addition to the project estimate for production of broad gauge locomotives, Rs. 1.38 crores were sanctioned between 1968-69 and 1970-71 for facilities for production of metre gauge locomotives, spares for diesel locomotives, plates and sheets etc.

9.8 A statement showing capital at charge is in Annexure I. The project estimate has not yet been closed (January 1974).

Production

9.9 The first locomotive, wholly assembled, came out in 1964. The installed capacity of the project expected to be attained by 1967-68 was 150 broad gauge diesel locomotives a year. In 1965 it was decided to diversify production to include manufacture of metre gauge locomotives also. As a result, from 1968-69 production capacity was revised as 100 broad gauge and 60 metre gauge locomotives a year.

9.10 Full production has not yet been attained though nearly a decade has elapsed since commencement of production. The abstract estimate for the project envisaged outturn of 307 diesel locomotives in five years time, *i.e.*, by 1967. By 1966-67, however, only 116 broad gauge diesel locomotives had been produced. There were substantial shortfalls, by nearly 50 per cent of the installed capacity, in the next three years also.

9.11 As per the project report, 941 broad gauge locomotives or equivalent should have been manufactured during 1963-64 to 1971-72. The actual outturn was, however, 427 broad gauge and 80 metre gauge locomotives. Production plan for the Fourth Five Year Plan as reported to the Estimates Committee (1969-70) (Fourth Lok Sabha) and incorporated in its hundred and nineteenth Report was :—

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

9.12 These targets were substantially modified in May 1971 as indicated below:—

Year	Target of locomotive production		Actual locomotive production		Total production of locomotives	
	broad gauge	metre gauge	broad gauge	metre gauge	Target	Actual
1969-70	58	24	58	24	82	82
1970-71	57	11	57	11	68	68
1971-72	65	40	70	35	105	105
1972-73	90	45	60	35	135	95
1973-74	100	60	45*	25*	160	70*
TOTAL	370	180	290	130	550	420

*Upto December 1973

Production fell in 1972-73 primarily because of power shortage and labour problem.

Diesel Locomotive Works takes about six months to produce a locomotive. The Railway Board had been placing orders for locomotives two years (from April 1973 this is three years) in advance of the delivery period. The orders placed by the Railway Board from 1969 onwards are shown below:—

	Broad gauge loco-motives	Metre gauge loco-motives
February 1969	106	33
May 1970	113	75
June 1971	—	2
April 1972	135	—
December 1972	5	—
March 1973	—	80
TOTAL	359	190

The order placed in May 1970 still (September 1973) remains unfulfilled to the extent of one-third.

9.13 The Diesel Locomotive Works Administration attributed the shortfall in attainment of target mainly to restricted availability of foreign exchange and has claimed that during four years (from 1968-69 to 1971-72) actual production has practically corresponded with what could be expected from the constraint of foreign exchange availability. It has been claimed that this

has been achieved in spite of serious constraints on indigenous supply, particularly of castings and forgings, and on supply of electric traction equipment by Heavy Electricals (India) limited, Bhopal, and Bharat Heavy Electricals, Hardwar. Further, the Works have been given the added responsibility of procurement/manufacture and supply of spares of diesel locomotives to the user Railways—a function which was not contemplated at the project stage.

9.14 Shortfall in production of diesel locomotives led to larger utilisation of steam locomotives, resulting in extra expenditure because of higher operating cost of steam locomotives.

Incentive bonus, idle time and overtime payments

9.15 Incentive scheme was introduced in June 1969 and by November 1973 it was established in 89 out of 92 sections.

9.16 An analysis of the monthly expenditure on incentive bonus and overtime payments for certain shops during 1971-72 is given in Annexure II. It indicates that the growth of incentive bonus and overtime payments was not often matched by a corresponding increase in production. In a number of cases production remained even below the targets fixed prior to introduction of incentive scheme.

9.17 Idle time as a percentage of direct man-hours in the whole factory was 3 per cent in 1970-71 and 2.7 per cent in 1971-72 against 1.1 per cent in 1969-70. During the twelve months of 1972-73, idle time ranged between 4.3 to 10 per cent of direct man-hours. An examination of the idle time booked during 1971-72 in shops on incentive scheme indicated that average idle time booked due to lack of materials and tools was 25·09 per cent of the total idle time. The idle time booked on 'miscellaneous account' was 22.66 per cent attributed to shortage of gas, shortage of grinding wheels, non-availability of crane drivers, drop in compressed air pressure, non-availability of fork lift drivers, non-availability of consumable stores like grease etc. It may be mentioned that booking of idle time due to lack of materials and tools entails proportionate deduction from the incentive bonus of the chargemen/mistries, but booking of idle time on 'miscellaneous account' does not affect the bonus of supervisory staff.

It has been stated by the Administration that for stricter control, booking of idle time on 'miscellaneous' account has been abolished from 15th September 1972 and the booking is now under specified categories.

9.18 Overtime payments have also been going up steadily from Rs. 70,577 in April 1971 to Rs. 1,44,282 in March 1972. Total overtime payments were Rs. 8.75 lakhs in 1969-70, Rs. 9.43 lakhs in 1970-71 and Rs. 11.84 lakhs in 1971-72. The total wage bill for all the shops was Rs. 97.22 lakhs in 1971-72.

9.19 The Ministry of Railways (Railway Board) explained that the incentive scheme had not always resulted in a commensurate increase in production, and idle time payments had also increased because of the unsatisfactory supply of indigenous forgings and components, both as to quality and time schedule. The high incidence of overtime was stated to be due to higher percentage of absenteeism and the need to make good the time lost in infructuous production of components which failed to pass in final inspection.

Materials Management

9.20 The values of stores issued for manufacture and held at the end of year in the last three years were as follows:—

Year	Issues	Balance at the close of the year
	(lakhs of rupees)	
1970-71	1385.23	540.53
1971-72	2030.42	594.68
1972-73	2788.68	754.42

9.21 Purchases of stores during the three years 1970-71, 1971-72 and 1972-73 were as follows:—

Year	Stores imported direct	Stores imported through agents in India	Total imported stores	Indigenously purchased*	Total indigenously purchased and imported stores	Percentage of indigenously purchased stores to total
				(lakhs of rupees)		
1	2	3	4	5	6	7
1970-71	411.59	2.32	413.91	924.20	1338.11	68.31
1971-72	970.61	0.46	971.07	967.69	1938.76	50.00
1972-73	1315.95	0.54	1316.49	1537.92	2854.41	53.89

*These are purchases in India. Of these the electrical equipments accounting for about 44 per cent of the value of each locomotive have substantial import contents.

It would be seen from the above that overseas purchases in 1971-72 and 1972-73 were about double and three times respectively of those in 1970-71. In 1972-73 indigenous purchases were also substantially more than in the previous years. The result has been that at the end of 1972-73 Diesel Locomotive Works was holding stores worth Rs. 7.54 crores, the highest level so far. In the absence of sufficient storage capacity considerable stores were lying in the open (September 1973). The Railway Board considers the current level of inventory holding as reasonable in the light of difficulties in procurement of indigenous and imported stores.

9.22 Rupees 32.15 lakhs worth of locomotive items and Rs. 31.16 lakhs worth of other items have been lying in stock for two years and more. Tools worth Rs. 18 lakhs were also found surplus to requirements. It was stated (January 1974) that tools valued at Rs. 11 lakhs have since been disposed of.

9.23 Computerisation of stores accounting and inventory control was planned in July 1968 to be introduced in five phases. However, till November 1973 only the first phase thereof was implemented and the second phase is expected to be completed by February 1974.

Costs and Prices

9.24 The table in Annexure III shows the trend of costs, cost by main components and return on gross block from 1963-64 to 1971-72.

9.25 The selling price was initially fixed on the basis of base price of a complete locomotive as given in the contract with ALCO. From the base price of components given in the contract in dollars, the present day landed cost of the imported portion is worked out applying the current rate of exchange; in addition, the value of indigenous components, suitably escalated, is taken into account and the selling price revised from time to time.

9.26 During 1963-64 to 1967-68 the costs of production exceeded the selling prices; thereafter the selling prices have been higher.

9.27 The costs of production per locomotive are shown below:—

Year	Direct Cost*		Proforma charges£ (i. e. indirect charges)		Total cost including proforma charges£	
	broad gauge locomotive	metre gauge locomotive	broad gauge locomotive	metre gauge locomotive	broad gauge locomotive	metre gauge locomotive
					(rupees in thousand)	
1963-64	1449	—	143	—	1592	—
1964-65	1572	—	382	—	1954	—
1965-66	1718	—	306	—	2024	—
1966-67	1724	—	350	—	2074	—
1967-68	2121	—	361	—	2482	—
1968-69	2252	1954	359	319	2611	2273
1969-70	2228	1736	329	318	2557	2054
1970-71	2230	1727	342	312	2572	2039
1971-72	2259@	1790	249	198	2508@	1988

*(Direct cost is prime cost plus shop on-cost plus general on-cost plus freight charges.)

£(Proforma charges include expenditure of administrative departments, general administration, contribution to provident fund, interest on capital outlay, depreciation on plants, buildings, etc., and other indirect charges.)

@(The cost does not include the effect of the escalation payment of Rs. 129.66 lakhs made to Heavy Electricals (I) Limited during 1972-73 for supply of traction equipment up to 31st May 1971. It also excludes the effect of increase of Rs. 4.95 lakhs in the price of traction equipment for each locomotive supplied after 31st May 1971, agreed in June 1972, to be paid to that undertaking.)

9.28 With increased production and consequent better utilisation of installed capacity the unit cost declines. It would be seen from the above that during 1968-69 to 1971-72, the production cost of a metre gauge locomotive declined by about 13 per cent. This was because of reduction of both direct costs and proforma charges. During those four years, the unit cost of production of broad gauge locomotives declined by only 4 per cent. This decline was solely due to reduction in the proforma charges per locomotive. The direct cost of production of a broad gauge locomotive did not decline although that of a metre gauge locomotive had declined by about 8 per cent.

Import Substitution

9.29 The basis on which the Diesel Locomotive Works Administration works out the level of indigenisation is "the percentage of cost of components partly/fully deleted from import in relation to cost of complete locomotive in dollars as incorporated in the collaboration agreement with ALCO". A more appropriate method would seem to be to take the import content in a locomotive as reported through each batch cost and assess the extent of indigenisation attained. The percentages of indigenous content on the above two bases are shown below:—

Year	As determined by Administration		From batch cost reports	
	broad gauge locomotive	metre gauge locomotive	broad gauge locomotive	metre gauge locomotive
1968-69	80	—	49.5	26.5
1969-70	Over 80	About 60	69.1	46.1
1970-71	Over 80	Over 80	70.5	61.4
1971-72	86	Almost 86	71.7	77.4

9.30 It is also to be pointed out that the above percentages are on the assumption that purchases in India are wholly indigenous in content. The contribution of Diesel Locomotive Works to a diesel locomotive is only about one-third. The rest are bought-out items. Heavy Electricals (India) Limited, Bhopal, and Bharat Heavy Electricals, Hardwar, which supply traction motors, generators, control panels etc., account for about 44 per cent of the cost of a locomotive. To the extent purchases in India have import contents, the actual extent of indigenisation would be less than that shown above. For example, the electrical equipments purchased from Heavy Electricals (India) Limited, Bhopal, and Bharat Heavy Electricals Limited, Hardwar, have substantial import contents. Amongst others, crank shafts, pistons, piston rings are still imported by Diesel Locomotive Works.

