REPORT

OF THE

COMPTROLLER

AND

AUDITOR GENERAL

OF INDIA

FOR THE YEAR

1969-70

CENTRAL GOVERNMENT (RAILWAYS)

REPORT

OF THE

COMPTROLLER

AND

AUDITOR GENERAL

OF INDIA

FOR THE YEAR

1969-70

CENTRAL GOVERNMENT (RAILWAYS)

PREFATORY REMARKS

The Report contains the results of test audit of the accounts of the Indian Government Railways for 1969-70. Chapter I deals with a general review of the Appropriation Accounts of Railways for 1969-70 and certain other connected documents. Chapter II deals with specific instances of financial irregularities etc. noticed in the course of audit. It includes a few irregularities pertaining to earlier years which could not be dealt with in previous Reports. Certain matters relating to the period subsequent to the year 1969-70 have also been included.

The points brought out are not intended to convey or to be understood as conveying any general reflection on the financial administration by the Railway Administrations/Ministry of Railways.

TABLE OF CONTENTS

CHAPTER I

Comments on the Appropriation Accounts, 1969-70 and connected documents

FINANCIAL RESULTS

1. (a) For the fourth year in succession the working of the Railways showed a deficit in 1969-70. Against a nominal surplus of Rs. 1·92 crores anticipated in the Budget, the accounts for the year closed with a deficit of Rs. 9·83 crores. As the balance in the Revenue Reserve Fund which stood at Rs. 63·21 crores at the end of 1965-66 was practically exhausted during 1968-69 due to withdrawal therefrom for meeting the recurring deficits in 1966-67 to 1968-69 the Railways had to obtain a loan of Rs. 8·86 crores from General Revenues for meeting the dividend obligation. This was the first time since 1924-25 that the Railways had to resort to a loan to meet their liability on account of dividend to General Revenues. Besides, the Railways had also obtained a loan of Rs. 18·14 crores during 1969-70 for meeting expenditure on works chargeable to Development Fund. The total liability on account of loans taken from General Revenues at the end of the year under report stood at Rs. 52·30 crores of which Rs. 43·45 crores was for meeting the cost of works charged to Development Fund. In addition, Railways owe to the General Revenues Rs. 56·89 crores on account of deferred dividend of which Rs. 13·04 crores became due for payment by 1969-70 but could not be paid owing to inadequate surplus in the working of the lines concerned.

The main reason for the deficit was the increase of Rs. 18·64 crores in the Revenue expenditure which was partly off-set by an increase of Rs. 4·27 crores in the gross Receipts and a reduction of Rs. 2·62 crores in the payments to General Revenues. The bulk of the increase under revenue expenditure occurred under 'Repairs and maintenance' (Rs. 7·95 crores) and cost of fuel (Rs. 9·59 crores), c.f. para 4 below:—

(In crores of rupees)

Particulars	Budget	Actuals	Variation
1. Gross Receipts	947·32	951·59	(+)4·27
Deduct			
2. (*a*) Revenue Expenditure	786·39	805·03	(+)18·64
(*b*) Payments to General Revenues	159·01	156·39	(—)2·62
3. Surplus/Deficit	(+)1·92	(—)9·83	(—)11·75

(b) The deficit occurred mainly on four railways, that is, Southern, North Eastern, Northeast Frontier and South Central Railways, which together accounted for a total deficit of Rs. 44·97 crores; partly counter-balanced by surpluses on the South Eastern, Western and Central Railways aggregating to Rs. 46·44 crores. The actual surplus/deficit on each Railway *vis-a-vis* the Budget anticipations and the actuals for 1968-69 is as under:—

	1969-70		1968-69
Railways	**Budget**	**Actuals**	**Actuals**
Central	(+)3·36	(+)5·80	(+)6·65
Eastern	(+)5·19	(+)1·35	(+)2·83
Northern	(+)1·40	(+)0·53	(+)0·19
North Eastern	(—)8·09	(—)9·19	(—)10·55
Northeast Frontier	(—)14·60	(—)15·76	(—)16·02
Southern	(—)14·15	(—)18·21	(—)15·83
South Central	(+)6·72	(—)1·81	(+)4·21
South Eastern	(—)22·79	(+)26·53	(+)20·83
Western	(+)14·91	(+)14·11	(+)13·11
Production units and miscellaneous.	(—)15.61	(—)13.18	(—)13.28
TOTAL	(+)1·92	(—)9.83	(—)7.86

It is noteworthy that the working of the Southern and South Central Railways had shown considerable deterioration during 1969-70 both over the previous year and the Budget anticipations. The position on the Eastern Railway had also belied the Budget Estimates.

(c) The position of net revenue and its percentage to capital-at-charge, payments to General Revenues, and additions to capital-at-charge for the four deficit years is given below:—

(Amount in crores of rupees)

Year	Net Revenue			Additions to Capital-at-charge (excluding new lines)	
	Amount	Ratio to Capital-at-charge	Payments to General Revenues	Current investment	Carry over after moratorium
1965-66	134·84	5·0%	116·28	—	—
1966-67	114·12	4·0%	132·39	136·28	12·38
1967-68	110·00	3·7%	141·53	120·63	9·67
1968-69	142·81	4·6%	150·67	103·58	24·31
1969-70	146·56	4·6%	156·39	83·27	26·43

Despite sizeable improvement in the net revenue during the last two years ended 1969-70 the working of the Railways continued to show large deficits due to steep increase in the payments to general revenues (the increase being Rs. 40·11 crores in four years) owing mainly to further additions aggregating to Rs. 517 crores to the capital-at-charge after 1965-66.

The break up of the actual outlay and physical achievements during the inter-plan period (that is 1966-67 to 1968-69) and during 1969-70 under important plan heads is given below:—

Plan Heads	Actual outlay (in crores of rupees)		Physical achievements	
	1966-67 to 1968-69	1969-70	1966-67 to 1968-69	1969-70
1. New Lines (including conversion)	56·21	10·70	1,092 Kms.	128 Kms.
2. Electrification	36·14	11·86	905 ,,	310 ,,
3. Rolling Stock	319·45	99·25		
(*a*) Locomotives			877 Nos.	220 Nos.
(*b*) Coaches (including E.M.Us.)			3,795 Nos.	1,497 Nos.
(*c*) Wagons			55,317 (FW)	14,918 (FW)
4. Line capacity works (including doubling)	128·44	33·89	1,268 Kms.	293 Kms.
5. Track Renewals	87·89	21·18		
(*a*) Complete Tracks			4,627 Kms.	1,491 Kms.
(*b*) Rail Renewals			1,914 Kms.	593 ,,
(*c*) Sleeper Renewals			2,041 Kms.	684 ,,
6. Investment in Road Services	4·71	1·91		
7. Others	129·87	14·01		
TOTAL	762·61	192·80		

2. Operating ratio

The general deterioration in the operating ratio of the Railways which is the percentage of Working Expenses to the Earnings during 1966-67 and 1967-68 was commented upon in para 4 of the Audit Report, Railways, 1969. The Public Accounts Committee (1969-70) reiterated in para 1.65 of their 116th Report (Fourth Lok Sabha)

their earlier suggestion to carry out periodical reviews of the working of the various Railways from the point of view of the overall financial results as the committee felt that such reviews would enable the Railway Board to identify promptly the areas where unwarranted increases in expenditure occurred and to take effective steps to control them. The Ministry of Railways informed the committee in October, 1970 that the suggestion was under the consideration of the Ministry.

The operating ratio of the Southern, South Central and Western Railways showed further deterioration during 1968-69 and 1969-70, the deterioration being significant on the South Central Railway. On the Eastern and Northern Railways there was considerable improvement during 1968-69 but this trend was reversed during 1969-70 as shown below:—

(Per cent.)

Railways	1967-68	1968-69	1969-70
Eastern .	82·80	78·38	79·70
Northern	90·75	83·40	83·45
Southern	98·70	99·69	101·54
South Central	79·31	89·62	88·70
Western.	76·93	77·09	77·27

The increase of 8·08 during 1969-70 on the South Central Railway was due mainly to an increase of Rs. 7·86 crores in the working expenses of which Rs. 3·36 crores occurred under repairs and maintenance, Rs. 1·68 crores on cost of fuel and Rs. 1·10 crores on operation other than staff and fuel. Against this, the increase in revenue receipts amounted to Rs. 1·90 crores only which came mainly from the goods traffic.

The Administration explained that the increase in the operating ratio was due to dislocation of traffic caused by cyclone and floods which hit the coastal areas of Andhra Pradesh in May, 1969 which resulted in loss of revenue (Rs. 1·70 crores) from passenger and goods traffic on the one hand and an increase of Rs. 2·01 crores in the working expenses due to restoration of damages to bridges, track and buildings etc.

Even after giving due allowance to the loss of revenue and increase in working expenses caused by cyclone the operating ratio for 1969-70 worked out to 84·30%—an increase of 3·68% over 1968-69.

The increase in the operating ratio during 1969-70 on the Southern and Eastern Railways was also due to the increase in working

expenses being more than that of the earnings. The bulk of the increase in working expenses on the Southern Railway occurred under repairs and maintenance and cost of fuel while on the Eastern Railway the increase occurred under repairs and maintenance and on operation other than staff and fuel.

3. Receipts

Unlike the previous year, the increase in gross receipts occurred mainly under passenger earnings (Rs. 5·86 crores) and sundry other earnings (Rs. 4·13 crores) partly off-set by shortfall in goods earnings (Rs. 5·72 crores) as shown below:—

(In crores of rupees)

Particulars	Budget	Actuals	Variations
1. Goods earnings .	600·00	594.28	(—)5·72
2. Passenger earnings	273·00	278·86	(+)5·86
3. Other earnings (including suspense and miscellaneous receipts)	74·32	78·45	(+)4·13
TOTAL RECEIPTS	947·32	951·59	(+)4·27

For the first time in recent years the Budget estimates for 1969-70 did not envisage any increase in fares and freight. Certain changes were, however, made in the freight charges during the year like the collection of transhipment charges on all goods, the upward revision of wagon load classification of a number of items of grains and pulses; the levy of higher freight charges on non-programmed salt etc., which had the effect of bringing in more revenue. In the Explanatory Memorandum on the Railway Budget for 1970-71 it was stated that these changes would bring an additional revenue of Rs. 3·00 crores during 1969-70.

The Budget estimates of goods earnings included additional earnings of Rs. 34·00 crores anticipated to accrue from the increase of about 9 million tonnes in the originating revenue earning traffic over 1968-69. This growth of traffic, however, did not fully materialise as the total originating revenue earning traffic actually carried during the year was 174 million tonnes—an increase of only 3 million tonnes over that carried in the previous year. While presenting the Budget for the subsequent year (1970-71) in February, 1970 it was explained that the shortfall was mainly in steel plant traffic and in general goods.

At the time of presenting the Revised estimates for the year along with the Budget for the following year in February, 1970 it was explained that according to indications then available the additional traffic might be only about 5·5 million tonnes. The Revised estimates of goods earnings were, therefore, placed at Rs. 10·00 crores

less than the Budget after taking into account the additional earnings of Rs. 3·00 crores anticipated to accrue from certain adjustments in the freight as already explained above. Against a shortfall of six million tonnes or about 67% in the originating revenue earning goods traffic over the budgetted increase, the actual shortfall in goods earnings was Rs. 5·72 crores or 16·8% only.

The estimate of passenger earnings assumed a three per cent increase in passenger traffic over the previous year. Later, at the time of presenting the Revised estimates for the year in February, 1970 alongwith the Budget for the following year it was explained that consequent upon the amendment of Railways Act in June, 1969 prescribing heavier penalties for ticketless travel, earnings from passenger traffic had shown an improvement from July, 1969 and that it would be six per cent higher than the previous year. The Revised estimates of passenger earnings were accordingly placed at Rs. 9·25 crores more than the Budget. The actual passenger earnings, however, exceeded the Budget by Rs. 5·86 crores only. The total originating passengers carried during the year was 2,338 millions as against 2,213 millions carried in the previous year.