Computers Utilisation

9.31 An I. C. T. computer was installed in 1965. In 1968 this was replaced by an IBM computer whose capacity was increased in May 1972.

9.32 The monthly rental payable for the computer is Rs. 60,765 for a minimum utilisation of 176 meter hours of the central processor. The average monthly utilisation during 1968 to 1972 has been as follows:—

Year	Meter hours
1968	54.01
1969	97.05
1970	157.07
1971	165.04
1972	174.00
March 1973	179.00

9.33 By October 1973 the usage had gone up to 210 meter hours. It may be mentioned that the computer can be utilised up to 400 meter hours in a month, the usage beyond 176 meter hours being charged on a concessional basis.

CHAPTER III

ELECTRIC LOCOMOTIVES AND CONCRETE SLEEPERS

10. A.C. Electric Locomotives

Initially, electrification in the Indian Railways was based on D.C. traction. Following the advanced countries and on cost consideration, our Railways later on switched on to A.C. traction. The Ministry of Railways (Railway Board) decided in June 1959, on the recommendations of a foreign consortium (called Group), to adopt its design of A.C. freight type broad gauge electric locomotives and entered into a collaboration agreement with Group in November 1962 providing for grant of manufacturing rights and technical assistance for indigenous production of such locomotives for a period of eight years. Production, established in Chittaranjan Locomotive Works, started from December 1963. The collaborators were pioneers in the world in A.C. traction.

Between December 1963 and October 1967 Chittaranjan Locomotive Works delivered to South Eastern Railway 82 locomotives and 16 sets of bogies with traction motors. Shortly after commissioning, all these locomotives (each cost about Rs. 24 lakhs) started developing a number of defects from October 1964 onwards and had to be withdrawn from service. These defects were attributed partly to use of indigenous materials, poor workmanship and inadequate inspection in different stages of manufacture at Chittaranjan and partly to design inadequacy for the purpose of the heavy gradients in South Eastern Railway. Major repairs and modifications to these locomotives had to be carried out at Chittaranjan Locomotive Works, South Eastern Railway and Eastern Railway workshops; the total expenditure was Rs. 141.22 lakhs upto November 1972 forming about 10 per cent of cost of manufacture. Progressive modifications to other locomotives of this design, turned out by Chittaranjan Locomotive Works after October 1967 and which had not been put to strenuous use, had also to be carried out at a cost of Rs 16.66 lakhs upto 31st March 1972 in two Railways. The Ministry of Railways (Railway Board) stated (December 1972) that expenditure incurred on repairs to these locomotives was in the nature of intermediate overhauls which are ordinarily carried out in any new series of locomotives for adopting modifications and overcoming difficulties and shortcomings noticed in service performance and therefore should not be considered heavy.

From December 1969 onwards there was again a spate of failures of traction motors of such locomotives due to breakages of shaft and pinion, which had not been indigenised. Out of 624 such traction motors with Central, Eastern, Northern and South Eastern Railways, 65 motors failed on this account upto the end of March 1973. After investigation, Research, Designs and Standards Organisation suggested certain improvements in design and material specifications which were agreed to by the collaborators. Chittaranjan Locomotive Works has sought replacements under normal warranty obligations for the imported supplies and separately efforts are also being made to obtain these components from indigenous sources according to the revised design and specifications.

In September 1967 the Railway Board decided to stop production of A.C. freight type locomotives beyond the 268 already ordered on Chittaranjan Locomotive Works and instead start manufacture of A.C. broad gauge mixed type (MT) electric locomotives to a design developed by Research, Designs and Standards Organisation. Mixed type locomotives are capable of higher speeds, and, therefore, can be used for passenger as well as goods traffic. The reasons for this change were non-materialisation of anticipated freight traffic, sufficient availability of freight type locomotives and the technical superiority and easier maintenance of the newly designed mixed type locomotives. One important difference between the freight type and the mixed type is that whereas in the former there is one motor for two axles, in the latter there is an independent motor for each axle. The traction motors for the mixed type locomotives are different from those for the freight type and for manufacture of these new motors three choices of designs were available from

(*a*) Research, Designs and Standards Organisation of the Railways.

(*b*) Heavy Electricals India Limited, and

(*c*) the firm (belonging to Group) which had designed the traction motor for freight type locomotives and was assisting in its manufacture.

Because the motor of Railways' own design might become available for series production, after initial development and service trials, only by the end of 1970 as against the planned production of these locomotives from the end of 1969, that design was discarded. The second choice of traction motor of Heavy Electricals India Limited design, though technically feasible for mixed type, was passed over because of its weight, another reason being that this motor had more copper and steel content and its cost of production

would be more as compared to the motor of the third choice; further, Heavy Electricals India Limited was also committed heavily to manufacture and supply traction motors for diesel locomotives, D.C. electric locomotives etc., and it was also apprehended that Heavy Electricals India Limited would not permit manufacture of similar traction motors elsewhere nor part with necessary technical knowhow. Ultimately in October 1967 the traction motor offered by the firm belonging to Group was adopted for manufacture at Chittaranjan Locomotive Works because of other advantages also like utilisation of balance of about DM 2.0 (Rs. 2.17) lakhs out of DM 7.5 (Rs. 8.15) lakhs already paid in advance to the Group as on-account royalty for the earlier locomotives and continued usage of facilities already created and skill developed at Chittaranjan Locomotive Works for manufacture of traction motors.

In February 1968 the old collaboration agreement was extended, on slightly more favourable terms, upto 2nd November 1975 to cover production of motors of the new design. Import of 200 traction motors from that firm was also arranged in February 1968, at a foreign exchange cost of Rs. 151 lakhs, to cover the expected time lag of about six months between commencement of mixed type locomotive production and establishment of bulk manufacture of traction motors for them. Between September 1968 to January 1972 further import orders were placed on that firm for 336 armatures, costing about Rs. 128 lakhs in foreign exchange, to be used as components for traction motors to be made at Chittaranjan Locomotive Works.

The traction motors of the selected design were not in use in any other country. The Railway Board's representative in Europe had seen that, through tests in the foreign country, the motors satisfied the standards prescribed by the International Electro-Technical Committee. However, before purchase and adoption for bulk manufacture they were not subjected to field trials in India.

Production of mixed type locomotives commenced from February 1971, instead of from 1969 originally planned. These are the most powerful locomotives our Railways have, each costing about Rs. 28 lakhs. Upto March 1973 eighty-seven such locomotives were produced. Most of them were allotted to South Eastern Railway and a few to Eastern Railway. After September 1971, i.e., within a short time of these locomotives being brought to use in South Eastern Railway, a large number of their traction motors developed defects, some even immediately on receipt in India. (There were no failures in Eastern Railway.) There were also heavy rejections/failures of

field coils at the stage of testing and assembly by Chittaranjan Locomotive Works. Investigations jointly by the firm's representatives and Railway engineers during May to September 1972 disclosed that motor failures were due to failures of both imported and locally built armatures due to bad workmanship in various stages of manufacture of the armatures and the large number of special overspeed tests undertaken to prove their soundness. Out of a total supply of 297 armatures by the firm, one hundred and three were reported defective upto September 1972, the corresponding figures being 72 and 48 respectively for armatures built by Chittaranjan Locomotive works. The percentages of failures were thus 35 in imported motors and 67 in locally assembled motors. This resulted in immobilisation of a large number of A.C. mixed type electric locomotives and their production was also seriously affected. The firm investigated in detail these failures and its representative visited India for studying the problem and the remedial measures to be adopted for overcoming the failures. During discussions with the Railway Board the firm agreed to the following solution in September 1972:—

(i) A new design of the armature coils would be developed by the firm.

(ii) All the 297 armatures supplied by it till September 1972 would be taken back, rehabilitated according to the new design and returned. All expenditure thereon would be borne by the firm. (Later in February 1973, it was decided to rewind 20 of these armatures in Chittaranjan Locomotive Works for training staff in production of the new design. To compensate for labour and facilities for this purpose provided by Chittaranjan Locomotive Works, the firm agreed to provide sets of material for nine more armatures.)

(iii) All future armatures to be supplied against pending order would be of the new design.

(iv) The firm will also render assistance to Chittaranjan Locomotive Works in establishing quick manufacture of armatures of the new design by supplying copper conductors to the new design for 10 armatures, and by placing armature winding experts at the disposal of Chittaranjan Locomotive Works from December 1972 onwards for attending to quality production of armatures of the new design.

(v) All the rehabilitated armatures would be covered by a fresh warranty of 24 months from the date of commissioning in India or 32 months from the date of shipment from abroad whichever is earlier.

Accordingly, the Board has drawn up a plan for sending the 297 armatures abroad in a phased manner. Till June 1973 ninety-eight armatures were sent. Meanwhile, the locomotives are being kept in service to the extent possible by limiting the maximum current. Chittaranjan Locomotive Works had built 120 armatures of the old design all of which will have to be rehabilitated at an estimated cost of Rs. 24 lakhs.

The failures of these traction motors led to immobilisation of a large number of the mixed type locomotives in South Eastern Railway. Out of 52 such locomotives supplied to South Eastern Railway till the end of March 1973, twelve were not in use till March 1973 for various periods since January 1972 as their traction motors were used for replacing the defective ones in the locomotives in service. Besides, thirty-seven such locomotives had to be stabled on that Railway in 1972 for periods ranging from 10 to 184 days because of traction motor defects. Also during 1972-73 Chittaranjan Locomotive Works turned out 41 such locomotives, of which only 22 fitted with traction motors could be despatched to the allottee Railways and, lacking traction motors, the other nineteen remained stabled. But for the stabling of these locomotives additional goods traffic could have been moved under electric traction and to that extent haulage under costlier steam traction could have been reduced.

11. Monoblock concrete sleepers

Indian Railways have been using mostly wooden, steel and cast iron sleepers. In tune with the practice in advanced countries, the Railways have planned to lay, on the more important routes, concrete sleepers which are suitable for high density traffic and higher speeds. Concrete sleepers are of two types, *viz.*, monoblock and two-block. The total annual requirement of concrete sleepers is estimated to be 12 lakhs of which 8 lakhs would be of the monoblock type. In each of the two years 1970-71 and 1971-72, the Indian Railways obtained about 26 lakhs and 21 lakhs respectively of wooden sleepers and 18 lakhs cast iron and steel sleepers, but procurement of monoblock concrete sleepers till February 1973 was only seven thousand out of which 5,400 had been laid on the track.

Studies were undertaken by the Research, Designs and Standards Organisation to evolve an indigenous design of monoblock concrete sleepers to suit Indian conditions of weather and traffic. The design evolved (RDSO-T. 380) was accepted by the Board in 1967. About four hundred of these sleepers were made in a Railway laboratory near Lonavala and laid on the track

and they did not develop defects. Tender for bulk procurement was issued in December 1967. The first order was placed on firm 'A' in June 1968 for supply of 1 lakh concrete sleepers of this design at the rate of Rs. 66.60 each f.o.r., factory. Detailed plans showing re-inforcements, size of the sleepers, minimum strength of concrete, technical specification for production and minimum value for different testings were specified in the contract. Malleable cast iron inserts required for casting *in situ* with these sleepers were to be supplied free by the Railways. The contract also provided for escalation and payment of advances against raw materials like cement, mild steel, high tensile wire, stone chips, stone dust and sand procured for the manufacturing operation against bank guarantee. There was also provision for release of foreign exchange for special equipments like vibrators.

Before this firm commenced bulk manufacture of the sleepers, a second order was placed on firm 'B' in March 1969 for supply of 1.20 lakh monoblock concrete sleepers at the rate of Rs. 70.50 each. A third order was placed on firm 'C' in June 1969 for supply of 50 thousand monoblock concrete sleepers at the rate of Rs. 65.99 each. Both these orders were subject to conditions similar to those in the contract with firm 'A'.

These firms were to supply, on trial basis, initially 200 sleepers after approval of which they were to make arrangements for regular production and supply in accordance with the contracts. All the three firms supplied the test sleepers which passed the tests satisfactorily and were found acceptable.

However, when the firms went into regular production, a large percentage of the sleepers did not come up to the strength specified for the tests, and, therefore, there were heavy rejections. Efforts by the firms to improve production technique did not meet with success. A committee was appointed by the Board in March 1970 to examine the reasons for the high percentage of rejections and review the progress in manufacture of concrete sleepers. In its report submitted in July 1970 the committee attributed the substantial rejections of the sleepers to varying qualities of cement available in the country and used in the works, lack of sophisticated controls needed for ensuring uniformity and quality, defects in the method of pre-stressing and de-stressing and want of adequacy in compaction, vibration and curing methods.

The design of the Research, Designs and Standards Organisation was based on German practices. It was presumed that sophisticated technology and equipment required for manufacture of pre-stressed concrete sleepers would be available by the time manufacture of concrete sleepers was taken in

hand. It was expected that foreign exchange would be allowed for importing necessary equipments required for the manufacture, if such equipments were not produced in the country by then. Taking these into account an economical design had been evolved. However, the assumptions made at the time the design was evolved were not fully realised in practice. Import of ordinary equipment (such as high frequency vibrators) and sophisticated equipment (like turbine mixers, pressure plate vibrators, tensioning jacks, gradual detensioning equipments etc.) was not allowed. Lacking the sophisticated equipments and indigenous manufacturing technique having not sufficiently advanced, the manufacturers were not able to control the wide scatter in the test values.

It was then realised that if under existing conditions concrete sleepers were to be manufactured in the country, the design would have to be strengthened marginally by using extra wires. Accordingly, the Research, Designs and Standards Organisation evolved a modified design (EDO-1107) by July 1971 which kept the dimensions unchanged but increased the quantum of high tensile steel re-inforcement and reduced the strength of concrete and mild steel re-inforcement; the specifications were also modified.

Due to the difficulty in large scale production of sleepers of the original design under existing conditions, the first two firms 'A' and 'B' more or less stopped regular production in July 1970. Firm 'A' made efforts to obtain foreign technical assistance for the manufacture. The third firm 'C' tried to improve the quality of production by introducing changes in the techniques like top vibration as well as crimping of wires. In April 1971 that firm sought revision of rates and offered to manufacture concrete sleepers with 18 or 20 numbers of 5 mm crimped wires. A committee appointed by the Railway Board reported in July 1971 that the design offered by that firm had some drawbacks and therefore recommended production of sleepers of the modified design evolved by the Research, Designs and Standards Organisation mentioned above. The changes in the design introduced by that Organisation could not be construed as minor in nature to be covered by amendments to the contract with the firm. In those circumstances, the Board authorised in January 1972 discussions with firm 'C' for settlement of revised price for sleepers of the modified design to be manufactured. A deed was entered into with the firm in September 1972 cancelling the earlier order of June 1969 (the related contract was signed in August 1970); those of the sleepers already manufactured under that contract falling in categories I, II and III only were to be accepted by the Railways after tests and for them payments were to be made at 100 per cent, 95 per cent and 87.5 per cent respectively

of the price of Rs. 65.99 stipulated in the old contract (category II sleepers are fit for use along with category I sleepers on main lines and category III sleepers can be used only on loops and sidings); Railway Board also agreed to enter into a new contract with the firm for manufacture and supply of 2.25 lakh monoblock concrete sleepers according to the modified design of Research, Designs and Standards Organisation on terms and conditions to be mutually agreed upon. Malleable cast iron inserts supplied free of cost under the old agreement remaining unutilised were to be adjusted against the requirement of such inserts for these sleepers; the unadjusted on-account payments under the old agreement were also to be adjusted by the Railways against future claims of the firm for supply of sleepers of the revised design. The revised contract with the firm was entered into in February 1973 for supply of 2.25 lakh monoblock concrete sleepers at a cost of Rs. 107.50 per sleeper as against the earlier rate of Rs. 65.99 . After such settlement with firm 'C', the Railways entered into a similar agreement with firm 'B' in March 1973 for manufacture and supply of 1.20 lakh monoblock concrete sleepers of the modified design at the rate of Rs. 114 per sleeper, cancelling the earlier contract without financial implications.

Firm 'A' had requested in September 1970 permission for entering into collaboration agreement with a U.K. firm for obtaining technical assistance for the manufacture. This was granted and it was agreed that foreign exchange of Rs. 4.76 lakhs would be released in instalments during five years of production. In March 1973 the Board also decided to cancel the old contract with this firm on conditions similar to those of 'B' and 'C' and to place orders for 3.75 lakh monoblock concrete sleepers at the rate of Rs. 112.50 per sleeper. As recommended by the collaborator, a slight modification of the design of the concrete sleepers to be produced by this firm was also accepted.

Adoption of a design, not adequately related to Indian conditions, led to a setback of over three years in the programme for manufacture of monoblock concrete sleepers. This had a number of consequences. In the first place, had there not been this setback there could have been economy in consumption of steel and cast iron by the Railways. Monoblock concrete sleepers require about 24 kgs. of steel and iron each against 86 kgs. for steel sleepers and 108 kgs. of iron for cast iron sleepers.

Secondly, the Railways have the liability to accept the sleepers falling in categories II and III manufactured under the old contracts even though

they do not come up to the prescribed strength. The cost of these sleepers (excluding escalation) is assessed as Rs. 4.14 lakhs as detailed below:—

Firm	Total number cast	Number passed in inspection till the dates of new agreements	Number acceptable as		Amount (units of rupees) payable for		Total (Rs. lakhs)
			Category II	Category III	Category II	Category III	
1	2	3	4	5	6	7	8
A	11,490	4,500*	331	2269	20942	1,32,226	1.53
B	9,802	2,100	511	2822	33227	1,74,083	2.07
C	3,912	400	292	616	18308	35,481	0.54
Total	25,204	7,000	1134	5707	72477	3,41,790	4.14

*Up to October 1973. New agreement not entered into till then.

During 1969 and 1970 the Railways had procured at a cost of Rs. 8.73 lakhs 7,76,000 nylon liners which can be used only for laying the concrete sleepers on the track. Because of the delay in production of concrete sleepers the bulk of these liners are still (November 1973) lying in stock. The performance guarantees for these liners were limited to 36 months from the date of delivery or 24 months from the date of their placement in service, whichever was earlier. The supplies of these liners were received during December 1969 to December 1970—more than half the supply had been received before August 1970. The performance guarantees of these liners expired in different months between December 1972 and December 1973. For more than half the supplies the guarantees expired by August 1973.

Besides the three firms mentioned above, the Ministry of Railways (Railway Board) in September 1971 concluded a contract with firm 'D' for supply of 2.25 lakh monoblock concrete sleepers. Two more orders, each for supply of 2.25 lakh monoblock concrete sleepers at the rate of Rs. 109.50, were placed in February 1973 and October 1973 on two more firms which were to adopt a design of their own for these sleepers. The total number of monoblock concrete sleepers supplied till December 1973 against all the orders was about 6000 out of 14000 manufactured (by firms 'B' and 'C').

The Ministry of Railways (Railway Board) stated (November 1973) that the initial design was based on limited trials and only after large scale production the shortcomings in the production technology became apparent; development of techniques of large-scale manufacture takes time even in advanced countries and the period so far spent by the Railways on such development is considered reasonable taking into account the infrastructure obtaining in this country.

CHAPTER IV

GOODS TRANSPORTATION AND ROLLING STOCK USAGE

12. Central, South Central and South Eastern Railways—Detention to goods trains.

For planned supply of wagons, quotas of the number of wagons to be handed over daily by each Railway to the contiguous Railway at each junction point of interchange of traffic are fixed by the Railway Board. These quotas are periodically determined taking into account the quanta and trends of actual traffic in the past and the capacity of a railway to move such traffic.

The Central Railway exchanges goods traffic with South Central Railway at, amongst others, Balharshah junction. It does so with South Eastern Railway at, amongst others, Ajni junction. The quotas fixed for interchange of wagons at these two junctions and the actual interchange during April 1970 to March 1973 are given below: —

Interchange point	Average number of wagons to be interchanged each* way daily during			Average number of wagons actually interchanged daily					
	1970-71	71-72	72-73	1970-71	71-72	72-73	1970-71	71-72	72-73
				South Central to Central			Central to South Central		
Balharshah	375	370	370	278	290	285	300	305	300
				South Eastern to Central			Central to South Eastern		
Ajni (Nagpur)	600	600	600	447	447	441	389	347	348

*There is no quota for traffic from Central Railway to South Eastern Railway interchanged at Ajni. The figures shown above are for traffic from South Eastern Railway to Central Railway.

The average number of wagons actually interchanged at Balharshah and Ajni was less than the interchange quotas by 18 to 26 per cent and 25 to 27 per cent respectively. During 1970-71 to 1972-73 there were detentions of goods trains at or short of these two interchange points. When the detentions are likely to be indefinite the engine is detached and the train is stabled. (In what follows detentions for less than an hour and stablings

for less than a day have not been taken into account.) The detentions are to be viewed in the light of the facts that (i) while the Railways lose in passenger traffic, profit is made in goods traffic and (ii) although in 1971-72 seventy-two per cent of the freight traffic was hauled by the powerful electric and diesel locomotives (which are expensive—each broad gauge electric/diesel locomotive now costs about Rs. 28 lakhs) wagons (broad gauge) ran for 4.07 hours only and covered only 74 kms. per day on the average.

Two thousand ninety-two goods trains from Central Railway side and 1880 trains from South Central Railway side were actually interchanged at Balharshah in 1971-72. In that year 52 trains proceeding from Central Railway side towards Balharshah were stabled short of that station by not less than a day—their average period of stabling was 2 days. It has not been possible to ascertain whether trains proceeding from South Central Railway side to Balharshah were stabled short of that station on that side. In addition, during the same period 155 goods trains proceeding from Central Railway side were detained on an average for 2 hours short of Balharshah on the Central Railway side and 382 trains proceeding from South Central Railway side were detained on an average for 2 hours on the South Central Railway side. Also, 151 trains of Central Railway handed over to South Central Railway started late from the interchange point (Balharshah station) by, on an average, 2 hours.

The Ministry of Railways stated (January 1974) that, as the section between Balharshah and Bellampalli (109 kms.) was on single line excepting for a short stretch of about 4 kms., some detentions to goods trains for crossing and precedence of passenger carrying or other goods trains were inescapable. Since this section was already working to near saturation point, further doubling of this section had been sanctioned; and during actual execution of these works, the capacity on this section got temporarily reduced on account of speed restrictions and engineering blocks. Besides, Balharshah is a small transit yard with meagre facilities and detention to goods trains short of it is partly on this account. To overcome these limitations, remodelling of this yard has also been sanctioned on a modest scale. Difficulties were also caused by bunching of express and passenger trains at that station, unforeseen factors such as accidents etc., and by occasional late availability of engines or late appearance of staff on duty.