4. Revenue expenditure

The bulk of the increase of Rs. 18·64 crores over the estimated revenue expenditure occurred under cost of fuel (Rs. 9·59 crores) and under 'Repairs and Maintenance' (Rs. 7·95 crores) as shown below. A feature of 1969-70 is that no excess has been attributed to increase in wages, allowances etc.:—

(In crores of rupees)

Particulars	Budget	Actuals	Variation
A.—Working Expenses—			
(*i*) Staff-Administration including staff welfare and operating	242·69	240·31	(—)2·38
(*ii*) Repairs and Maintenance	215·82	223·77	(+)7·95
(*iii*) Fuel	141·58	151·17	(+)9·59
(*iv*) Miscellaneous Expenses including operation other than staff and fuel, payments to worked lines and suspense	65·43	69·86	(+)4·43
(*v*) Appropriation to Depreciation Reserve Fund	95·00	95·00	..
(*vi*) Appropriation to Pension Fund	9·90	9·90	..
B.—Miscellaneous Expenditure such as cost of Railway Board and its attached offices, surveys, Audit and subsidy paid to Branch Line Companies	7·57	7·72	(+)0·15
C.—Open Line Works—Revenue	8·40	7·30	(—)1·10
TOTAL REVENUE EXPENDITURE	786·39	805·03	(+)18·64

The Budget estimates for 'cost of fuel' included additional provision of Rs. 3·38 crores for the following reasons:—

(i) to cover the expenditure on diesel traction for additional traffic on all Zonal Railways except the North Eastern (Rs. 5·30 crores); and

(ii) for anticipated increase in the electric traction on the Central, Eastern, Northern, Southern and South Eastern Railways (Rs. 2·02 crores);

Partly set-off by savings due to the substitution of steam services by diesel and electric traction (Rs. 3·94 crores).

(A) While the anticipated increase in goods traffic did not fully materialise the actual expenditure on fuel exceeded the Budget by Rs. 9·59 crores. The increase was explained as due to:—

(a) heavier consumption of coal (Rs. 1·75 crores) and diesel oil (1·97 crores) owing to increase in passenger and other services;

(b) higher rate of consumption of coal owing inter-alia to relegation of steam traction to inferior services (Rs. 2·82 crores);

(c) post budget increase in the prices of coal with effect from October, 1969 (Rs. 0·97 crore);

(d) increase in sales tax and excise duty on coal (Rs. 0·52 crore); and

(e) aggregate of minor variations (Rs. 1·56 crores).

(B) The main reasons for the increase of Rs. 7·95 crores under 'Repairs & Maintenance' expenditure are as follows:—

(i) restoration of cyclone and flood damages and repairs to breaches in Andhra Pradesh, Rajasthan and Assam (Rs. 2·41 crores);

(ii) heavier expenditure on repairs to track, buildings, bridges, etc. (Rs. 2·27 crores);

(iii) more expenditure on electrical signal and telecommunication services including repairs to Electric Multiple Units owing to better availability of stores (Rs. 1·77 crores);

(iv) more renewals of train lighting equipments (Rs. 1·72 crores); and

(v) increased expenditure on periodical overhauls and other shop and shed repairs to Rolling Stock (Rs. 1·05 crores).

Partly counterbalanced by savings due to fluctuation in the adjustment through Stock Adjustment Account (Rs. 1·10 crores) and aggregate of minor variations (Rs. 0·17 crore).

(C) Increase in the number and value of compensation claims for goods lost or damaged accounted for bulk of the increase over Budget anticipations under miscellaneous expenses. The increase on this account was Rs. 2·88 crores. The total amount of compensation paid during the year was Rs. 11·80 crores as against Rs. 10·30 crores paid in the previous year.

BUDGETARY CONTROL

5. The number of Demands voted during the year 1969-70 was 20, the same as in the previous year. The number of supplementary grants obtained during the year was also the same as in the previous year, that is, eleven. The amount of supplementary grants was, however, Rs. 24·86 crores only against Rs. 28·49 crores obtained in the previous year.

The number of charged Appropriations obtained for the year was 8 as against 7 in the previous year. The number and amount of supplementary Appropriations obtained during the year was 10 for Rs. 0·50 crore as against 9 for Rs. 0·69 crore in 1968-69.

The actual total disbursement during the year under report showed a net saving of Rs. 39·36 crores over the total Grants and Appropriations (including supplementaries) obtained during the year as shown below:—

(In crores of rupees)

Particulars	Voted Grants	Charged Appropriations	Total
1. Original	1,572·13	0·64	1,572·77
2. (*a*) Supplementary	24·86	0·50	25·36
(*b*) Advance from Contingency Fund	..	0·03	0·03
3. Total (1 + 2)	1,596·99	1·17	1,598·16
4. Total disbursements	1,557·74	1·06	1,558·80
5. Net saving	39·25	0·11	39·36
6. Percentage of net saving to total Grants/Appropriations	2·5%	10·4%	2·5%
7. Percentage of net saving in the previous year	3·3%	15·9%	3·3%

6. **Excessive and unnecessary Supplementary Grants/Appropriations.**

(a) The supplementary Grant of Rs. 32 lakhs obtained in March, 1970 under "Demand No. 4-Revenue-Working Expenses-Administration" proved unnecessary as the actual expenditure was even less than the original Grant by Rs. 25 lakhs resulting in a total saving of Rs. 57 lakhs. A sum of Rs. 13 lakhs or 40 per cent of the Supplementary Grant was surrendered by the zonal Railways in the very month in which the supplementary grant was obtained.

The supplementary grant was obtained mainly for higher cost of order police to be reimbursed to State Governments (Rs. 21 lakhs) and for office contingencies (Rs. 48 lakhs); partly off-set by savings aggregating to Rs. 37 lakhs owing to non-filling up of certain posts, changes in personnel, etc.

The saving of about Rs. 57 lakhs over the final grant occurred mainly on account of non-filling up or delay in filling up of certain posts, changes in personnel, etc. (Rs. 43 lakhs), less payment of Dearness Allowance (Rs. 17 lakhs) and under office contingencies (Rs. 13 lakhs); partly set off by excess due to higher cost of order police reimbursed to State Governments (Rs. 16 lakhs).

(b) In the following cases, additional funds obtained through supplementary Grants/Appropriations in March, 1970 proved largely in excess of requirements:—

(In thousands of rupees)

No. and name of the Grant/Appropriation	Supplementary Grants/Appropriations	Final savings inclusive of surrenders
A.—*Grants*—		
2. Revenue—Miscellaneous Expenditure	20,02	10,27
3. Payments to worked lines and others	77	42
5. Revenue—Working Expenses—repairs and maintenance	9,84,87	1,24,22
B.—*Appropriations*—		
7. Revenue—Working Expenses—Operation (Fuel)	27	21
8. Revenue—Working Expenses—Operation other than Staff and Fuel	4,99	2,33
9. Revenue—Working Expenses—Miscellaneous Expenses	11,95	4,83

7. Savings in Grants and Appropriations.

The net saving of Rs. 39.25 crores under voted Grants was made up of savings under 14 grants totalling Rs. 41.59 crores which was off-set by excess of Rs. 2.34 crores under 4 grants.

As in the previous two years, the bulk of the savings occurred under the three works grants which together accounted for an aggregate saving of Rs. 32·14 crores or 77·3 per cent. of the total savings. The largest amount of saving *viz.* Rs. 25·10 crores occurred under one Grant, that is, 'Grant No. 15-Open Line Works-Capital, Depreciation Reserve Fund and Development Fund' of which as high as Rs. 10·01 crores related to expenditure on renewals and replacements met from Depreciation Reserve Fund. The recurring feature of large savings year after year under the three works grants are mainly due to:—

(In crores of rupees)

	1967-68	1968-69	1969-70
1. Non-finalisation or delay in finalisation of plans, estimates, contracts, etc. .	8·64	5·57	3·49
2. Non-materialisation of procurement of steel and other imported stores .	4·24	4·92	+0·90

The entire provision of Rs. 1·92 crores under Grant No. "18—Revenue-Appropriation to Development Fund" remained unutilised as no surplus was available for appropriation to the Fund. The balance of the savings amounting to Rs. 7.53 crores occurred under ten Revenue grants more important of which were a saving of Rs. 2·62 crores under "12-Revenue-Payments to General Revenues" and Rs. 2·05 crores under "6-Revenue-Operating Staff."

As in the previous year, the bulk of the saving of Rs. 0·11 crore under charged Appropriations occurred under three Appropriations, namely 'No 8-Revenue-Working Expenses-Operation other than Staff and Fuel' (Rs. 2·33 lakhs), 'No. 9-Revenue-Working Expenses-Miscellaneous Expenses' (Rs. 4·83 lakhs) and 'No. 15-Open Line Works-Capital, Depreciation Reserve Fund and Development Fund' (Rs. 3·29 lakhs). The supplementary Appropriations obtained in March, 1970 under these appropriations proved excessive resulting in the large savings.

8. Excesses over Grants and Appropriations.

There were excesses under 4 voted Grants and 2 charged Appropriations aggregating to Rs. 234·75 lakhs as against excess of Rs. 10·82 lakhs under one grant and two Appropriations in the previous year, thus showing a marked deterioration.

The details of excesses during 1969-70 which require to be regularised under Article 115 of the Constitution are as under:—

No. and name of the Grant/ Appropriation	Final Grant/ Appropriation	Actual Expenditure	Excess	Percentage of excess to Final Grant/ Appropriation
A.—*Grants* :				
7. Revenue—Operation (Fuel)	1,63,01,62,000	1,65,29,72,143	2,28,10,143	1·40

The bulk of the excess was caused by increased expenditure on freight and handling charges on coal and diesel oil (Rs. 88 lakhs) and more consumption of diesel oil (Rs. 36 lakhs) and coal (Rs. 33 lakhs). The balance of the excess occurred mainly on account of incorrect assessment of the average cost of coal and the unit rate of issue per train kilometre on the South Eastern Railway even at the final modification stage (Rs. 35 lakhs), loss of fuel being more than anticipated (Rs. 8 lakhs) and aggregate of minor variations (Rs. 28 lakhs). A supplementary grant of Rs. 655 lakhs obtained in March, 1970 mainly to cover post Budget increase in prices of coal from 1st October, 1969 and increase in sales tax on diesel oil (Rs. 186 lakhs), increase in passenger and other services (Rs. 212 lakhs), higher rate of consumption of coal incidental to relegation of steam traction to inferior services (Rs. 137 lakhs) and certain arrear adjustments (Rs. 73 lakhs) proved inadequate.

9. Revenue—Miscellaneous Expenses	37,70,81,000	37,76,31,123	5,50,123	0·15

The excess occurred mainly under suspense heads "Miscellaneous Advances" (Rs. 79 lakhs) owing to fluctuations in the amount of debits accommodated under this head for want of full particulars, acceptance, allocation, etc., and transfer of debits from 'Reserve Bank Suspense' to clear the outstandings therein and under 'Demands Payable' (Rs. 35 lakhs) on account of less liabilities liquidated during the year. The above excesses were partly set-off by savings under final heads resulting from less expenditure on civil defence and security patrolling (Rs. 50 lakhs), gratuity and special contribution to provident fund (Rs. 16 lakhs) and under catering owing to non-materialisation of certain catering services (Rs. 13 lakhs) and aggregate of minor variations (Rs. 29 lakhs).

A supplementary Grant of Rs. 225 lakhs was obtained in March, 1970 chiefly to accommodate more transactions routed through the suspense heads (Rs. 132 lakhs) and for payment of more rents, rates and taxes, etc. (Rs. 96 lakhs) than provided for in the Budget. This however, proved inadequate resulting in the excess.