In 1971-72 two thousand five hundred and ninety-six Central Railway goods trains were handed over to South Eastern Railway at Ajni and 3415 trains were taken over by the former from the latter. In that year 21

trains proceeding from Central Railway side towards Ajni were stabled short of that station by not less than a day—the average period of their stabling was 4.62 days. In addition, during April—October 1971, 16 trains proceeding from South Eastern Railway side towards Ajni were stabled short of that station by not less than a day—the average period of their stabling being 3.69 days. Further, during February—July 1972, 48 trains of Central Railway and 1001 trains of South Eastern Railway were detained short of Ajni, on an average, for one hour and forty minutes and one hour and eleven minutes on Central and South Eastern Railways respectively. In addition, 115 trains of Central Railway handed over to South Eastern Railway in the same period started late on an average by four hours and eighteen minutes from the interchange point (Ajni).

The Ministry of Railways stated (January 1974) that movement of traffic to the eastern region was severely strained in 1971-72 due to heavy strategic Defence movements. Besides, there were frequent cases of dislocation to train services on account of civil disturbances, wildcat strikes and other forms of labour trouble. These factors coupled with usual operating hazards like accidents etc., were responsible for the temporary stabling of these trains. Late starts of goods trains from Ajni were mainly due to unforeseen factors like accidents, failure of signalling and other equipment in yards, cross movement of engines between Nagpur and Ajni and late appearance of staff on duty etc.

13. Refrigerated fish van service

For development of fisheries Government of India decided in 1958 to provide refrigerated transport facilities for fresh fish from catching points. Six refrigerated vans were constructed in 1960-61, as an experimental measure, at a cost of Rs. 24.40 lakhs including the cost of refrigerated equipment worth $1.27 lakhs (Rs. 6.05 lakhs) received under a foreign aid programme. Three more vans were acquired during July 1968 to January 1969 at a cost of Rs. 10.51 lakhs. Orders for three more vans were placed in November 1969. The cost of these vans was borne by the Ministry of Food and Agriculture. According to the agreement entered into with the Railways in January 1963, that Ministry was to bear annual maintenance and service charges at the rate of 5 per cent of the cost of construction of these vans. Freight was fixed by the Railways at 15 per cent over and above the normal tariff rates. In order to attract more traffic, the Railways decided in June 1963 to reduce the surcharge to 5 per cent over the normal tariff rate with effect from August 1963. The Ministry of Food and Agriculture also paid Rs. 10.99 lakhs to the Railways as reimbursement of losses sustained till March 1965.

At the request of the Ministry of Food and Agriculture the Railways agreed to take over the responsibility for maintenance and operation of the refrigerated fish vans with effect from April 1965 but the ownership of these vans continues to be of that Ministry.

Two of the six refrigerated vans of 15 tonnes capacity each, built in 1960-61, were put on line in South Eastern Railway in November 1960. Two more vans of 15 and 18 tonnes capacity each were transferred to that Railway in June 1967 and June 1969. Another van of 15 tonnes capacity was transferred in defective condition to South Eastern Railway from Central Railway in August 1970 and, except two trips in each of the months of December 1971 and January 1972, could not be put to regular service before October 1972. They carry fish from eight stations near Palasa (Andhra Pradesh) to Howrah and their capacity was utilised to the extent of 77 per cent and more during 1969-70 to 1972-73 and thus were being intensively used when on the run. However, against the planned trip of one van daily, *i.e.*, 365 trips annually, 167.5 trips were made annually on an average during 1969-70 to 1972-73.

Two vans were allotted to Southern Railway. They are being used for carrying fish from Calicut to Madras. The service started in October 1960 and was scheduled to run bi-weekly. However, the vans made only 43.5 trips on an average per year during April 1969 to March 1973 against 104 trips which were planned, due to the vans remaining out of commission for long periods. The average weight carried ranged from a quarter to slightly more than half the 15 tonnes capacity of a van. With a view to securing better utilisation of the service, the Railway Board suggested in June 1963 that half the space in the vans might be utilised for carrying other commodities like fresh fruits, vegetables etc., as a permanent measure by deodorizing one compartment of the van. This, however, was not implemented by the Southern Railway. From August 1972 the refrigerated equipment was removed from one van which is being used now as an insulated van for carrying fish baskets packed with ice. It was also occasionally sent to Kakinada for carrying frozen shrimps from Kakinada to Cochin for export. The earnings in Southern Railway from these vans during four years from April 1969 to March 1973 were only Rs. 1.27 lakhs as against the expenditure of Rs. 5.24 lakhs on maintenance and operation of these two vans.

One van which was put in service for carrying fish from Vijayawada to Howrah from February 1964 was sent for periodical overhaul to workshops in December 1966 and thereafter the service was not resumed. This van was later on transferred to South Eeastern Railway.

The Western Railway started a service in January 1961 for carrying fish from Ahmedabad to Delhi with one van, but it was discontinued in August 1961. It was again introduced in September 1961 but was stopped from June 1962. This van was also subsequently transferred to South Eastern Railway.

Two metre gauge refrigerated fish vans were also allotted to the Western Railway in 1968-69. One of them was put in service from October 1968 between Veraval and Delhi. From November 1968 one compartment (out of two) of the van has been reserved for carrying fish from Veraval to Delhi and the other for milk from Mehsana to Delhi. The second van was introduced in January 1969 for carrying milk from Mehsana to Delhi. One van made only 35 trips annually on an average during 1969-70 to 1972-73 (up to December 1972); the other made only 42 trips during the same period. The earnings from these two vans were Rs. 3.49 lakhs against expenditure of Rs. 5.99 lakhs during the period 1969-70 to 1972-73 (up to December 1972) resulting in loss of Rs. 2.50 lakhs.

The Ministry of Railways (Railway Board) stated (January 1974) that the trade did not patronise the scheme well because the vans did not run regularly. The absence of a daily service also added to this. Secondly, there were many mechanical and electrical breakdowns initially and the vans were detained in the shops for long periods owing to difficulty in getting spare parts which had to be imported.

The South Eastern Railway has five vans and service in that Railway is better than in Southern and Western Railways. The latter two Railways have two vans each. When the refrigeration equipments in them breakdown, owing to there being no reserve vans with them the service is interrupted in those Railways. Thus, the service in those Railways has been quite irregular with the necessary consequence that customers do not patronise the service there. How the refrigerated fish van service can be improved merits consideration.

14. Central Railway—Transport of bamboos

Under the Railway tariff, minimum weights have been prescribed for charging freight at wagon load rates. These minimum weights for bamboos are 110 quintals for broad gauge and 65 quintals for narrow gauge (four-wheeler). For standard bogie wagons (eight wheeler) the minimum weight is 220 quintals for broad gauge; for narrow gauge standard bogie wagons the minimum weight is 130 quintals and for South Eastern Railway it has

been fixed as 110 quintals from 29th November 1971 onwards. For through booking of bamboo chips, cuts, splits and splints (to be used as raw material, for manufacture of paper and straw-board, to be booked to a paper or straw-board mill) from narrow gauge stations on South Eastern Railway, the rates chargeable for non-standard narrow gauge bogies were for the fixed weight of 100 quintals per wagon.

There is a regular traffic in bamboos moving in wagon loads from the narrow gauge section of South Eastern Railway to the broad gauge section of Central Railway. The principal booking station is Balaghat and the traffic is mostly for paper mills at stations reached *via* the Central Railway and terminating on Northern and Eastern Railways. The average lead for such traffic on the narrow gauge is 168 kms. and on the broad gauge 918 kms. This traffic was carried in standard as well as non-standard narrow gauge bogie wagons. While transhipping the consignments from narrow gauge wagons into broad gauge wagons (for which the minimum weight is 110 quintals) at Madan Mahal station of Central Railway, the contents of one narrow gauge bogie wagon were, more often than not, placed in two broad gauge four-wheeled wagons or in one broad gauge bogie wagon, although the average tonnage loaded in the narrow gauge bogie wagon was only 100 to 110 quintals. This resulted in excess utilisation of one broad gauge wagon for most of each of the narrow gauge bogie wagons. Between January 1969 and June 1972, about 13 thousand broad gauge wagons (four wheelers) were so utilised in excess. The cost of hauling these loaded excess number of wagons is assessed to be about Rs. 50 lakhs. Placing these excess number of broad gauge wagons at Madan Mahal station also meant that the empties were hauled to that station for that purpose. It is to be added that the freight rate for bamboos is so low that it does not pay for the cost of transportation either on the broad gauge or on the metre gauge.

From July 1972 onwards the contents of one narrow gauge bogie are being transhipped into one broad gauge four-wheeler.

15. South Central Railway—Plantains moving in wagon loads by coaching trains

With effect from 16th September 1970, station-to-station rates were quoted on Central and Western Railways for carriage of plantains in wagon loads by coaching trains, based on a load of 185 quintals per wagon. The minimum chargeable weight for wagon load transportation of plantains by goods trains used to be 100 quintals per wagon till September 1971, when it was raised to 185 quintals per wagon by the Ministry of Railways (Railway

Board) on receipt of suggestion from Central Railway that the minimum weight for charge for traffic moving by goods and coaching trains should be the same. Continuance of lower minimum for chargeable weight for traffic moving by goods trains might have resulted in diversion of traffic from coaching to goods trains.

Plantains grow in abundance near Rajahmundry on South Central Railway. Plantains traffic from this area moves by coaching trains to Bihar, Madhya Pradesh, Orissa and West Bengal. Although the station-to-station rates quoted by Central and Western Railways for movement of plantains traffic by coaching trains are based on a load of 185 quintals per wagon, the station-to-station rates quoted by South Central Railway for movement of plantains traffic (by coaching trains) originating from Rajahmundry and other stations are on the basis of 100 quintals per wagon. The South Central Railway Administration has explained that the local merchants are reluctant to load plantains up to the top of the wagon as these are of such a variety as become over-ripe and get damaged en route if they are loaded up to the top of the wagon, and that while wagon loads of plantains in Bhusawal division of Central Railway are collected and run as block rakes from Itarsi to New Delhi and arrive at destination in about 3 days (distance from Bhusawal to New Delhi is 1094 kms.), wagons loaded at Rajahmundry are taking at least 10 days to reach the destinations (distances ranging from 626 to 1430 kms.). The South Central Railway does not get any charges for the wagon capacity thus lost. If the station-to-station rates quoted by South Central Railway Administration too had been based on a load of 185 quintals per wagon, that Railway could have earned additional revenue of Rs. 9.62 lakhs from plantains traffic booked from Rajahmundry station alone during the one year from October 1971 to September 1972. Similarly, there would have been additional revenue for plantains traffic booked from other stations in the area. It has not been possible to estimate how much that additional revenue might have been.

16. Southern Railway—Detention to wagons in Perambur works area

Perambur complex deals with the following installations :—

(1) Locomotive shops,

(2) Carriage and Wagon shops,

(3) General stores depot,

(4) Mechanical stores depot, and

(5) Integral Coach Factory.