16. Pensionary Charges—Pension Fund	7,75,90,000	7,76,71,901	81,901	0·11

The final grant included a supplementary grant of Rs. 141 lakhs for meeting increased payments of pension as a result of more retirements and post-budget increase in pensionary charges. This however, proved inadequate resulting in a marginal excess.

20. Payments towards amortisation of over-capitalisation	33,37,000	33,37,088	88	..

The excess was due to the provision having been made to nearest thousand instead of to next higher thousand.

B.—Appropriations :

2. Revenue—Miscellaneous Expenditure	3,01,000	3,01,414	414	0·14

The excess was due to the reasons explained against Grant No. 20 above.

14. Construction of New Lines .	4,66,000	4,98,762	32,762	7·03

The excess occurred mainly due to increase in the daily rate of casual labour covered by court injunction on the South Eastern Railway.

OTHER TOPICS

9. Performance of Production Units

The total number of locomotives and coaches actually produced by the three Production Units during 1969-70 *vis-a-vis* the Budget anticipations and the actuals for the previous year is shown below:—

Particulars	1969-70		1968-69
	Budget anticipation	Actual Production	Actual Production
I. *Chittaranjan Locomotive Works* :			
(*a*) Steam Locomotives	70	45	68
(*b*) A. C. Electric freight Locomotives	60	31	48
(*c*) Diesel Shunters	48	22	17
TOTAL	178	98	133
II. *Diesel Locomotive Works* :			
(*a*) B. G. Diesel electric locomotives	75	58	60
(*b*) M. G. Diesel electric locomotives	30	24	10
(*c*) B. G. Diesel shunters	..	..	4
TOTAL	105	82	74
III. *Integral Coach Factory* :			
(*a*) Production of shells	740	595	532
(*b*) Electric Multiple Units.	..	* 54	100
(*c*) Rail cars	..	..	8
(*d*) Furnishing of shells	670	668	635

*Break up among the items is not available.

Table below shows the unit cost of production in respect of locomotives in Chittaranjan Locomotive Works and Diesel Locomotive Works during 1968-69 and 1969-70:—

Types of locomotives	Average cost of Production (in lakhs of rupees)	
	1968-69	1969-70
Chittaranjan Locomotive Works		
B. G.		
W. G. (Steam)	5·96	6·45
W. L. (Steam)	5·81	..
ACFT (Electric)	18·92	20·90
Diesel shunter	12·06	12·13
M. G.		
Y. G. Steam	..	6·06
Diesel Locomotive Works		
B. G. Diesel (WDM2)	22·52	22·28
M. G. Diesel (YDM4)	19·54	17·47

NOTE :—The average cost for 1969-70 represents the cost for part of the locomotives produced during that year and not for the entire production.

10. Metropolitan Transport Projects—Calcutta and Bombay.

During the year under report the Railways have undertaken the following three surveys in connection with the improvement of metropolitan transport and to provide mass rapid transit system to the commuters of Calcutta and Bombay cities at an estimated cost of Rs. 20.00 lakhs:—

Particulars of Surveys	(Amount in lakhs)
1. Feasibility and economic studies for a third terminal station at Ballard Estate in Bombay City for the Metropolitan Transport, Central Railway	4·00
2. Final location survey and preparation of project report and detailed estimates for the suburban dispersal line from Dum Dum to Princep Ghat for Metropolitan Transport, Eastern Railway	15·00
3. Techno-economic feasibility studies for mass rapid transit system including underground Railways in Calcutta City for Metropolitan Transport, Eastern Railway	1·00
TOTAL	20·00

It was stated in the "Works Machinery and Rolling Stock Programme for 1969-70 (Part I—Summary)" presented to Parliament with the Budget for 1969-70 that Railways had most of the technical know-how and expertise required for the investigation, preparation of project reports and execution of such projects and consequently the feasibility studies in this connection as well as the execution of such projects but that the funds required for these projects had to be made available to them outside the normal capital allocation to the Railways and the Railway finances did not have to bear these costs. The Railway Board have subsequently explained to Audit that this had meant so far only that a specific allotment of provision for the Fourth Plan expenditure was made to the Railways by the Planning Commission in respect of such expenditure and that the question of dividend liability and other matters regarding Railways' financial liability for the construction and operation of Metropolitan Transport Service was still under discussion with the Planning Commission and the Ministry of Finance. It may also be mentioned that in departure from the normal procedure as prescribed in the codes according to which expenditure on surveys is treated as 'Miscellaneous Expenditure' (thereby affecting also the surplus or deficit position of Railways' finances in that year) and is capitalised only if the survey is followed by actual execution of the project, the expenditure on Metropolitan Transport Project survey has been directly debited to Capital.

11. Planning for acquisition of locomotive power on the Indian Railways.

In planning for the acquisition of new rolling stock, the Ministry of Railways (Railway Board) had, upto the Third Plan period, followed the incremental method of calculations by which the rolling stock requirements of the anticipated additional traffic only were assessed. The Public Accounts Committee (1967-68) in their twenty-second report (Fourth Lok Sabha) recommended that the Ministry of Railways should review the methodology of planning. The Ministry of Railways (Railway Board) changed the methodology of planning from incremental to the overall traffic, in respect of wagons, from April, 1968 onwards but continued to calculate the locomotive requirements on the incremental method till July, 1969 when they adopted the net tonne kilometre basis for assessing the locomotive requirements with reference to overall traffic. By this method, the total number of locomotives required in 1970-71 was worked out at 9383 for B.G. and 4185 for M.G. Even according to this method of calculation, the total number of locomotives required for the actual

traffic that had materialised during 1965-66 to 1968-69 were considerably less than the locomotive holdings as shown below:—

	No. of locomotives in steam equivalents					
	B.G.			M.G.		
	Holding	Requirement	Surplus	Holding	Requirement	Surplus
1965-66 . .	8680·0	7475·0	1205·0	4061·0	3768·0	293·0
1966-67 . .	8640·5	7509·0	1131·5	4058·5	3707·0	351·5
1967-68 . .	8770·5	7532·0	1238·5	4120·0	3698·0	422·0
1968-69 . .	8847·5	7723·0	1124·5	4177·0	3773·0	404·0

The Ministry of Railways (Railway Board) stated (December, 1970) that procurement of locomotives had to be arranged in the light of traffic targets finalised by the Planning Commission in consultation with the Ministries concerned and that the surplus of locomotives which itself was due to non-materialisation of the anticipated traffic on account of general recession in the country and unforeseen circumstances relating to law and order, civil disturbances, pilferage, labour strikes etc., was only notional as there was heavy overaged content in the locomotive holdings during the period under consideration. The overaged locomotives were stated to have been retained in service to meet the requirement of anticipated traffic to avoid a big power gap. This indicates that the surpluses were held in terms of an unduly large number of overaged locomotives, which the Railway Board themselves consider to be of notional existence only but which nevertheless leads to adverse financial effects in terms of cost of maintenance, cost of operation including crew and other staff, excessive consumption of fuel etc.

12. Utilisation of locomotive power on the Indian Railways

The figures of utilisation of locomotives show a trend of deterioration which is particularly pronounced in the case of steam locomotives. The Tables in Annexure I to this Report show the deterioration in the average net tonne kilometres per locomotive per day in use. Whereas the deterioration has been steep in the case of steam locomotives on all broad gauge Railways, there has also been deterioration in the net tonne kilometres per day per diesel and electric locomotive in use after 1964-65 on all the Railways except South

Eastern Railway. On the metre gauge the steam locomotive utilisation has deteriorated in the Northern, Northeast Frontier, Southern and Western Railways where dieselisation has been introduced.

The efficiency index of engine utilisation (all traction) (Table in Annexure I to this Report) also shows that there has been deterioration in the average train load hauled per Kg. of tractive effort although the average tractive effort per locomotive is on the increase due to addition of more and more high powered new locomotives.

The deterioration in performance brought out in the Tables (a) to (d) of Annexure I has been attributed by the Railway Board (December, 1970) to:—

(i) relegation of steam locomotives to inferior services with progressive dieselisation/electrification;

(ii) non-materialisation of traffic;

(iii) increased use of diesel/electric traction in saturated/specially saturated single line, sections;

(iv) conditions of mixed traffic.

Regarding Table (e) the explanations given are:—

(i) relegation of comparatively powerful steam locomotives to inferior services where the availability of load and transport effort required is less;

(ii) some marginal deterioration even in respect of diesel/electric traction owing to their extension, the incidence of a considerable number of out of commission electric locomotives in Central Railway also aggravating the position in respect of electric locomotives.

In the case of Central Railway the Engine Kilometre per engine failure dropped from 3·49 lakhs in 1967-68 to 1·33 lakhs in 1969-70 and this was attributed mainly to failure of material, lack of experience of crew and maintenance staff and also because some diesel locos in service for over six years were nearing their POH schedule.

13. **Delays in the review of productivity of outlay**

The rules specify that in the case of works which are sanctioned on the basis that the proposed expenditure thereon would be productive or remunerative it is important that the earnings, or savings in working expenses, eventually realised, after the new expenditure has fructified, should be carefully compared with those anticipated

when the proposals were embarked upon. The Railway Administrations are thus required to apply Productivity Tests on all works costing Rs. 20 lakhs and over chargeable to Capital and on certain selected works costing below Rs. 20 lakhs each. In addition to the Productivity Test, a Productivity Review should also be undertaken in respect of selected works costing over Rs. 10 lakhs each, which are estimated to fetch some return even though not classified as remunerative.

These orders have not been implemented in full on the Railways. The review of Productivity of Outlay to be applied on the works is in arrears as indicated below:—

Railway	Number of works which became due for review upto March, 1970	Number of cases actually reviewed by the Railway Administrations	Number of cases in arrears
Central . .	28	8	20
Eastern . .	99	61	38
Northern . .	43	3	40
North Eastern .	12	5	7
Northeast Frontier .	10	2	8
Southern . .	13	2	11
South Central .	11	..	11
South Eastern .	13 groups	..	13 groups
Western . .	71	56	15
TOTAL .	300	137	163

CHAPTER II

Losses, Nugatory Expenditure, Financial Irregularities and other Topics of Interest

PURCHASES AND STORES

(ROLLING STOCK AND COMPONENTS)

14. Chittaranjan Locomotive Works—Import of transformers for electric freight locomotives.

The Railway Board placed orders for manufacture of A.C. freight locomotives on the Chittaranjan Locomotive Works numbering 268 in all, out of which 150 were to be provided with imported transformers and the balance with those from M/s. Heavy Electricals (India) Limited, Bhopal. The manufacture was spread over from 1965-66 onwards and a review in November, 1967 envisaged outturn of a cumulative total of 155 locomotives to end of 1967-68, 74 locomotives in 1968-69 and the balance in 1969-70. A decision to import 40 more transformers was taken in November, 1967 on reviewing the then supply position from M/s. Heavy Electricals (India) Limited and the requirements of production during 1968-69. Foreign exchange for 30 transformers was, however, released by the Railway Board in March, 1968. Before this release of foreign exchange the programme for 1968-69 was proposed by the General Manager, Chittaranjan Locomotive Works to be curtailed from 74 locomotives to 56 locomotives, the reasons being the limited rate of supply from M/s. Heavy Electricals (India) Limited and non-availability of imported items before April, 1969. Further foreign exchange for 20 more imported transformers was released by the Railway Board in the last week of April, 1968. The purchase orders for these two batches were issued in May, 1968. The delivery was to commence from February, 1969 in respect of the first batch and from December, 1968 in respect of the second. The increase in the number of the transformers to be imported was to fill up further gap in the supply from M/s. Heavy Electricals (India) Limited. The production target for 1968-69 was revised to 60 locomotives by the Railway Board in June, 1968.