Wagons containing consignments for Perambur workshops, the two stores depots and the Integral Coach Factory are handed over, at Villivakkam station yard which forms part of the Perambur complex, to the Mechanical department for being hauled by shunting engines and placement at the unloading points. Thereafter the wagons are moved by shunting engines to different yards in Perambur works area and placed at the appropriate sidings for unloading. It would be seen from the following that there are serious delays (on the average of 18 days after allowing a period of 10 days) after the wagons are handed over at Villivakkam station yard, in placement and unloading of such wagons :—

Year	Number of wagons detained in excess of ten days	Total number of days for which detained (beyond 10 days)	Monthly average		Average detention of a wagon in days (beyond 10 days)
			Number of wagons	Number of days (beyond 10 days)	
1970-71	1943	37440	162	3120	19.3
1971-72	1842	33870	153.5	2823	18.4
1972-73	1288	20206	107.3	1684	15.7

Some wagons containing sundry consignments suffered heavy detentions of over 100 days as they had to be placed at various unloading points to which the consignments pertained.

During the same period, on the average there were unsatisfied demands for 104 wagons in Madras area.

A review of the position in Parel and Jamalpur workshops as well as in Chittaranjan Locomotive Works and Diesel Locomotive Works disclosed that detention ranged between less than one day in the Diesel Locomotive Works during 1971-72 and 5.6 days in Jamalpur Workshop during 1972-73.

The Railway Administration stated (January 1974) that the main factors contributing to the detention of wagons are non-availability of cranes and shunting engines, non-placement of wagons at the appropriate place for unloading, improper layout of the yards which had been planned over a quarter of a century ago, poor maintenance of track inside stores depots and workshops yards resulting in frequent derailments and movement of wagons containing sundry consignments to different points for unloading. The Railway

Administration has further stated that it has been taking action to streamline the operations to avoid recurring heavy detentions to wagons inside the works area.

17. Central Railway—Non-utilisation of empty wagons

A large number of empties are generated in Bombay area as the inward traffic into that area is heavier than the outward traffic. Some of these empties are allotted for loading, in the order of priorities and dates on which indents for wagons are placed. The rest of the empties move to Igatpuri. For instance, in each of the years 1970, 1971 and 1972 an average of 274 empties were moved daily from Bombay area to Igatpuri.

A contractor, who was constructing a dam for augmentation of water supply to Bombay, approached the Central Railway Administration in October 1970 to make arrangements for annual movement of about 3 million c.ft. of sand from Mumbra to Khardi (distance 68 kms), which is on the line to Igatpuri, for 3 to 4 years. The empties generated in Thana area were to be utilised for loading of sand at Mumbra and, on release at Khardi, they were to be worked up to Igatpuri for onward distribution. The Railway Administration agreed to move this traffic and the movement commenced from November 1970. As the goods shed at Khardi station had capacity to handle only about 10 wagons, the wagons carrying sand were dealt with in a recommissioned railway siding served by that station. That siding had been constructed in 1951 as a temporary siding, the entire cost of which was borne by the then Bombay Municipality and it had been closed to traffic in 1958. When the arrangements were finalised by the Railway Administration for movement of sand traffic offered by the contractor, he was not told specifically that the siding charges will have to be paid in addition to freight charges. It was understood by the Railway Administration that normal charges including siding charges would be paid by him. However, while the standard charges for use of the siding at Mumbra had been notified, there was no such notification for the siding charges at Khardi. Consequently, siding charges for Khardi were not collected when the sand traffic commenced from November 1970. In January 1971 the Railway Administration informed the contractor that siding charges based on normal principles would have to be paid by him with retrospective effect from November 1970 and fixed the siding charges at Khardi at Rs. 30 per four wheeled wagon plus supplementary charges as leviable from time to time. The charges were revised as Rs. 22 per four wheeled wagon in April 1971. Such charges for a rake load of 35 wagons were Rs. 1285 (at Rs. 30 per wagon) and Rs. 942 (at Rs. 22 per wagon) as against freight charges of

about Rs. 7,000. Relative to the freight charges, the siding charges were so high because while the former distinguish between different commodities and sand is low-rated for that purpose, the latter make no distinction between different commodities. The contractor declined to pay the siding charges as his prior acceptance had not been obtained and the charges were considered by him to be unjust. He finally stopped offering traffic from May 1971. In each of the months January, February and March 1971, on an average, two hundred and twenty four wagons (four wheelers) were moved from Mumbra to Khardi. Had the traffic continued beyond April 1971, the Railway Administration could have profitably utilised a number of empties. During the period November 1970 to April 1971 when the sand traffic had actually moved on the railway, the Railway Administration earned Rs. 2.05 lakhs as freight alone.

1 8. North Eastern Railway—Weighment of wagon-loads

All wagons containing loose or bulky goods such as sand, stone, timber etc., should be weighed. A review of the working of a few weighbridges for the year 1972 disclosed that all the wagon-loads required to be weighed were not actually being weighed. At Narkatiaganj and Kasganj weighbridges only 39.7 per cent and 10 per cent of the wagons required to be weighed were actually weighed respectively and out of the wagons weighed, 51 per cent and 35.5 per cent wagons were found to be overloaded on an average to the extent of 50 quintals and 13 quintals per wagon at Narkatiaganj and Kasganj respectively. Computed on the basis of the percentage and extent of over-loading detected in cases where wagons were weighed it is assessed that overloading in 5108 wagons not weighed was about 11329 tonnes at these two weighbridge stations and the freight charges therefor would have been about Rs. 2.24 lakhs.

No record of wagons required to be weighed is being maintained at Gorakhpur weighbridge and during the year 1972-73 only 4 wagons were weighed at that weighbridge against 172 in 1970-71 and 89 in 1971-72. No wagon was weighed between April and September 1973.

At Tanakpur station 9108 wagons were shown to have been weighed out of 9598 wagons required to be weighed during the year 1972. Surprise test-check at Pilibhit weighbridge of some of the wagons, booked from Tanakpur and stated to have been weighed, on 10th March 1973 by the Train Examiner, Pilibhit, however, disclosed that 14 out of 21 wagons coming in for surprise check were overloaded and the actual weig ht was more than the invoiced weight by 3 to 29 quintals per wagon.

A large number of consignments weighed at Narkatiaganj was in wagon-loads containing boulders. Under the Goods Tariff, goods chargeable on the basis of wagon-loads are to be loaded by the consigners who, further, are required not to exceed the marked carrying capacity of the wagon used. Should overweight be discovered en route or at destination, the overweight is to be charged as for 'smalls' or as for the rest of the consignment. Excessive overweight is likely to damage the wagons. The existing deterrent (so as to avoid the risk of damage to the wagon) to excessive overloading does not, in cases of the kind under consideration, appear to be adequate.

CHAPTER V

PURCHASES AND STORES

19. Chittaranjan Locomotive Works—Purchase of special grade silicon insulating varnishes

Chittaranjan Locomotive Works entered into a collaboration agreement with a foreign Group in 1962 providing for grant of manufacturing rights and giving technical assistance for indigenous production of electric locomotives. In February 1968 a supplementary agreement was entered into for technical assistance in manufacture of traction motors for mixed type A.C. electric locomotives. The agreement of 1962 provided that Government of India reserved the right to procure items, not manufactured by the Group, either by import directly from suppliers or through the Group acting as purchasing agents and that Government shall pay to the firm (belonging to the Group) handling charges, of 5 per cent on the f.o.b. European port price of the imported materials purchased and supplied through the agency of the Group, to cover inspection, overhead, handling, coordination and arrangements necessary to synchronise supplies with the indigenous manufacturing production programme. Special grade insulating varnish and other materials and components required for production of traction motors were ordered on the Group in September 1968 to cover the production requirement of traction motors. The Chittaranjan Locomotive Works Administration was aware that these varnishes were not produced by the Group which procured them from a manufacturing company the initials of the name of which were shown on the containers of the varnishes received. Production of the first batch of 50 traction motors with armatures built in Chittaranjan was completed in July 1970. Since the varnishes are delicate sophisticated materials with very critical properties, it was considered that they should be procured only through the Group so as to take full advantage of their technical expertise, inspection facilities, guarantee etc. Accordingly, further orders for the varnishes were placed on the Group in June 1970, November 1970 and again in November 1971. The total c.i.f. value of varnishes imported through the Group (during April 1970 to March 1973) was Rs. 26.41 lakhs. The supplies were air-freighted to India.

The Group had assured in 1966 that the prices charged by it for such outside items would not exceed the supplier's prices by more than five per cent and, therefore, reasonableness of the prices charged by the Group was assumed by the Chittaranjan Locomotive Works which did not attempt to find out how did the prices charged by the Group compare with the market prices of the manufacturer. As a result of enquiry made in September 1971, the agent in India for the manufacturer offered in October 1971 to supply these varnishes. The quotations received from the agent in March 1972, which were accepted by Chittaranjan Locomotive Works in May 1972, were about 20—25 per cent only of those charged by the Group. The additional expenditure incurred due to the higher prices charged by the Group was Rs. 18.90 lakhs (excluding customs duty) out of which Rs. 15.56 lakhs were in foreign exchange.

These varnishes have limited shelf life which, according to the manufacturer's catalogue and the warranty clause, is 6 months from the date of despatch. However, the experience of Chittaranjan Locomotive Works has been that in practice certain of these varnishes have been found usable even 12—15 months after the date of manufacture. In spite of the provision in the warranty clause in most of the purchase contracts with the Group that the date of manufacture and the date of expiry of the life of insulating materials would be indicated on each container, no such indication was given on the containers of the varnishes supplied by the Group. So far 620 kgs. of one variety of varnish valued at Rs. 1.67 lakhs (excluding customs duty) have become useless. The Indian agent has given warranty of only a shelf life of 6 months, provided the materials on arrival at Chittaranjan are kept in storage below 20 degrees centigrade. The Chittaranjan Locomotive Works Administration procured in all 11,574 kgs. of the varnishes from the Group. According to the scales of consumption recommended by the Group, this should have proved adequate for 526 traction motors targeted for production till the middle of 1972-73. The actual production was, however, 239 motors up to June 1973 due to technical difficulties. Because of this, there has been accumulation of stock of these varnishes. The usable stock on 31st May 1973 was 5097 kgs., all of which had been in stock for more than the shelf life period of six months. At the present rate of production of traction motors, it may take about another six months for that stock to be consumed.

20. Central, Eastern, Southern and South Eastern Railways—Clearance of Railway cargo from ports

Before removal of imported Railway stores from the wharfs of Bombay, Calcutta and Madras ports, the Railways have to file with Customs

department the bills of entry, supported by shipping documents, along with import licences and obtain clearance from that department. Transit dues in the nature of storage charges are payable to the Port Trust for all stores not removed from the wharfs after expiry of free time, fixed by the Port Trusts, which is normally three clear working days after the day of landing of the stores at the port.

For expediting clearance from ports a system called "Note and Pass" system was in vogue for a long time. Under this system, which was applicable to imports of Government departments including the Railways, the Customs authorities permitted clearance immediately after filing of the bills of entry by the Railways without immediate payment of customs duty. After obtaining clarification and complete documents from the Railways, the Collector of Customs used to assess customs duty which was paid by the Railways.

The "Note and Pass" system was withdrawn from the Railways (as well as other Government departments except Defence) by the Customs department in Calcutta in January 1966 and in Bombay and Madras in July 1969 and thereafter the Railways are treated on par with the members of the public. No clearance is permitted unless adequate data are furnished to the Collectors of Customs to enable them to classify and assess the duty and the duty is paid actually. However, in cases of consignments not covered by valid import licences or import licences with some deficiencies where final assessment is not possible, provisional assessment is made and the Railways are allowed to clear on payment of the provisional duty and furnishing a bond agreeing to produce, within two months, documents necessary for final assessment. In May 1972 the period for redeeming the bonds by the Railways was increased to four months.

Because of delay in clearing the consignments, the Eastern and Southern Railway Administrations paid heavy amounts as transit dues to the Port Trust authorities in Calcutta and Madras in 1971-72 as follows :—

Railway	Quantity handled (in tonnes)	Port	Amount of transit dues paid (Rs. in lakhs)
Central	39997	Bombay	0.22
Eastern	50465	Calcutta	40.51
Southern	17796	Madras	14.07
South Eastern	79	Calcutta	0.92

During that year the Southern Railway Administration paid Rs. 5.96 lakhs as transit dues (out of Rs. 14.07 lakhs mentioned above) owing (it is stated by the Railway Ministry) to delay in supply, by the Madras Port Trust, of wagons required for transporting the imported stores.

The Railway Administrations have stated that the principal reasons for the large payments of transit dues were difficulties in obtaining clearance from Customs authorities due to want of information required even for provisional assessment of customs duty. The Eastern Railway Administration further explained that the payments were due to :—

(1) diversion of ships from other ports to Calcutta port and

(2) non-availability of wagons and imposition of quota restrictions at Calcutta port.

The Southern Railway Administration explained that the heavy payment of transit dues in 1971-72 was also partly due to the emergent situation caused by the Indo-Pakistan conflict which resulted in restriction on wagon supply and increased diversion of shipments to Madras port. However, it may be pointed out that in that year the Integral Coach Factory imported through Madras port 20,000 tonnes of stores as against 17,796 tonnes by Southern Railway and paid only Rs. 60 thousand as transit dues to Madras Port Trust. It was explained that the relatively small payment by the Integral Coach Factory was due to clearance of its consignments by road transport, the number of bills of entry it had to handle being only about one-third of the number Southern Railway had to handle and it had to take delivery of its own stores whereas Southern Railway had to arrange transportation to various consignees.

During 1972-73 transit dues paid by these Railways have come down, but the amount paid by Eastern Railway was still heavy as compared to other Railways.

Railway	Quantity handled (in tonnes)	Amount of transit dues paid (in lakhs of rupees)
Central	20949	0.24
Eastern	67438	27.44
Southern	20161	3.12
South Eastern	42	0.19

Spares for the diesel and electric locomotives are imported through Calcutta port. There is often difficulty in exact identification and clearance of such stores by the Customs department. The Railway Board is considering ways of solving this problem.

Of the amount of Rs. 3.12 lakhs paid by Southern Railway, Rs. 2.06 lakhs were due to non-availability of Railway wagons.

It would be seen from paragraph 16 of this Report that, during 1971-72, on the average 153 wagons were detained in a month for 18 days each in Perambur works area for placement and unloading of Railway stores; similarly during 1972-73, on an average 107 wagons were detained in a month for about 16 days. On an enquiry whether the wagons, had they not been detained there, could have been used for clearing the imported railway stores, the Ministry of Railways (Railway Board) stated (December 1973) that allotment of wagons in the harbour area is done by Madras Port Trust authorities according to their own priority and hence these wagons from Perambur works area would not have been necessarily allotted to Southern Railway even if they had been moved to the harbour area. The Ministry also added that withdrawal of the "Note and Pass" system had a greater recurring impact on payment of transit dues; that the Ministry of Finance had been requested to restore this facility but the request was turned down; however, the matter has been once again taken up with that Ministry highlighting the difficulties faced by the Railways.

Southern Railway Administration has since hired a plot in Madras harbour area from April 1973 and the cargoes which cannot be cleared within the free time on account of non-availability of wagons are moved to that plot to reduce the incidence of transit dues.

CHAPTER VI

EARNINGS AND COMPENSATION CLAIMS

21. Southern Railway—Freight on wood used for manufacture of rayon grade pulp

The Railway freight rate for firewood is lower than that for other timber. For instance, from April 1973 for a distance of 210 kms, the former is about 26 per cent lower than the latter (for wagon-loads).

Consignments of wood pieces conforming to the size and description of firewood and declared as firewood by the consignors are received by a factory manufacturing rayon grade pulp at three adjacent stations (namely, Elattur, West Hill and Calicut) of the Southern Railway. They are received either directly by the factory itself as consignee or consigned to other parties who, except in some cases, have been endorsing the railway receipts in favour of the factory. While one despatching station, invoking the special condition prescribed in the Goods Tariff for firewood, according to which specified categories of wood are not to be treated as firewood, charged higher freight on the consignments for some time, timber consignments from other despatching stations were mostly declared by the consignors as firewood, which declaration was accepted by those stations and accordingly the consignments were charged at the lower rate. The Southern Railway Administration had noticed this and issued instructions in December 1969 to all the stations on the division that such consignments should be charged at the higher rate, as they cannot be classified as firewood. However, the undercharging continued even thereafter. A test-check (March 1972) of the records for the period July to December 1971 of Elattur station disclosed undercharges of Rs. 5,900 relating to all consignments of timber received at that station. The Railway Administration thereupon reviewed the transactions for the period March 1971 to March 1972 and raised a debit of Rs. 18,211 against that station for recovery from the consignees.

A review of the records of the other two receiving stations (one for the period January 1968 to December 1972 and the other for the period January 1969 to December 1972) disclosed undercharges of Rs. 63,226. The transactions for the earlier periods could not be reviewed in the absence of records. Recovery of the entire undercharges of Rs. 81,437 is yet to be effected.

Undercharging had occurred in the majority of the bookings. According to the Railway rules, if it is found that goods have been improperly described and a lower rate than that correctly applicable has been thereby obtained, charges at double the highest rate for transport of goods by rail will be levied and collected from the consignees. In that event, about Rs. 14.61 lakhs would be recoverable from the parties in this case instead of Rs. 81,437 mentioned above.

The consignments continue to be declared as firewood but, at the instance of the Railway Administration, the consignors are also declaring the purpose for which the consignments are being booked and the Railway is charging freight on the basis of the declared purpose. The factory has repudiated the claim of the Railway for recovery of the undercharges on the ground that the physical description laid down in the Goods Tariff alone is the criterion for charging freight and not the purpose for which material is used. It has also filed a suit in a court of law praying for a decree to treat the goods as firewood. The suit is being contested.

22. Southern Railway—Damage to cotton bales

The Railway Administration is responsible as a bailee for the loss, destruction, damage, deterioration or non-delivery of goods carried by Railway within a period of thirty days (revised to seven days from 22nd December 1972) after the transit, which terminates on expiry of free time allowed for unloading from railway wagons and removal from railway premises.

Perianaickanpalayam is a station in the Southern Railway receiving monthly, on an average, 20 to 35 wagons each containing about 100 bales of cotton. No covered goods shed has been provided at this station.

Seven consignments of pressed cotton in 550 bales, addressed to different consignees, were received at this station during 24th February to 8th March 1968. The wagons were unloaded by the consignees but delivery of the consignments was not taken by them. The bales caught fire on 9th March 1968 and were damaged. The cause of fire could not be ascertained. The salvaged consignments (about 350 bales) were moved to Mettupalayam station and were offered to the parties for delivery in April 1968. The parties, however, did not take delivery and instead preferred claims for compensation for Rs. 5.02 lakhs during June 1968 which were repudiated by the Railway Administration.

The parties, later on, filed five suits in Madras High Court and one in Delhi High Court on various dates during 1969 to 1971. Acting on the legal opinion that the Railway Administration could not be said to have acted prudently, required of a bailee under section 77 of Indian Railways Act, as it had not provided (a) covered goods shed for stocking unloaded consignments and (b) adequate fire fighting equipment for use in emergency, the Railway Administration decided to settle these cases out of court.

Five cases have been settled with the parties by payment of Rs. 2.36 lakhs. The sixth case is also stated to have been settled for Rs. 47 thousand. Besides, the expenditure on legal expenses was Rs. 7 thousand and unrecovered freight charges were Rs. 13 thousand.

The value of salvaged material (cotton), according to the assessment of the Cotton Specialist of Tamil Nadu Government, made in April 1968 and August 1969 was Rs. 1.50 lakhs out of which consignments valued at Rs. 42 thousand were delivered to the party in August and September 1970 under orders of Delhi High Court. The remaining damaged consignments valued at Rs. 1.08 lakhs were auctioned in October 1972 and fetched only Rs. 3 thousand.

According to instructions issued by the Ministry of Railways (Railway Board) in May 1953, facilities for goods traffic including goods shed are to be provided in order of priority with reference to the level of goods earnings of stations. According to the Goods Tariff, except in the case of goods for which prepayment of freight is compulsory, freight charges can be paid at the time of either despatch or delivery. Thus, actual freight collections at a station may not always be a satisfactory index of the value, volume etc., of goods handled by it. It seems that, instead of the present principle followed for construction of goods sheds at stations, the kind and value of goods usually handled at a station may be a more rational principle for this purpose.

23. Southern and Northern Railways —Chargeable distances between stations

Southern Railway

Royapuram was the passenger terminal for Madras at the time the then Madras Railway Company started operating in July 1856. The passenger terminal for traffic on Madras—Arkonam section was shifted to Madras Central station in April 1873 and chargeable distances began to be reckoned from that station from then. The northeast line towards Vijayawada was also connected to Madras Central in March 1907 and the passenger

terminal for that section shifted to Madras Central, but distances on that line continued to be reckoned from Royapuram.

The differences between the distances adopted for charging fares and the actual distances on the north-eastern line were pointed out by a railway employee in June 1971. He suggested that the distances might be surveyed afresh and the errors rectified to stop the loss of revenue (on passenger tickets) being incurred by Southern Railway. After carrying out actual measurements in October 1971 the Engineering department indicated in December 1971 to the Commercial department an increase of 1.25 kms. in the distances of all stations situated along the north-eastern line, as a result of adopting Madras Central as the zero point for reckoning distances. The revised distances were notified by the Commercial department from Ist April 1973, *i.e.*, sixteen months later. This shifting of the zero point did not result in decrease of chargeable distance on any other section. Because of the slightly shorter distance charged for, passenger earnings have been somewhat less than what they could have been. For instance, during this period of sixteen months, it is estimated that because of the shorter distance charged for, passenger revenue was less by Rs. 55 thousand for only seven stations (the total number of stations between Madras and Vijayawada is 71) situated within a distance of 47 kms. from Madras Central. The current bus fares from Madras to those seven places are higher than the current rail fares. Passenger revenue would have been less for other stations also.

The Railway Administration stated that the time taken to notify the revised distances was reasonable, considering the many issues involved in changing a practice followed for more than 66 years.

Northern Railway

The following distance tables are prepared by each Railway Administration and referred to by station staff for computing chargeable distance between different stations :—

1. Pamphlet of distance table showing section-wise distances between different stations of that Railway.
2. Junction distance table showing distances from each station of a railway to all interchange points with other railways.
3. Local distance table showing distances from each station to all other stations of that Railway.

The first two are printed whereas the third is prepared by hand. The three tables are supplied simultaneously to the stations.