The production of locomotives, however, could not be kept up according to schedule, the progress being 148 locomotives to end of

the indigenous production of these instruments, letters of intent were issued in February, 1964 to two firms for supply of 200 Nos. in one case and 238 Nos. in the other with the stipulation that bulk orders for the above quantity would be placed only after satisfactory trial and approval of the sample instruments.

The imported instruments (444 Nos.) were received by November, 1965 and commissioned. As regards indigenous development of these instruments, only one of the two firms who had offered a completely indigenous item could submit an advance sample (November, 1965) after a great deal of effort and money. It is to be noted that the foreign exchange content was Rs. 375 out of the total cost of Rs. 6000 per piece. The advance sample was tested through field trials and found to comply fully with the tentative Railway specifications and acceptable to the Ministry of Railways (Railway Board) subject to some slight improvements and modifications (February, 1966).

In accordance with the letter of intent issued to the firm in February, 1964, the offer should have been followed by a contract for bulk order within 4 months after submission of the sample in November, 1965. However, the Railway Board could confirm through a contract, the terms of price and other conditions as laid down in the letter of intent for a bulk order for 244 Nos. only in May, 1966. No action was taken in the meanwhile to address the firm to extend the validity of the offer beyond 4 months. The firm declined to execute the order (June, 1966) at the price and terms fixed in February, 1964, since according to them, the order was confirmed by the Ministry of Railways (Railway Board) after the validity of their offer had already expired in March, 1966. The indigenous manufacture of these instruments involved sizeable investment in the manufacture of sophisticated relays, etc., the cost of which as well as the cost of fully imported instruments had risen since 1964 and especially after the devaluation of the rupee in June, 1966.

The indents of the Railways for these instruments were pending for compliance since 1961-62. The Ministry of Railways (Railway Board) did not think it necessary to negotiate with the firm for revised terms as they considered the firm's non-acceptance of the order (June, 1966) as a breach of contract and immediately called for fresh tender. The Ministry of Law, however, advised (July, 1966) that a contract did not actually come into existence with the above firm.

In the retender for the procurement of these instruments in July, 1966, this firm offered to manufacture and supply these instruments

at a cost of Rs. 9450 and further expressed their willingness in August and September, 1966 to reduce their price to Rs. 8150 (with foreign exchange content of Rs. 590) per instrument, which they stated was the minimum workable cost for a small scale industry, for this item. The Ministry of Railways (Railway Board) did not consider their offer. It may be mentioned that the lowest of the offers for fully imported instruments received from established foreign firms in the same tender was Rs. 11575. The order for these instruments was placed (September, 1966) on another firm which quoted lower rates of Rs. 6000—6500 per instrument. The latter firm had, however, no previous experience of this item and promised to develop the same indigenously afresh. They had, however, supplied other equipment in the past and were considered by the Railway Board to be capable of developing manufacture of this item. The Ministry further decided in February, 1967 not to place any orders on the firm which had already developed a proved prototype of the instrument successfully for a year from February, 1967.

The firm on whom the development order was placed in September, 1966 did not produce any acceptable instrument till December, 1967 and the contract had to be terminated thereafter (*i.e.* in July, 1968). Further efforts by the Ministry in 1967 and 1968 to get the item manufactured by other Indian firms indigenously under subsequent tenders were not successful. A tender was also called in May, 1968 to procure the relays and transmitter for assembling the instruments in a Railway Workshop, but there was no adequate response. Meanwhile urgent additional requirements were covered by import from a Japanese firm, *i.e.*, 78 instruments (cost Rs. 10737 each) under a contract finalised in December, 1967 by Southern Railway Administration and 14 instruments (cost Rs. 10256/- each) under a contract finalised in January, 1968 by the Railway Board. The import was for a slightly improved type known as push button type block instruments. While push button type is a later design and offers some advantages in wear and tear without being costlier, etc., in essentials and from the point of view of operation of signals, the handle type, previously developed by the Indian firm would also serve Railway's purpose. The Ministry of Railways (Railway Board) have subsequently placed orders on two firms for the indigenous development of these instruments, on one firm for 198 instruments in April, 1969 at a cost of Rs. 13813 each (with foreign exchange content of Rs. 2068), the estimated period of completion being three years three months from April, 1969 and on another for 198 Nos. in September, 1969 at a cost of Rs. 14170 each (with foreign exchange content of Rs. 4800) for the first 100 Nos. and Rs. 13815 each (with foreign exchange

content of Rs. 3395) for the balance 98 Nos. Both of them have yet to submit a sample instrument (November, 1970).

The total difference in cost involved in the procurement of all the 396 instruments now on order on the above two firms, as compared with the offer of the indigenous firm which had produced a proved prototype and whose offer was turned down over three years ago was Rs. 22·78 lakhs.

The Ministry of Railways (Railway Board) explained (October, 1969/November, 1970) that the firm which produced a prototype in 1965-66 were not considered for placement of bulk order in September, 1966, as they had merely produced a single prototype and did not set up facilities for large scale manufacture. Further, their price was considered high as compared to another acceptable indigenous offer on whom they took the prudent step of placing a bulk order to cover the requirements of Railways.

17. **Procurement of defective rails from abroad.**

The Ministry of Railways (Railway Board) imported under a contract finalised by the Indian Railway Steel Purchasing Mission, London in August, 1957 with an European firm, 12000 long tons of 60 lbs. rails at a cost of Rs. 90 lakhs (FOB) for relaying of important trunk routes on the North Eastern and Northeast Frontier Railways. The entire quantity of the 12000 tons of rails was received in India between September and December, 1958 and consigned to the North Eastern and Northeast Frontier Railways (about 7134 long tons for the Northeast Frontier Railway and the balance quantity for North Eastern Railway). The contract provided for guarantee against any defect imputable to manufacturers and not detected upon acceptance at the Mill, for a period of five years from the date of manufacture i.e. to end of December, 1963.

These rails were laid in important main line track in 1958 and 1959 (i.e. about 51.60 track miles on the North Eastern Railway and 76·75 track Kms. on the Northeast Frontier Railway). Certain quantity of these rails was also laid in loops and unimportant lines.

Thirteen cases of fractures of these rails were noticed between February and October, 1961 on the North Eastern Railway. The first 6 fractures were referred to the Chemist and Metallurgist, North Eastern Railway, who reported in June, 1961 that these were half moon fractures which resulted in the formation of hair line cracks on the foot of the rail and transverse shatter cracks on the rail table indicating a defective manufacturing technique. The rail fractures

were referred to the Research, Designs and Standards Organisation (M&C), Chittaranjan (September, 1961) who did not agree with the view that the hair line cracks or transverse cracks noticed on the rails were due to defects in the manufacture since the chemical, micro and macrographic tests all yielded satisfactory results to the UIC specification to which the rails were ordered. Further it was held that such cracks were due to uneven surface of the C.S.T. 9 sleepers on which these rails were laid. The matter was discussed in a joint meeting held between the R.D.S.O. and the North Eastern Railway Administration in August, 1962, which held the view that since only 13 rails out of 50000 Nos. laid in the track had revealed cracks during the course of 16 months of service and as no further cracks were reported thereafter, it may not be possible to lay any responsibility clearly on the manufacturer for the cracks observed on these rails. The failure of these rails was reported to the foreign suppliers in March, 1963 (i.e. within the guarantee period) by the Ministry of Railways (Railway Board). In September, 1964 eight samples cut from the fractured rails were sent to the foreign suppliers, as desired by them to obtain their opinion about the causes of the fractures but they replied in May, 1965 that the test results obtained by them were satisfactory and wanted further samples cut from the rails showing the fractured ends to obtain a more exact appreciation of the causes of the ruptures of these rails. Although there have been some more fractures of these rails in track after 1961 on the North Eastern Railway, the Ministry of Railways (Railway Board) decided (October, 1966) that no useful purpose would be served by pursuing this matter further with the suppliers.

On the Northeast Frontier Railway, there were repeated occurrences of the fractures of these imported rails since October, 1968. A rail flaw detector was detailed in August, 1969 and a check over seven kilometres of track length showed an average of nearly 60 per cent. of these rails to be bad owing to visible or invisible cracks or fractures. In a test report furnished to the Board in December, 1969 on these defects, the R.D.S.O. held the view that the defects and the transverse fissure failures of these rails were due to the inherently dirty nature of steel. Several bad rails with visible minute cracks have been replaced by spot renewals. Special patrols both during day and night have been put on the sections of this Railway where these imported rails have been laid. There was also a derailment of a passenger train on 8-1-1970 due to sudden breakage of the rail in the track under the train during its run. As a result, though these rails have served a period of only 10 to 12 years against their normal life of 60 years, the Northeast Frontier Railway Administration, with the approval of the Ministry of Railways (Railway Board),

decided (December, 1969) to replace all these rails on their Railway during the course of next two years on grounds of safety, the first batch of renewal of 20 track kilometres length having already been started as an out of turn work during 1969-70 at a cost of Rs. 31·30 lakhs and the remaining batch of renewal (57 Kms.) in 1970-71 at a cost of Rs. 67·07 lakhs.

There has so far been no similar proposal to replace these imported rails on the North Eastern Railway or on other sections of Northeast Frontier Railway since no fractures have taken place on those sections.

Thus, despite the fact that the material was considered to be according to specification, some of these imported rails failed in track after 1961 on the North Eastern Railway and there were repeated occurrences of fractures since October, 1968 on the Northeast Frontier Railway requiring complete track renewal. But when the initial fractures of 1961 and again of 1965 were attributed to defective manufacture after examination of the rail pieces by the Chemist and Metallurgist, North Eastern Railway, the findings were overruled by the R.D.S.O. who conducted their own examinations. Later, in October, 1966 the Ministry did not also consider it necessary to furnish the foreign firm with further samples cut from the rails showing the fractured ends as desired by them, though seven more fractures of these rails in track were recorded by North Eastern Railway between 1962 and 1967 and it was clear that by not pursuing this further, the opportunity of enforcing the warranty claims would be lost. With the closing of the case by the Board in October, 1966, the matter again came up with the report of repeated fractures on the Northeast Frontier Railway after October, 1968 and the R.D.S.O. now hold the view that while the chemical, micro and macrographic tests all yielded satisfactory results to the UIC specifications, these fractures are due to inherently dirty nature of the steel. These defects relate to the quality of steel supplied, and if they had been brought out at the time of initial inspection at the delivery stage or later within the warranty period, the claims against the firm under the warranty clause could have been pursued instead of being dropped.

The premature replacement on the Northeast Frontier Railway has entailed loss of nearly 4/5ths of the normal service life of these rails in track (i.e. replacement just after 10 to 12 years, of their laying in track against their expected service life of 60 years) or Rs. 20·89 lakhs.

The Ministry of Railways (Railway Board) stated (January 1971) that the question of sending further samples of defective rails

to the suppliers was considered unnecessary in November, 1966 as no defects were found in those rails on detailed examination by the highest chemical and metallurgical authority on the Indian Railways. Further, these rails being 60 pounders are expected to carry not more than 120 gross million tons traffic and this target had already been achieved by these rails in their service life of 12 years on a heavily worked section on the Northeast Frontier Railway. They also stated that there was no spate of fractures on other sections of Indian Railways where these rails were laid, since the rails laid on those sections had not carried 120 gross million tons of traffic so far.

18. South Eastern Railway—Avoidable payment to a firm in the procurement of electrical equipment.

In connection with the Rourkela-Durg Electrification Scheme an order was placed on a Japanese firm on 8th December, 1967 for supply of cables and accessories after inviting global tenders. The firm were to supply *inter alia* Tee Joint cases and the Railway Administration's intention was to provide ITI transformers in these cases. The Railway Administration apprehended that the cases for ITI transformers being very heavy, sinkage might take place if they were buried in soil giving rise to failures. At the instance of the Railway the Japanese firm offered, on 19th December, 1967, to supply Tee Joint cases to their design along with protective transformers also to be supplied by them at the originally quoted prices for Tee Joint cases only. The original order was, therefore, modified accordingly in February, 1968. In April, 1968 the Railway Administration realised that a reduction in price was called for due to (i) reduction in the size of Tee Joint casing and quantity of jointing materials and (ii) the omission of compounding materials included in the firm's original offer but excluded from their revised offer of 19th December, 1967. Accordingly in November, 1968 the Railway Administration claimed a refund of Rs. 2·84 lakhs on this account but this claim was rejected by the firm on the ground that the contract had been executed by them strictly as per specification approved by the Railway.

The Railway Administration stated (December, 1970) that strictly speaking the contract with the firm did not stipulate payment for joint boxes or the jointing materials on weight basis and therefore the claim preferred by the Railway Administration in 1968 for refund of Rs. 2·84 lakhs (1·31 lakhs due to reduction in the quantity of jointing materials and 1·53 lakhs on account of smaller size tee joint cases) was only of an exploratory character made with a view

to obtaining further concessions from the firm but the claim was repudiated by them. It was further explained that at the time of actual execution of the work, jointing materials to the tune of Rs. 1·27 lakhs required over and above the quantities indicated in the schedule were supplied by the firm as against Rs. 1·31 lakhs assessed by the Railway Administration. As regards reduction amounting to Rs. 1·53 lakhs on account of smaller Tee Joint cases, the Railway Administration stated that the reduction would not be proportionate to the reduction in the weight of the cases, on account of the highly skilled workmanship required for the manufacture of these cases.

It may, however, be stated that the fact that the cases to suit ITI transformers would be heavy was known to the Railways on receipt of the firm's offer in August, 1967 but the contract was nevertheless executed on 8th December, 1967 without any modification. Further at the time of acceptance of the firm's revised offer of 19th December, 1967, the reduction in weight of cases, omission/reduction of jointing materials/compounds etc. was not noted. Moreover the firm in their letter of 6th March, 1969 informed the railway that they would supply the jointing material required extra but according to the approved specifications free of cost. As the quotations of the firm for Tee Joints in August, 1967 and December, 1967 were on lump sum basis 'with jointing materials' (quantity not specified) no credit can be given to the supply of 'extra' jointing materials free of cost. The firm had also similarly supplied the required extra jointing material free of cost against the contracts executed for the electrification of Kanpur-Tundla and Rourkela-Bilaspur sections.

19. Extra expenditure in the procurement of malleable cast iron inserts for concrete sleepers.

Malleable cast iron insert is one of the items in the concrete sleeper assembly. These inserts, at the rate of four numbers per sleeper (two on each side of the rail seat) are cast along with sleepers and as such they are required to be supplied to the sleeper manufacturers in time before the delivery dates stipulated for supply of concrete sleepers and in adequate quantity. The drawings and specifications for the inserts, as well as for the concrete sleepers were finalised by the Ministry of Railways (Railway Board) in October, 1967 for procurement action. The inserts are required to be manufactured out of malleable cast iron to pearlitic grade made out of raw material such as steel scrap, pig iron, ferro alloys, etc., depending on the process employed for production.

With the expectation of an order for 1 lakh concrete sleepers in 1968 (order placed in June, 1968) the Ministry of Railways (Railway Board) called for tenders for 4 lakh inserts in December, 1967 with the stipulation that the tenderers should submit their sample along with their quotations. Out of 27 tenderers, only 7 submitted samples. Out of these, only the samples of 2 firms (firms 'A' and 'B' who had quoted Rs. 7/- and Rs. 6·75 per unit respectively) were found satisfactory as per the metallurgical and chemical tests. The Ministry considered only the offer of these two firms who after negotiations agreed to a rate of Rs. 4·75 per insert. Letters of acceptance of offer were issued to both the firms (May, 1968) and the same was also accepted by them, for supply of 2 lakh Nos. by each of them to be completed by April, 1969, the rate of supply being 40,000 Nos. per month in case of firm 'A' and 30,000 Nos. per month in the case of firm 'B'. Formal contracts as a prerequisite for regular production were, however, not concluded immediately thereafter. In August, 1968 the firms were asked to offer a trial supply of 1000 inserts for approval. Based on the experience of manufacture of trial supplies by the firms, it was felt necessary to make modifications in the tolerance as well as specification which were finalised only in July, 1969. But when the firms were addressed to conclude the formal contracts and commence regular production (June, 1969) revising the delivery date to 31-10-1969, they expressed (July, 1969) difficulties in agreeing to the original terms under the revised conditions and to the schedule of delivery and requested for an increase in the price of Rs. 4·75 per insert already contracted.

Meanwhile, to cover the additional requirements of inserts of concrete sleeper manufacturers, tender for 6·4 lakh numbers was called for and opened in April, 1969. Out of the 18 firms which tendered and out of samples submitted by 11 firms, the sample of only one firm, *viz.* firm 'A' on whom orders had already been placed in May, 1968, was found acceptable. Although this firm 'A' was committed under the previous order to supply two lakh inserts (which could be raised at the option of the Railways to 4 lakh Nos.) at a rate of Rs. 4·75 per insert and had yet to start regular production, they offered to supply another 3 lakh Nos. during the year 1970 at a price of Rs. 7/- per insert. As there were only two firms at that time capable of supplying the malleable inserts for concrete sleepers and being contractually bound to supply adequate number of inserts to the sleeper manufacturers whose requirements were assessed to be 7 lakh inserts upto end of December, 1970, the Ministry of Railways (Railway Board) agreed in September, 1969 for an increase of Rs. 1·25 raising the rate to Rs. 6/- per insert in the case of firm 'A' covering both the supply of 2 lakh Nos. under the earlier

order and in addition 3 lakh more Nos. offered under the subsequent tender of April, 1969 (*i.e.* a total of 5 lakh Nos.) to be supplied by the end of December, 1970 by progressively stepping up their rate of monthly supply from 15,000 to 20,000 in January, 1970 and to 40,000 from April, 1970. In the case of firm 'B', an increase of Rs. 0·50 raising the rate to Rs. 5·25 per insert was agreed to at the same time for supply of 2 lakhs Nos. ordered in May, 1968 by 31st October, 1970.

It was only about this time (August, 1969) that the Board commenced exploring for the first time the possibility of getting this item manufactured by utilising the spare capacity of the Electrical Induction furnace currently on order at their Chittaranjan Locomotive Works. It was, however, found that while it would be possible to develop the manufacture of malleable castings, it was not possible to form any definite estimate regarding the date from which the supplies could begin from Chittaranjan Locomotive Works or the probable rate of supply, till other connected equipments were procured and installed.

The two firms 'A' and 'B' have not, however, kept up to the scheduled monthly rate of delivery of inserts. The firm 'A' had so far supplied (November, 1970) only 2·19 lakh Nos. against the stipulated 5 lakh Nos. to be completed by December, 1970. Firm 'B' had an outstanding of 88782 Nos. when the contractual delivery period expired on 31st October 1970. The shortfall in the supply of inserts was attributed by the firms to (1) delays and difficulties in obtaining selected variety of scrap etc. (2) delays in expansion of their production capacity.

The basis on which the price of inserts, had been increased simultaneously in September, 1969 from Rs. 4·75 each, to Rs. 6/- and Rs. 5·25 each respectively in respect of firms 'A' and 'B' is not clear. Further the extra increase in cost of Rs. 0·75 per insert was granted to firm 'A' when compared to firm 'B' on the special consideration of supply of 5 lakh Nos. by end of December, 1970, involving an overall extra expenditure of Rs. 3·75 lakhs. But supplies at the stipulated rate even at these prices have not materialised.

The Ministry of Railways (Railway Board) explained (December, 1970) that though as per the D.G.T.D. there were about 25 firms in the country producing malleable iron products, only these two firms could produce satisfactory samples and develop capacity for manufacture of these items. An increase in rates had to be allowed to them as otherwise Railway would not have got the inserts at all which forms a pre-requisite to the manufacture of concrete sleepers

It was further stated (January, 1971) that the firm 'B' could offer only a small quantity and was willing to accept a lower increase in rate.

There was, however, no hold up of manufacture of concrete sleepers owing to the above shortfall in the supply of inserts, as the production of concrete sleepers, lagged far behind the anticipated level, owing to developmental difficulties, changes and modifications in the design found necessary subsequent to ordering, and non-availability of cement and steel, etc. Against the anticipated procurement of 1·75 lakh Nos. in 1969-70, the quantity actually procured by end of March, 1970 was only 9200 Nos.

20. **Northern Railway—Loss due to sale of ferrous scrap in mixed condition in Alambagh Depot.**

The scrap arising in various workshops is required to be delivered to the stores depots in segregated form according to the correct nomenclature of the price list. Suitable arrangements should also exist in the stores depots to ensure that scrap, ready for sale, is not mixed up with other scrap. A survey of the scrap yard in the Alambagh Depot by the Department in June, 1965 revealed that the ferrous scrap had been lying in a mixed condition in heaps for a considerable period of time causing much congestion. The advice notes under which the scrap was received in the stores depot indicated the quantities of the different kinds of scrap separately and these were posted in the ledger according to the category. The mixed scrap holding was in the region of 11,000 tonnes in February, 1968. A sample survey conducted at the instance of the Railway Board showed that the mixed scrap contained approximately 84 per cent melting scrap and 16 per cent Industrial/re-rollable scrap.

In November, 1968, it was decided to sell this scrap and about 7000 tonnes of ferrous scrap lying in Charbagh Workshop, as the sorting of mixed scrap was not considered feasible. During the period from September, 1968 to January, 1970 ferrous scrap in mixed condition was sold at rates varying from Rs. 235 to Rs. 300 per tonne whereas segregated re-rollable/industrial scrap and melting scrap were sold at the rates varying from Rs. 392 to Rs. 1028 per tonne and Rs. 200 to Rs. 695 per tonne respectively. The loss on account of lower sale value realised due to the mixing of the scrap is of the order of Rs. 2·86 lakhs.

During the period June, 1967 to April, 1969, 133 wagons received in Alambagh Stores Depot, loaded with turnings and borings, were

detained for an average of 210 days per wagon (detention suffered by some wagons was as high as 567 days). One of the reasons of this detention aggregating to 27,975 wagon days was the congestion in the depot caused by heavy accumulation of ferrous scrap in mixed condition.

21. **North Eastern Railway—Acceptance of an unusal condition in a contract for sale of scrap rails.**

In October, 1966 the Railway Administration accepted the offer of a firm for purchase of 7000 tonnes of scrap rails at Rs. 435/- per tonne. The conditions of the sale, *inter alia*, specified at the instance of the firm that the party would deposit the cost and lift the rails by the end of June, 1967 and the Railway Administration would have right to cancel the deal in the event of undue delay in lifting the materials by the purchaser. On 3rd December, 1966 the Railway Administration, at the request of the firm, agreed to the total payment and taking delivery of the rails within 8.5 months of the date of receipt of the letter of acceptance by him and that the contract would not be cancelled on account of delay in the lifting of the materials. The acceptance of the latter condition which was done without consulting the Law and Finance branches made the currency of the contract indefinite and taking advantage of this position the firm delayed the off-take of the rails. In February, 1968, when the firm had lifted only 1000 tonnes of rails, another firm offered to pay Rs. 455 per tonne for the balance of 6000 tonnes rails. Even though acceptance of this offer could have benefited the railways to the tune of Rs. 1·2 lakhs, the offer was not availed of as it was apprehended that the termination of the contract would create legal complications.