In August 1970 Ministry of Railways (Railway Board) issued instructions that junction distance tables should be revised every alternate year.

On Northern Railway these distance tables have not been revised and supplied to stations since April 1960. The Engineering department of the Railway had advised the Commercial department in August 1962 the revised distances which were different in 1162 cases out of 1377 distances notified in the Northern Railway tables. The manuscript of the pamphlet of distance table was ready by June 1965 and its printing was completed by August 1970. The manuscript of the junction distance table was prepared after receipt of the printed copy of the pamphlet of distance table and sent to the press in February 1972. The printed copies are yet (January 1974) to be received. Compilation of the local distance table was taken up only in September 1972 and was completed by April 1973. Out of 1162 wrong distances, in about 540 cases the correct distances are more than what have been shown in the existing tables while in 622 cases they are less. The differences are from 1 km. to 3 kms. except between Kanpur Central Goods shed and Mughalsarai station where the increase is 7 kms. Thus, while because of this in a number of cases there have been overcharges, in other cases there have been undercharges.

The Railway Administration stated that an enquiry was conducted into the abnormal delay in this case. Three persons were found responsible; two had retired and one of them had also died.

24. Northern and Western Railways—Undercharges of freight

Northern Railway

Urea is loaded regularly on broad gauge four-wheeler (carrying capacity is generally 20 to 22 tonnes) or BCX wagons (a BCX wagon is a covered eight-wheeler with carrying capacity of about 55 tonnes) at Panki station of Northern Railway. From Ist February 1970 the minimum weight for charging wagon-load rates on urea consignments in a four-wheeled broad gauge wagon was raised from 150 to 220 quintals and that in BCX wagons from 375 to 550 quintals. However, freight continued to be levied till February 1971 for the old minimum weights. The undercharges till then are assessed as Rs. 1,16,793 out of which Rs. 76,754 are still (January 1974) to be recovered.

The Railway Administration stated (January 1974) that these undercharges occurred as the Panki station staff did not receive copies of the relevant circulars (issued in February 1970) till 11th February 1971. The undercharges were also not noticed by the travelling inspectors of accounts who visited Panki station on three occasions in 1970.

Western Railway

(*i*) Muriate of potash (potassium chloride) to be used as manure is chargeable at class 35-A (Class 37.5 with effect from 1st April 1970) for wagon-loads. With effect from 15th July 1967 muriate of potash used for purposes other than chemical manure is chargeable at the higher class 80-B (class 80 with effect from Ist April 1970) for wagon-loads. For availing of the benefit of lower freight under class 35-A, the sender must declare on the forwarding note that the consignment of muriate of potash is intended for use as manure, indicating the licence number of the consignee and produce a certificate, from the District Agricultural Officer or the Director of Agriculture or the Deputy Director (Manures) of the State in which the destination station is situated, to the effect that it is intended for use as manure.

A test-check of the records of Bandra station for the period September 1967 to June 1970 disclosed that wagon load consignments of muriate of potash, for which the prescribed conditions had not been fulfilled by the senders, had been charged at the lower-rate resulting in undercharges of Rs. 44,789, out of which Rs. 18,821 are still (December 1973) to be recovered. There were no bookings of this commodity from July 1970 to October 1972. The records from November 1972 to June 1973 were not available, as they had been taken away from the station for some investigation.

(*ii*) Chemical manures are classified in two classes, Division A and Division B, the rate for Division A being higher than that for Division B. The Chief Commercial Superintendent, Western Railway, decided in September 1968 that NPK fertilisers were chargeable as 'Chemical Manures Division A', but this decision was not notified to all the stations on the Railway. The Railway Board also tentatively fixed the same classification for this commodity in December 1970 and advised the Railways accordingly. Necessary amendments to the Goods Tariff were incorporated only from 1st September 1971. A sender despatching chemical manures from Bandra station declared the consignment in the forwarding notes as 'granulated fertilisers manure mixture'. Though this particular commodity was not

specifically mentioned in the Goods Tariff, the station master accepted the commodity as falling under 'Chemical Manures Division B' and charged lower rates of freight. From January 1972 the same commodity was described in the forwarding notes as 'granulated fertilizers—NPK manure mixture' and consequently was charged higher rates of freight as 'Chemical Manures Division A'. The undercharges from October 1968 to December 1971 due to the wrong classification have been assessed as Rs. 30,054, out of which Rs. 19,495 are still (December 1973) to be recovered.

(*iii*) Prior to 1st April 1970 there were separate rates for newspaper parcels (a) not exceeding 2.5 kgs. and (b) exceeding 2.5 kgs. but not exceeding 5 kgs. in weight. The minimum charges for these two groups were 30 paise and 40 paise respectively. The separate rates for these two groups were discontinued from 1st April 1970, and a single slab for parcels not exceeding 5 kgs. was introduced. The minimum charge of 30 paise became inoperative from the same date and the minimum for all newspaper parcels weighing upto 5 kgs. became 40 paise. A test check of the records of 49 stations for different periods between April 1970 and November 1972 disclosed that the stations continued to apply the minimum of 30 paise for newspaper parcels not exceeding 2.5 kgs. in weight resulting in undercharges of Rs. 25,227 out of which Rs. 14,797 are still (December 1973) to be recovered.

(*iv*) The rules provide for levy of transhipment charges at each transhipment point in addition to freight charges. A test check of the records of six stations for varying periods between November 1968 and February 1973 disclosed that either transhipment charges had not been levied at all or had been levied incorrectly resulting in undercharges of Rs. 27,621 out of which Rs. 7,812 are still (December 1973) to be recovered.

CHAPTER VII

WORKS AND LOSSES

25. Northern Railway—Remodelling of Ambala Yard

Remodelling of coaching Yard of Ambala station was included in the works programme of Northern Railway for the year 1962-63. The estimate for Rs. 18.66 lakhs for this work was sanctioned in December 1963. Subsequently, it came to notice that there were certain defects in the arrangements for dealing with parcel traffic and that no railway land was available for providing suitable approach road to the site originally proposed in 1961. Therefore, a revised plan was prepared which was approved in December 1964. The structural work and laying of track were carried out according to this revised plan. Due to non-availability of cables for signalling work it was decided in May 1967 to re-arrange execution of the work so as to complete a part of it without the use of cables. In the meantime, the Railway Board advised the Railway Administration in July 1966 to carry out a work study of Ambala yard.

The plan of the yard was further revised in 1967 on the basis of the recommendation of the work study team, which dealt with the working of the goods yard of this station. As it was found that the estimated cost of Rs. 18.66 lakhs would have to be substantially increased to accommodate the proposals of the team, it was decided in August 1968 to close the work against this estimate against which actual expenditure incurred was nearly Rs. 14 lakhs. A fresh plan of the yard was prepared in November 1968, according to which the cost was estimated to be Rs. 90 lakhs. The Railway Board approved this plan in March 1969 and the work was included in the works programme for the year 1969-70. Since due to limitation of space, proper facilities for coaching traffic could not be provided for in earlier schemes, the Northern Railway Administration requested the Railway Board in July 1969 to allot more diesel locomotives for complete dieselisation of the through route services between Khanalampura (Uttar Pradesh) and Ludhiana (Punjab) and for provision of some diesel shunters so that the steam locomotive shed could be shifted from Ambala yard and some additional space released for facilities necessary in the coaching yard. Finally, an abstract estimate for Rs. 99.06 lakhs was sanctioned in July 1970 and a revised master plan was prepared in March 1971.

Work according to the revised master plan is in progress. Upto the end of March 1973 the total expenditure was Rs. 106.69 lakhs including the expenditure against the closed estimate of December 1963. The remodelling is not expected to be completed earlier than 1974-75. A dock platform, constructed at a cost of Rs. 2.04 lakhs before 1971, is presently being used for stabling of goods and coaching stock and would be utilised for reception and despatch of trains after the remodelling is completed.

26. South Central Railway—Risk cost of completion of left-over works

Amongst others, five contracts valued at Rs. 35.33 lakhs for conversion of Pune-Miraj-Kolhapur section from metre gauge to broad gauge (which work was completed in April 1971 at a cost of Rs. 26.21 crores) were terminated by the Railway Administration on account of failure of the contractors. Four of those works were subsequently got executed by other contractors and in one case departmentally at higher costs and the extra costs thereon became, under the contract conditions, recoverable from the defaulting contractors. Three of those contracts were for earthwork and the other two were for supply of stone ballast. One was executed in March 1964 and two in May 1965. These three contracts were terminated in May 1966 but the risk costs (recoverable from the defaulting contractors) were finalised in as late as 1972 and 1973. The fourth contract was executed in November 1967, terminated in July 1968 and the risk cost finalised only in December 1971. The fifth contract, executed in January 1969 for the balance work of the fourth contract, was terminated in January 1970 and the risk cost finalised in November 1971. Till the risk costs are finalised, it is not possible to effect recovery from the defaulting contractors. Although efforts are still continuing, there is little prospect of recovering Rs. 8.15 lakhs due from them. These contracts were with four firms, all of them now defunct. The whereabouts of the partners of one of the firms are not known.

27. South Central Railway—Delay in recovery from a firm

The construction organisation of Southern Railway had awarded during 1964 and 1965 four contracts valued at Rs. 4.57 lakhs to a firm for supply of stone and sand ballast between Tuni and Gopalapatnam stations on Vijayawada—Waltair section. Since the firm had previous experience on similar work/supply, before awarding these contracts the partnership deed, solvency and capacity of the firm for carrying out large works were not verified. The firm failed to complete the supply in spite of grant of

extensions of time and the Railway Administration terminated the contracts in 1966 at the risk and cost of the firm. Fresh contracts for obtaining the short supplies were entered into during 1966 and 1967. The extra expenditure recoverable from the defaulting firm after setting off the security deposit and other dues with the Railway was assessed at Rs. 1.02 lakhs. In June 1967 the firm sent a lawyer's notice for a claim for Rs. 60 thousand and requested arbitration; this was rejected by the Administration in November 1967. Thereafter, the matter remained under correspondence with the Divisions of the Railway for collecting particulars of the amounts due to the firm. Since the contracts had been terminated without serving on the firm the notices prescribed in the conditions of the contract, the case was under reference with the Law Officer of the Railway between December 1968 and November 1969. In the meantime, the Administration also served a notice on the firm in March 1969, nearly 3 years after termination of the contracts, to remit Rs. 1.02 lakhs by 21st April 1969 failing which, the firm was told, legal action would be initiated against it. The firm did not deposit the amount and the Administration decided in March 1970 to file a suit in court. For filing the suit, the Railway advocate was consulted in May 1970 and he in turn asked for particulars of the partnership deed and solvency of the individual partners of the firm. The Administration could obtain the required information (from the Income-tax authorities and the Civil Administration) only by April—August 1971. The construction organisation originally thought of filing a suit jointly with the open line organisation for the failure of this firm on open line divisions also, but later in January 1972 decided to act separately. Only in April 1972, *i.e.*, nearly 6 years after the contracts were terminated, was the suit actually filed in court where the matter is pending. The value of the assets of the partners of the firm is stated to be nearly Rs. 60 thousand against Rs. 1.04 lakhs recoverable from them.