By April, 1970, the firm had lifted 5125 tonnes only, leaving a balance of 1875 tonnes, when the contract was cancelled by the railway as the firm refused to take the delivery of the rails at site and insisted that the railway should transport it to the railway stations. The firm has obtained a stay order from a Court restraining the administration from sale of balance quantity of 1875 tonnes.

The Railway Administration explained (December, 1970) that the offer of Rs. 455 per tonne made by the second firm in February, 1968 was not in response to a tender enquiry or any other communication by the railway and the acceptance of that offer would lead to complications. As regards the condition accepted by the railway that the contract would not be cancelled on account of delay in

lifting the materials, the Railway Administration stated that the condition was, unfortunately, not correctly worded and the wordings as they stand are legally unsound since it amounts to granting a perpetual lease of life, despite all faults, and such a condition, therefore, is void and not binding on the railway. It was further stated that the contract was not terminated due to uncertain market conditions.

It may be observed that the Deputy General Manager (Vigilance) had pointed out in March, 1968 that the firm, who had offered Rs. 455 per tonne, had purchased 1700 tonnes of scrap rails at the rate of Rs. 482.51 per tonne, which shows that the prices were rising and uncertainty of the market is not established. As regards the plea that the contract could have been terminated by the railway legally, it is observed that the law officer had opined that in the event of termination, the possibility of the party going to arbitration and raising certain disputes under the agreement was not ruled out.

PLANNING AND EXECUTION OF SCHEMES

22. Northern Railway—Loss due to delay in the execution of water supply scheme at Suratgarh.

Due to scarcity of water at Suratgarh, an important junction on the Bikaner Division of Northern Railway, water required for locomotives and for domestic and other uses of the Railway colony etc., is being brought in special trains from Sarupsar, 21 K.Ms. away, at an annual cost of Rs. 3·32 lakhs. In order to eliminate the water scarcity and to obviate the running of water specials, the Railway Administration approved in August, 1959 a scheme for supply of water at Suratgarh from the Rajasthan Canal scheme. The detailed estimate for the work was prepared in August, 1960 but the work was commenced in April, 1964 *i.e.* after a period of 3½ years. By November, 1967 the construction of overhead tanks, pipe line, water columns, filtration plant and staff quarters was completed at a cost of Rs. 3·93 lakhs. The construction of diggies (tanks into which the canal water is drawn for storage and pumping out to the water supply system) and connected works was not undertaken as the land required for this could not be acquired. The scheme has, therefore, not yet materialised even after a lapse of 10 years.

When the above scheme was still on the anvil, the Railway Administration sanctioned in March, 1963 an estimate for another scheme

of trial boring for a tube well at a cost of Rs. 9,188. The result of the trial bore done in April, 1964 was adjudged successful as regards the quality of water. As the yield was below expectation, another estimate for gravel development of the tube well bored was sanctioned in March, 1966 at a cost of Rs. 20,753 (later revised to Rs. 28,377). On completion of the work in June, 1967 at a cost of Rs. 32,588 it was found that neither the yield was as much as expected nor was the water fit for drinking and loco purposes. The tube well was, therefore, sealed.

Due to the delay in the completion of the water supply scheme the Railway Administration continue to incur heavy avoidable expenditure on the running of water specials.

23. Southern Railway—Delay in putting up diesel lubricating oil refining plants.

In May, 1962 the Railway Board advised all Railways (except Central Railway) to instal plants for refining the lubricating oil drained from diesel locos as the oil thus refined could be used as axle oil after blending with heavy grade oil. The Railway Administration placed orders on their Perambur workshops in May, 1964 for the fabrication of three refining plants on the basis of a guide issued by the R.D.S.O. One plant was commissioned at Perambur in May, 1969 *i.e.* after a period of five years. The second plant put up at Golden Rock by March, 1969 has been commissioned from 15th November, 1970. The third plant which has been fabricated, has not been erected so far. Refining and reusing the refined oil was expected to yield a saving of 37 paise per litre. If the two refining plants had been fabricated at least in a period of three years after the placement of order in May, 1964 for the fabrication of these plants, a saving of Rs. 1·56 lakhs could have been effected by producing 4·21 lakhs litres of axle oil (medium) during the period from June, 1967 to May, 1970.

The Railway Administration explained (December, 1970) that the delay in the fabrication of the plant was due to the fact that the Railway had no previous experience of this work and the R.D.S.O.'s instructions gave only a broad outline of the scheme. It was also stated that the bulk of the used oil has been conserved for processing in the reclamation plants.

There were similar delays in the fabrication and commissioning of these plants on other Railways also as indicated below:—

Railway	Date of placement of order for fabrication	Date of commissioning the plants
Northeast Frontier Railway	May, 1966	The plant was installed in May, 1970 but has not been commissioned (September, 1970).
Central Railway (New Katni)	July, 1966	The plant was expected to be commissioned in January, 1967 but was commissioned in September, 1969.
South Eastern Railway (Waltair).	October, 1965	The target for commissioning the plant was 31-5-1966. The plant was commissioned by the end of February, 1969 and is still under trials.
Western Railway (Ratlam)	October, 1967	The plant has not yet been commissioned.

In view of the fact that the Railways had no previous experience of fabricating this plant, the R.D.S.O. should have developed a prototype and furnished detailed designs to the Railways. As only a broad outline was furnished by the R.D.S.O., there was avoidable duplication of efforts on the Railways leading to inordinate delays resulting in losses.

24. North Eastern Railway—Heavy detention to wagons at Garhara Yard.

Garhara Transhipment Yard started functioning as an independent unit, from April, 1962, with a handling capacity of 350 B.G. wagons per day. During 1961-62 to 1964-65 additions and alterations as well as additional facilities were provided at a cost of about Rs. 11·44 lakhs. In October, 1965 an estimate of Rs. 7·80 lakhs was sanctioned to increase the capacity by 50 B.G. wagons per day on the consideration that there had been (i) continued hold up to B.G. wagons requiring transhipment; and (ii) increased movement of foodgrain wagons to North Bihar/North Bengal. The estimate was revised to Rs. 14·40 lakhs and sanctioned in July, 1969.

While the average number of B.G. wagons handled during the period 1964-65 to 1969-70 varied from 265 to 312 per day which was less than the initial capacity of 350 wagons per day, the detention to these wagons, in excess of the prescribed targets, increased over the years. This detention mainly occurred during the operations of placement/replacement to commencement of work/backloading and commencement of work to release/completion of backloading. The annual cumulative figure of excess detentions expressed in terms of wagon years increased progressively from 26·7 in 1962-63 to 111 in

1967-68 and in 1968-69 it stood at 82·8. The total excess detention to Broad Gauge wagons for the years 1962-63 to 1968-69 again in terms of wagon years amounted to 461·68.

Pursuant to the recommendations made by a Work Study Team in July, 1967, three transhipment sheds were closed during January, to April, 1968.

WORKS EXPENDITURE

25. Central Railway—Extra expenditure on a doubling project.

In May, 1959, when traction was essentially by steam the Railway Board required the Railway Administration to investigate whether heavy gradients on the Jhansi-Agra section could also be eased along with the doubling of the section so that the loads of the trains could be increased. After a complete survey of the sections, the Railway Administration finally decided to double the sections between Karari-Datia-Sonagir and Antri-Sandalpur and Sithouli, instead of regrading the existing line. Due to the provision of a flatter gradient of 1 in 200, as against the existing one of 1 in 150, the new double line had to be constructed on a different alignment with an increased length. Certain portion of the existing line near Sandalpur towards Antri was also proposed to be regraded to the gradient of 1 in 200, even though the lowering of the track was to be made to the extent of about 12 feet. Accordingly, the survey reports and the estimates for the doubling of these sections were sent to the Railway Board in August, 1962 and the detailed financial justifications for these works were also sent to the Railway Board in January, 1963.

The considerations on which the doubling on both the sections were justified, were based on steam traction alone and not on the diesel traction. The result was that the new line with a flatter gradient of 1 in 200 had to be of increased length to the extent of 7·51 K.Ms., the additional cost being Rs. 82 lakhs.

It is observed that when the works were proposed in 1963-64 programme, the throughput anticipated at the end of Third Plan period on these sections was 480 wagons from Jhansi to Gwalior and 450 wagons from Gwalior to Jhansi. Even after the introduction of partial dieselisation in these sections from May, 1965 the daily average goods throughput in terms of 4 wheelers has never reached these targets for any of the years from 1965-66 to 1968-69. The average gross load per diesel train in tonnes after partial dieselisation of these sections in May, 1965 was only about 1600 tonnes for the

years 1965-66 to 1967-68 and 1800 tonnes for the year 1968-69 whereas the permissible load for diesel train is 2200 tonnes. This indicates that with the dieselisation of the section, the existing and anticipated traffic could be managed without the provision of a flatter gradient of 1 in 200 in the new second lines.

Although it was originally proposed to regrade a length of 4000 ft. of the existing track between Sandalpur and Antri from the gradient of 1 in 150 to an easier one of 1 in 200 at an approximate cost of Rs. 3·75 lakhs, in November, 1967, the Railway Administration decided not to regrade this portion of the track mainly on the consideration of future dieselisation of this section as the loads of the trains on this section with diesel traction would be 2200 tonnes only on both the gradients on either directions. Further, in all the future doublings on seven sections between Jhansi and Agra to the extent of 129 K.Ms. proposed by the Railway Administration in the programme for the years 1966-67 to 1969-70, the aspect of future dieselisation of through goods trains was taken into consideration and the gradient of 1 in 150, wherever existing has been accepted as the ruling gradient. Hence it is clear that the introduction of diesel traction on these sections did not require any easing of the gradients either on the existing track or in the new double line and the extra additional cost of Rs. 82 lakhs in the construction of the additional length of 7·51 K.Ms. of the new double line was avoidable.

26. Central Railway—Extra expenditure on construction of bridges on the Bina-Katni doubling.

A contract for construction of bridges between Sagoni and miles 730·25 on Bina-Katni Doubling Project was given to a contractor in January, 1964. Even though the overall rate of this contractor was the lowest, his rate for the item of mass concrete for a quantity of 8·42 lakhs cft. was Rs. 264 per 100 cft., whereas the other 9 tenderers had quoted rates varying from Rs. 225 to Rs. 305 per 100 cft. On the other hand his rate for 'R.C.C. in arch rings etc.' for a quantity of 2·11 lakhs cft. was Rs. 200 per 100 cft. while the rates of other contractors for this item ranged from Rs. 400 to Rs. 600 per 100 cft. After the award of contract, the alignment was changed in March, 1964 as a result of the final location survey carried out between September, 1963 and February, 1964 and consequently the quantity of 'R.C.C. in arch rings' was drastically reduced from 2·11 lakhs cft. to 67,779 cft. approximately. The contractor thereupon asked for an enhanced rate for this item of work but his claim was rejected by the railway. As the contractor stopped working, he was served with a notice in March, 1966 for the termination of the contract and

carrying out the work at his risk and cost. Thereupon, the contractor agreed to resume the work provided he was paid enhanced rate for 'R.C.C. in arch rings etc.' but later on consented to the contract being revived under the original terms and conditions but reserving his right to go in for arbitration.

In July, 1966 the contractor claimed a rate of Rs. 877·89 per 100 cft. for 'R.C.C. in arch rings etc.' and the Railway Administration in March, 1968 agreed to pay an extra rate of Rs. 357 per 100 cft. for this item, which entailed additional payment of Rs. 2·31 lakhs. The contractor accepted the extra rate under protest and later claimed an additional amount of Rs. 2·07 lakhs. This was rejected by the Railway, but on arbitration he got an award of Rs. 2·07 lakhs in August, 1969.

The Railway Administration could have avoided an extra expenditure of Rs. 4·38 lakhs, had the rates been analysed by the tender committee at the time of considering the tenders.

27. **Northern Railway—Avoidable expenditure on the work of goods avoiding line.**

The estimate for the work of goods avoiding line in Delhi envisaged the use of wooden sleepers on the track with a view to provide track circuiting/automatic signalling on the line. Against a total requirement of 90,000 wooden sleepers, 14,126 sleepers had been received by July, 1963. In April, 1964 the Track Supply Officer informed the Chief Engineer (Construction) that 70,000 steel sleepers had been allotted by the Railway Board and suggested that the requirement for the various works should be reviewed and the distribution of the steel sleepers advised to him. The Track Supply Officer further advised that the wooden sleepers already supplied could be used on the work, treating the balance of requirement of wooden sleepers as cancelled. Accordingly, a fresh demand of steel sleepers was placed by the Executive Engineer. Even though the Track Supply Officer had stated that the wooden sleepers already supplied could be used, 10,993 wooden sleepers were transferred to other works. Later on the Railway Administration pressed the Railway Board to supply wooden sleepers and the work was completed by using 72,100 wooden sleepers and 10,900 steel sleepers. The line was opened for goods traffic in September, 1966 and for passenger traffic in March, 1967.

In April, 1967 the Chief Operating Superintendent observed that despite the provision of automatic signalling on the line, the desired mobility had not been achieved due to the use of steel sleepers in

some portions of the line. The Chief Engineer, thereupon, in September, 1967 ordered the replacement of the steel sleepers by the wooden sleepers. 10,900 steel sleepers laid on the track were replaced by wooden sleepers by March, 1968 at a cost of Rs. 1·25 lakhs.

28. Central Railway—Construction of a Road Crossing on Singrauli-Katni Project.

Two road overbridges and one road underbridge were proposed to be constructed in the length from K.Ms. 1·45 to K.Ms. 150 (Northern Railway portion of the Singrauli-Katni Project). One of the Road overbridges was proposed at K.Ms. 20·31, on Sidhi-Waidhan Road near Bargawa Station, at an estimated cost of Rs. 6,79,003. The work was carried out upto the ground level and subsequently suspended with a view to resuming and completing it at a later date after incurring an expenditure of Rs. 63,400 (during the period June, 1968 to November, 1968).

The provision for the road overbridge was made originally when the traffic anticipated was 15 trains each way. However, the facilities on the new line were re-assessed in November, 1965 on the basis of four trains each way as the targets of Singrauli Coalfields were considerably scaled down. Despite this fact and the Railway Board's decision to restrict expenditure on this project to meet contractual obligations only, the work was taken up departmentally for execution.

29. Northern Railway—Extra expenditure due to payment of lead in an earthwork contract.

On the Singrauli-Obra Rail Link Construction Project, a contract worth Rs. 8·5 lakhs for earthwork in formation and bridge gaps, including side drains etc., was awarded to a contractor in January, 1963. The rate for excavation in cuttings was inclusive of all lead and lift of the spoils upto 100 metres. Clause 2.7.1 of the special conditions of the contract attached to the tender, specified that the rates for earthwork in cutting included all lift and lead upto 100 metres but it also specified that lead for the purpose of payment would be measured from the centre of borrow pit area or centre of gravity of excavation to centre of work or spoil heap on a straight line.

In August, 1965 the contractor informed the Railway Administration that the payment for leading cutting spoils due to him as per clause 2.7.1 of the conditions of the tender had not been made and he would not be in a position to continue with the work

unless the payment was made. The Assistant Engineer-in-charge replied that "regarding lead, we have no objection to make payment which may be due, provided the adjoining banks are completed in all respects."

The work was completed on 31st January, 1966. When the final bill was prepared, the contractor claimed payment for leading cutting spoils beyond 100 metres on the ground that clause 2.7.1 mentioned that the rates for earthwork in cutting included all lift and lead upto 100 metres and also the method of measurement for payment of lead. He also contended that he had been assured by the Assistant Engineer that lead would be paid as provided in the agreement on completion of the work. The Railway Administration rejected his claim stating that clause 2.7.1 of the special conditions of the contract stipulated that the earthwork in cutting included all lift and lead upto 100 metres and had the spoil banks been made at the top and parallel to the cutting on either side, at no point the lead would have been more than 100 metres which was the permissible limit for free lead. The contractor was also told that he had chosen to lead the cutting spoils into the vacant land lying outside the cutting by trucks and rail-trollies for his own convenience to avoid lift and hence the question of payment of lead did not arise.

At the instance of the contractor, the dispute was referred to an arbitrator in April, 1968. The contractor filed a claim for Rs. 1·87 lakhs which included a sum of Rs. 1·56 lakhs as lead charges for the spoils. The arbitrator gave an award of Rs. 1·52 lakhs in favour of the contractor.

The Railway Administration explained (November, 1970) that no amount was due to the contractor for leading the cutting spoils under the terms of the contract and his claim was, therefore, rejected by the Railway Administration in July, 1966. As regards the award by the arbitrator, the Administration stated that no reasons are required to be given by the arbitrator for his award and the Administration had no means of ascertaining the basis on which the award was determined. It may, however, be mentioned that even if it is conceded that all the other items of claims were admitted by the arbitrator, the balance of the award solely pertaining to lead would be Rs. 1·21 lakhs.

As the rate for earthwork in cutting included all lift and lead upto 100 metres the tender conditions should not have mentioned about the manner of calculation for the payment of lead, thereby leaving room for ambiguity on which the contractor pressed his claim for payment of lead.

30. Eastern Railway—Abandonment of works after incurrence of heavy expenditure.

In the Works Programme of 1964-65 the Railway Administration made provision for construction of additional loops at Shivnarayanpur and Ghogha on the Sahibganj-Bhagalpur section, at a cost of Rs. 8.75 lakhs in order to improve the line capacity and flexibility in operation. A contract for earthwork, construction of platform, etc., in connection with the work at Shivnarayanpur was let out in July, 1965. During the progress of the work, the Divisional Superintendent, Howrah mooted a proposal to amend the plan to avoid diversion of the main line which was envisaged in the original plan. The work was thereupon suspended in March, 1966 pending finalisation of the revised plan. When the revised plan was ready in November, 1966, the contractor refused to resume the work.

A contract for earthwork, construction of boundary wall, etc., in connection with the work at Ghogha was let out in March, 1965 but action to acquire a piece of P.W.D. land required for the work was initiated in June, 1965 only. As this land was not made available, the plan was changed to locate the loop on a private land for the acquisition of which the State Government was approached in June, 1967.

Both these works have, however, been sealed off for the present on the basis of a decision taken to this effect during 1968-69 Works Programme meeting held in Railway Board's office in November, 1967, on the consideration that the work could not be progressed due to difficulties in obtaining possession of the land and only very little expenditure had been incurred on the field. The infructuous expenditure on these works is Rs. 85,926.

TRAFFIC FACILITIES

31. Southern Railway—Premature construction of a third goods terminal at Madras.

A third goods terminal at Korukkupet in Madras built at a cost of about Rs. 1·05 crores was commissioned in December, 1965. In the justification for this work (included in the Works Programme of 1964-65) it was stated that both the then existing terminals at Salt Cotaurs and Royapuram had reached a point of saturation and there was no possibility of expanding the facilities at these places to deal with the anticipated increase in traffic during 'the next 15 to 20 years'. It was further stated that the number of wagons received in the Madras area was 170 per day (86 at Salt Cotaurs and 84 at Royapuram) and 70 additional wagons per day were expected to be dealt with in the new terminal. The aggregate traffic anticipated to be

dealt with at the three terminals together was thus 240 wagons per day. This level has not been reached even five years after commissioning the third terminal. The Railway Administration have stated (November, 1970) that the slow growth of traffic was due to economic recession, that the traffic has started picking up and that during the first five months of 1970-71 the average daily receipts were of the order of 207 wagons, the peak receipts being 228 wagons per day, in July, 1970, a figure which is fairly close to the traffic of 240 wagons per day anticipated at the time the works were justified and sanctioned.

It may, however, be observed that Salt Cotaurs alone had handled 168 wagons per day in January, 1960 and if the capacity of 84 wagons per day of Royapuram is added to this, the total capacity of these existing two terminals was 252 wagons per day which was much higher than 240 wagons, to handle which the third terminal was built at Korukkupet.

32. Southern Railway—Under-utilisation of additional facilities provided on the Salem-Mettur Dam section.

The Salem-Mettur Dam Section of the Southern Railway is an uneconomic branch line. The inward traffic to Mettur Dam station in 1964 was 13 wagons per day consisting of salt, furnace oil and other goods for the industries situated in the area. In 1964, the Railway Administration conducted a survey of the transport needs of the industrial units served by Mettur Dam station and assessed that the traffic would increase from 13 wagons to 67 wagons by 1965 due to the expansion of the existing industries manufacturing chemicals and aluminium and the setting up of new units. The survey also revealed that the industries were not moving their entire salt traffic by rail due to the difficulties regarding availability of wagons at booking points, transhipment difficulty *en-route* and haulage difficulty between Salem and Mettur Dam. The facilities available at Mettur Dam station were, therefore, augmented at a cost of Rs. 4·61 lakhs to deal with an additional 50 inward wagons. Even by 1970 the inward traffic increased to 25 wagons only against the anticipation of 67 wagons. The non-materialisation in full of the estimated levels of traffic was mainly due to the movement of a substantial portion of the additional traffic by road which appears to have proved more economical.

33. Dieselisation of certain sections of Eastern Railway.

The dieselisation of the sections in the Sahibganj Loop *i.e.* Khana-Sainthia-Barharwa-Sahibganj-Jamalpur-Kiul of Eastern

Railway (starting from October, 1963) was considered as a temporary arrangement initially to augment the line capacity for increased traffic. This section's capacity to run additional trains was at the same time sought to be increased by means of provision of crossing stations, tokenless Block Instruments and doubling of the important artery, Sainthia-Barharwa section. The line capacity works including the doubling of the important section between Sainthia and Barharwa was completed in stages between 1964 and 1968 (the last stage of the doubling was completed and opened for traffic by August, 1968). It was anticipated that the increased level of traffic of 1970-71 estimated in 1964 could be theoretically handled by steam traction as far as the portions of the loop from Khana to Barharwa (where the line from Farakka joins the loop) was concerned. It was only in section beyond (*i.e.* Barharwa-Sahibganj-Jamalpur-Kiul) that difficulties were expected to arise owing to increased goods traffic from Farakka side, additional passenger trains to be run during Fourth Plan, etc. It was anticipated that pending doubling of this section dieselisation might be permitted as a temporary measure.

The increase in traffic as originally anticipated in October, 1964 did not materialise from 1966-67, particularly in the section of Sahibganj loop beyond Barharwa. Even in 1969-70 the traffic handled in this portion of the loop remained more or less stationary and the bulk of the traffic is carried by steam traction (1969-70). In so far as the section upto Barharwa is concerned, with the completion of doubling (August, 1968) and consequent increase in capacity, the level of traffic offering was within the capacity of steam traction.

The Ministry of Railways (Railway Board) however, decided in October, 1966 to retain the diesels permanently to work on the Sahibganj loop sections of the Eastern Railway and have since approved the construction of a separate diesel shed at Burdwan to augment the diesel maintenance facilities at a cost of Rs. 20 lakhs (July, 1967).

It is stated that the number of spare steam engines are of the order of 117, *i.e.* 10·7% of the holdings in Eastern Railway (1969-70). A transfer of part of the diesel locos at least those working in the Sahibganj Loop on Eastern Railway to other Railways, depending on their relative requirements, just after the completion of doubling, etc., in accordance with the Ministry's original decision would have facilitated better utilisation of these locos and earning of higher mileage. The performance of the steam engines on the Eastern Railway would also improve thereby, as on the Eastern

Railway, the spare steam locos work out to nearly 10·7% of the steam traction and earn at present (1968-69) only 13 thousand net tonne kilometres per day against 40 thousand in 1961-62 though the hours worked by them per day remained the same.