28. North Eastern Railway—Handling contract at Muzaffarpur

Tenders were invited in February 1971 for eight items of work relating to handling of goods, parcels and luggage etc., at Muzaffarpur station of North Eastern Railway. Four tenders were received and opened on 27th February 1971. The Railway Administration evaluated the tenders on the basis of the anticipated quantum of all items of work except one, and awarded the contract for three years from 1st April 1971 to tenderer 'A' whose tender was found to be the lowest on the basis of such evaluation. The excluded item, for which the quantum of work had not been estimated, was handling of emergency tools and electrical flood light boxes (these belong to the Railway itself), which was being done by the previous

contractor at Muzaffarpur, free of charge, from 1969. Had the tenders been evaluated taking into account also the work under this item during the year before, the tender of 'B' would have been the lowest since the estimated total value of his tender would then have been Rs. 69,181 as against Rs. 1,14,895 of tenderer 'A'.

Tenderer 'A' had quoted a high rate (Rs. 1,000 per 1000 quintals against the rate of Rs. 400 per 1000 quintals prevailing prior to April 1971) for repacking transit packages of parcels/luggage and very low rates for certain other items. The actual quantum of work of the former item during the first and second year of the contract turned out to be nearly three times and two times respectively of what had been anticipated by the Railway Administration, whereas the quantum of traffic, for which he had quoted very low rates, had generally decreased, resulting in unintended gain to tenderer 'A'.

Had the tender of 'B' been accepted from April 1971, the Administration would have saved Rs. 1.41 lakhs on the basis of traffic actually handled at that station during 1971-72 and 1972-73. The contract of tenderer 'A' is continuing for the third year in 1973-74 also.

The Railway Administration stated (January 1974) that, prior to April 1971, no precise records were kept for the item of work excluded while evaluating the tenders, as it was done free till then and consequently no estimation of the quantum thereof was possible at the time of calling tenders. The Railway Administration is conducting an inquiry in the case.

29. South Eastern Railway—Unauthorised excavation of earth from Railway land.

A firm of contractors, engaged by Government of West Bengal (acting as agent of the Central Government) for construction of national highway number 6 (the expenditure on national highways is borne by the Central Government), trespassed into land belonging to South Eastern Railway near Kolaghat Railway station and excavated from near a Railway colony and a play-ground 10.17 lakh c. ft. of earth during January 1966 to April 1967 and thereby caused damage of Rs. 1.23 lakhs to Railway property. The Railways have their protection force for safeguarding Railway property, but this force was not used to prevent the contractor from excavating and taking away earth from Railway land.

The matter was brought to the notice of the Public Works Department of the State Government from time to time, the first being in January 1966

and also the Officer-in-charge, Police Station, Kolaghat. The Executive Engineer, Special Road Division of the State Public Works Department, advised the Railway Administration in August 1967 to take legal action against the firm which, according to the State Government, was required to make its own arrangement for procuring earth. The Railway Administration requested the State Public Works Department in January and April 1968 to withhold Rs. 1.24 lakhs from the dues of the firm as well as its security deposit, but that Department did not agree to do so in the absence of court orders. Thereafter, the Railway Administration referred the matter to its Law Officer, who in May 1968 called for detailed particulars of the contract entered into by the State Government and the contractual obligation of the firm. The Railway Administration obtained the particulars from the State Government in September 1968. In reply to an Audit observation it was stated by the Railway Administration that legal notice was expected to be served on the partners of the firm by 31st August 1969. The notice was, however, issued only in September 1970 as it took some time to collect (from the Income-Tax department) information about the constitution of the firm, the names of the partners, registration number etc. The postal authorities returned the registered cover containing the legal notice in September 1970 with the remarks "not claimed". The substantial damage to Railway property has not yet (November 1973) been made good.

CHAPTER VIII

OTHER TOPICS OF INTEREST

30. Import of Creosote

Non-durable wooden sleepers have to be treated with creosote before being put on the track. As a policy measure, the Railways have been procuring less number of non-durable wooden sleepers over the years and obtaining in their place other sleepers.

Prior to 1961 the requirements of creosote of the (four) Railway sleeper treatment plants were met mostly from imports. However, with the new steel plants going into production import of creosote was stopped by 1961. In the three steel plants of Hindustan Steel Limited crude tar, a by-product in the coke oven batteries, is processed further to recover various coal tar products including creosote oil (constituting 30 per cent) and pitch (which constitutes about 60 per cent). In the Rourkela and Bhilai steel plants the pitch is converted into pitch creosote mixture (by using part of the creosote), road tar and processing tar. In the Durgapur steel plant the entire pitch is converted to pitch creosote mixture. The latter is burnt in the boilers of the steel plants which sell to the Railways the remaining creosote. The Tata Iron and Steel company burns crude tar, and not pitch creosote mixture, in its boilers.

The requirements of creosote of the Railway sleepers treatment plants (estimated at about 8400 tonnes per annum in 1964-65) were never met fully; the actual annual supplies ranged between 7118 tonnes and 2470 tonnes between the years 1965-66 and 1972-73. A proposal was mooted in 1964 to import 2000 tonnes to keep a buffer stock. But this was not implemented, partly on account of tight foreign exchange position and partly on the anticipation that Hindustan Steel would be able to step up supplies by diverting more coal tar for distillation into creosote and other products.

Supply of creosote, instead of improving, has substantially deteriorated over the years as would be seen from the following :—

Year	Creosote supplies (tonnes)
1965-66	7118
1966-67	4897
1967-68	5008
1968-69	6214
1969-70	5615
1970-71	4047
1971-72	2882
1972-73	2470

In November 1972 the Ministry of Steel admitted that the steel plants have been using their crude tar and its by-products as fuel instead of getting it distilled into creosote and other by-products in their own and other private distillaries. Some of the distilling units, supplying creosote to the Railway sleeper treatment plants, also stopped distillation and closed by 1969 their works due to non-availability of crude tar.

Against this background the Ministry of Railways (Railway Board) decided to import 4000 tonnes of creosote and a global tender was issued in August 1971. The lowest tenderer 'A', quoting the rate of $ 65.72 per tonne at a United Kingdom port for supply in packed drums of 200/300 kgs., offered to supply only 750 tonnes. A lower offer received after the closing date of this tender indicated the possibility of getting more competitive rates and, therefore, it was decided in November 1971 to procure only 750 tonnes from 'A' at the rate of $ 65.72 (Rs. 492.90) per tonne in packed drums and reinvite tenders for the balance. In the retender issued for supply of 3250 tonnes and opened in December 1971, it was found that the rates received were higher than in the previous tender, the lowest rate, for supply upto 1000 tonnes only, being $73.99 per tonne from 'A' for supply in packed drums. That tenderer also offered supplies from two other sources in U.K. but at higher prices *viz.*, $ 84.68 per tonne for supply of 800 tonnes and $ 96.40 per tonne for supply of 1000 tonnes.

It was finally decided in March 1972 after negotiation with 'A' to procure 1500 tonnes at the rate $ 73.99 per tonne, and the balance through 'A' from the two other sources in U.K. specified by it, the rate for 400 tonnes

was $ 84.68 per tonne and for the balance of 1750 tonnes it was $ 96.40 per tonne. Thus import of 4400 tonnes in all was ordered at the average price of $ 82.12 per tonne. The average landed cost of this import was Rs. 1453 per tonne (Rs. 908 exclusive of customs duty) which was substantially higher than the price of Rs. 595 per tonne paid to the steel plants for creosote.

Had indigeneous production of creosote been stepped up, the need to import would have been correspondingly less.

It may be mentioned that Indian Oil Corporation imported furnace oil as follows:—

Year	Quantity (in lakh tonnes)	c.i.f. value (Rs. in lakhs)
1971-72	10.36	1141.99
1972-73	19.93	1973.23

Thus, the price paid was Rs. 100—110 per tonne.

A tonne of furnace oil is, more or less, thermally equivalent to one tonne of crude tar which yields creosote (30 per cent) and other tar oils. One tonne of creosote indigenously produced requires 3.3 tonnes of crude tar, thermally equivalent to 3.3 tonnes of furnace oil costing not more than Rs. 363 (c.i.f.) as against Rs. 908 (c.i.f.) per tonne of imported creosote. Import of creosote meant substantial additional expenditure in foreign exchange.

The Ministry of Railways (Railway Board) explained (December 1973) that import of creosote was inescapable as adequate creosote could not be supplied by the steel plants.

31. Central Railway—Corrosion of overhead installations and fittings due to atmospheric pollution by chemical factories

The electrical overhead steel structures and the transmission line between Thakurli and Igatpuri were erected in 1928-29. The overhead fittings give a trouble free service of 25 to 30 years.

A large number of chemical factories have come up between Kalyan and Titwala Station. It has been noticed that during the last 9-10 years acid fumes emitted through the chimneys and waste drains of these factories have been causing severe corrosion of the overhead electrical structures and fittings, and that they are not safe beyond two years.

The Central Railway Administration enquired of the Ministry of Railways (Railway Board) in May 1968 whether it was entitled to any compensation from the factory owners. After discussion with the Ministry of Law, the Railway Board advised the Central Railway Administration in November 1968 to first ascertain whether the factories were properly following the Government rules and regulations for disposal of acid fumes and discharges, and whether the defaulting factories could be identified; thereafter, notice could be issued, in consultation with the Law Officer, to the factories asking them to take suitable remedial steps and to pay compensation; if the reply was not satisfactory the Railway might consult the Legal Adviser of the Ministry of Law in Bombay and move the court for redress.

The Chief Inspector of Factories, Bombay, who was thereafter requested to intimate whether the factories were following the Government rules and regulations stated that there was no provision in the Factories Act for disposal of acid fumes by the factories. However, on his advice, the Director, Central Public Health Engineering Research Institute, Nagpur, was requested by the Railway Administraton to identify the factories responsible for corrosion. Studies by this Institute disclosed that the emissions from the plants were either from their stacks or due to leakages in their processes and they were responsible for polluting the environment in the vicinity of Railway property, resulting in heavy damages to the property. The Railway Administration thereafter referred the matter to the Government of Maharashtra in February 1972 for assistance in advising the chemical factories to regulate their discharge at high altitudes so as to minimise corrosion. The Government of Maharashtra advised the Railway Administration in June 1972 that the Smoke Nuisance Act was not applicable to Kalyan—Ambarnath area. The Railway Administration was further informed in June 1973 that the State Government was awaiting enactment, by the Union Government, of a suitable legislation for prevention of air pollution. Meanwhile, the Railway Administration incurred additional expenditure of Rs. 2.41 lakhs (estimated) from January 1967 to March 1972 on replacement of corroded overhead electrical fittings and painting of structures and will continue to incur extra expenditure for maintenance of these fittings.

In January 1974 the Railway Ministry urged the Union Health Ministry that, in view of the seriousness of damage sustained by the Railway transmission lines and overhead electrical steel structure and also its importance as a public health issue, earnest consideration be given to the Maharashtra Government's proposal for controlling air pollution with legal restrictions through enactment of a Central law.

32. Recoveries at the instance of audit

During the year 1972-73, Rs. 30.63 lakhs were recovered or noted for recovery at the instance of audit. As a result of further review made by the Railways of these and similar cases Rs. 4.02 lakhs more were noted for recovery.

(H. B. BHAR),
Director of Railway Audit.

NEW DELHI :
Dated the 26th *February, 1974*
7th *Phalguna 1895*

Countersigned.

(A. BAKSI),
Comptroller and Auditor General of India.

NEW DELHI :
Dated the 27th 8th *February, 1974*
Phalguna, 1895