Apart from better utilisation of the locos, the use of coal for traction in Eastern Railway would be more economical than its use elsewhere, situated farther away from coalfields. In their recent studies on the feasibility of dieselisation of some of the sections of Southern and Western Railways which are remote to coal field areas, the Ministry themselves justified introduction of diesels on grounds of comparatively cheaper fuel cost of diesel oil in the manner referred to above.

The Ministry of Railways (Railway Board) explained (January, 1971) that the retention of diesels on the section of Sahibganj Loop on a permanent basis and provision of new diesel shed at a cost of Rs. 20 lakhs therefor, was justified as the alternative of reintroducing steam traction involved provision of line capacity and loco shed facilities, etc., at a cost of Rs. 76·24 lakhs. Further, this was also in accordance with the Ministry's earlier decision (May, 1963/August, 1964) to stop production of steam locos and adopt Diesel/Electric as the future mode of traction.

It may be stated, however, that the line capacity works were actually planned in sections beyond Barharwa, and as the level of traffic in the section having remained static, the traffic is being managed mostly by the Steam Traction without these facilities till date. (1969-70).

34. Central Railway—Premature construction of a Railway station.

The Panvel-Uran Section of the Diva-Panvel-Uran-Apta Railway Construction was opened for goods traffic on 31st January 1966. No decision has yet been taken as to when the section would be opened for passenger traffic. The Jasai-Chirle station on the section constructed at a cost of Rs. 3·35 lakhs has not been either opened or put to use even though nearly five years have elapsed after the line was opened.

The Railway Administration have stated (October, 1970) that the station has not been opened for traffic for want of the approach road which is to be provided by the local authorities and it is expected that the approach road would be completed by March, 1971. They have also stated that the section was not justified financially and in view of the limited traffic, the section is being worked under one engine only system.

The fact that the local authorities have not laid the approach road all these years proves that no pressing need for the same has been felt. It is, therefore, clear that station facilities have been provided very much in advance of requirements of traffic at the station and in the section.

35. Southern Railway—Infructuous expenditure due to provision of excessive facilities on a new line.

In May, 1958 the Railway Board issued instructions that, on new lines and doubling projects, the facilities to be provided should be minimum and these could be augmented as and when the traffic developed. The Project Estimate of the Salem-Bangalore MG rail link, which was sanctioned in February, 1963 envisaged provision of five crossing stations on the Salem-Dharmapuri section. All the crossing stations were built *ab-initio* and the section was opened for traffic on 1st June, 1967.

Before the opening of the line, a reappraisal of the traffic was made and it was decided to down-grade the two crossing stations at Muttampatti and Karuvalli as flag stations. The loop line and signalling equipments were dismantled in September, 1968. The expenditure incurred on earthwork, laying and removal of permanent way and signalling equipment amounted to Rs. 91 thousand.

The Railway Administration stated (October, 1970) that these crossing stations were programmed on the basis of anticipated requirements and on the basis of earnings *vis-a-vis* the expenditure with reference to the sixth and eleventh year of opening of the line and it was not the practice then to assess the traffic potential during the course of construction of a line and to prune the requirements on the basis of such assessment. This contention is against the Railway Board's instructions of May, 1958 referred to earlier. The quantum of investment that could have been avoided, had the work been pruned in the early stages of construction as stipulated in the Railway Board's instructions of May, 1958 has not been assessed.

EARNINGS

36. Western Railway—Loss of revenue owing to unnecessary continuance of special concessional rate allowed to a firm.

A cement manufacturing company had been allowed a special concessional station to station rate since February, 1954, for the transport of limestone from Rawanjna Dungar to Sawai Madhopur. The rate had been revised from time to time, consistent with changes

withdrawal of concessional rates would not affect the traffic adversely and directed the Local Administration to examine the matter *de-novo*. The Railway Administration furnished their reply in February, 1968, reiterating their earlier recommendations. The Ministry of Railways (Railway Board) conveyed their approval to the withdrawal of the concessoinal rates in December, 1969, and full tariff rates were enforced with effect from 15th February, 1970.

The continuance of the concessional rates for a period of over four years from December, 1965, to February, 1970, has resulted in loss of earnings to the extent of Rs. 6·36 lakhs.

38. Southern Railway—Loss of earnings due to restriction on booking of wagon loads.

The Southern Railway Administration, in consultation with the local Civil Authorities, decided that in order to rationalise heavy movements of seasonal traffic (January to June and October to December) in paddy and rice, the loading of these commodities should be concentrated at certain nominated stations to which the produce could be brought by road from the growing centres in the interior. In pursuance of this policy further, the Railway Administration imposed specific restrictions in February, 1968, on booking of paddy and rice in wagon loads from Mayuram-Tranquebar and Nidamangalam-Mannargudi Sections of Tiruchchirappalli Division. The ban on loading of paddy and rice was later on extended to other commodities as well. Thus there was total ban on wagon load goods booking at all the six stations served by the two sections.

While in 1967 and 1969 the number of wagons loaded with paddy and rice was 27,996 and 23,635 wagons respectively, the corresponding figures for 1968 when restrictions were in operation, were 14,344 wagons only. The Railway Administration explained (November, 1970) that the shortfall in loading was due to the fact that the State Government had partially moved this traffic by road, though the earlier arrangements for regulating movement of this traffic by rail had been drawn up in consultation with them.

The Railway Administration lifted the ban in February, 1969, after it had been noticed that demands for wagon registrations were coming down. Although similar bulk movements of paddy and rice from nominated stations were organised in the years 1967 and 1969, no specific restrictions on the booking of wagon load traffic from these two sections were ever imposed. The wagon loadings on these sections during the years 1967 and 1969 were 1258 and 993 wagons

respectively, which give an average of 1125 wagons a year. The actual net earnings (after excluding the cost of haulage) from wagon load bookings on these sections during one year following the removal of the restriction on booking were to the tune of Rs. 1,90,550 for a total traffic of about 18 thousand tonnes which included 12,565 tonnes or 1256 wagons of rice and paddy. As the average number of wagons loaded with rice and paddy during 1967 and 1969 is near this figure (1256), the loss of earnings to the Railway due to imposition of restrictions from February, 1968 to January, 1969 would be of the order of Rs. 2 lakhs approximately.

39. Western Railway—Undercharges in recovery of freight.

A number of cases of undercharges have been noticed on Western Railway, as indicated below:—

BLENDED FOOD AS FOOD NOC

According to Goods Tariff, Blended Food was chargeable as Food Not Otherwise Classified, at class 80-B special (95 from 1st April, 1970) for wagon loads. However, a test check conducted in respect of two stations for certain months between September, 1968 and June, 1970 revealed that freight charges for this commodity had been incorrectly levied at class 80-B (80 from 1st April, 1970) for wagon loads, resulting in undercharges to the extent of Rs. 46 thousand.

RAILS

According to Goods Tariff, rails were classified under Iron and Steel-Division-B, and freight charges applicable to this Division, were to be calculated at class 67·5-B for wagon loads and 75-B (revised 82·5-C) for smalls. However, Iron & Steel Scrap which was separately classified in the Tariff, was chargeable at class 42·5-A for wagon loads and 60-C for smalls. According to the special conditions applicable to Iron & Steel scrap, the term "scrap" applied only to such scrap or pieces of metal as had metal value only as distinct from shape value and were useful for remelting, reforging or re-rolling only. Notwithstanding this definition, second-hand and unserviceable rails sold by the Railway to outsiders were treated as Iron & Steel Scrap and freight levied by certain stations at the class applicable to scrap instead of at the class applicable to Iron & Steel Division-B. This resulted in undercharges to the extent of Rs. 1.30 lakhs approximately for the years 1965-66 to 1968-69.

GUARD OR DUMMY WAGONS

The rules require that a bogie wagon should be treated as equivalent to two 4-wheelers and a BRH wagon should be equated to 2½

four-wheeled wagons. However, a test check conducted in respect of two stations for certain months between February, 1966 and May, 1970 revealed that charges in respect of BFR and BRH type of wagons used as dummy wagons, had been reckoned as for a 4-wheeled wagon, resulting in undercharges to the extent of Rs. 67 thousand.

LIVESTOCK—CALVES OF HORNED CATTLE

The rules require that calves of horned cattle exceeding 1·07 metres high at the rear base of the hump should be treated as full grown animals and charged accordingly. However, a test check conducted in respect of bookings from one station for a period of 3 years from 1967 to 1969 revealed that calves exceeding the prescribed height had not been treated as full grown animals, resulting in undercharges to the extent of Rs. 24 thousand. A review of the records of four other stations showed that the height of sucklings had not been shown in the relevant records, with the result that the correctness or otherwise of the charges levied, could not be verified. The Railway Administration have stated that instructions have since been issued to all stations to record the height of the sucklings in all relevant station records.

UTILISATION OF ASSETS

40. Performance of Flash Butt Welding Plants on the Indian Railways.

Welding of rail joints increases the life of rails as well as that of wheels of rolling stock that run over it, and facilitates comfortable and noiseless ride. The rails are welded generally by Thermite process or Flash Butt process. Under the Thermite process, welding of rails is done at the site of track under a contract with some firms in India who have developed necessary techniques and processes for the purpose, railway providing only labour and stores therefor, at their own cost. Under Flash Butt process rails are welded departmentally with automatic flash butt machines at the plant depot from which welded rail panels are transported to the site of the track and laid. On the Indian Railways, prior to 1960, departmental welding with flash butt machine was being done on a small scale at the plant depots at Kalyan and Chalisgaon (since 1950 and 1959 respectively) on the Central Railway, at Bandel (since 1958) on the Eastern Railway and at Rosa (since 1948) on the Northern Railway.

Rail joints welded by Flash Butt process are universally recognised as stronger, sounder and cheaper than those welded by Thermite process. In November, 1960, with a view to carrying out flash

butt welding of track more extensively than hitherto and reducing the lead in transporting long welded rails, the Ministry of Railways (Railway Board) decided to procure additional flash butt welding plants. Global tenders were invited in October, 1961 for procurement of 6 Nos. of flash butt welding machines, mobile type to be mounted on special flat wagons and capable of being shifted to different regions. In view of the difficult foreign exchange position, order was placed in the first instance only for 3 flash butt machines in May, 1962 on a firm in U.K. at a cost of £ 37,506 each (total cost £1, 12,518 FOB, U.K. Port) to be allotted to the Western, Southern and South Eastern Railways. The remaining three plants intended for Eastern, Northern and South Central Railways were ordered in April, 1964 at a cost of £ 39,465 each (total cost £1,18,395 FOB). The mobile set ordered for each Railway comprised main rail welding equipment, a diesel generator, its stand-by and other accessories to ensure its own power supply.

In February, 1963, the Railway Board decided to keep the mobile unit to be procured to be mounted on stagings instead of on special wagons as the plant may not require frequent shifting. One of the allottees, the South Eastern Railway Administration, decided (October, 1963) with the Railway Board's approval (April, 1964) to run the machine with power supply from the State Electricity Board instead of generating power by using the diesel generating sets ordered with the welding machine as power was available at the site chosen. Considerable saving through reduction in welding cost (estimated at Rs. 5 to 6 per joint) was expected thereby. With the subsequent commissioning of the welding plant on South Eastern Railway (October, 1966), the diesel set and its auxiliary had to be put to alternative use. The other two new welding plants ordered in May, 1962 were kept as mobile units on Southern and Western Railways. However, the three plants ordered in April, 1964 were commissioned in 1969 and 1970 as stationary plants in view of Board's later decision in 1967 to keep the plants stationary as far as possible. Only the welding plants on South Central and Northern Railway could be commissioned from the beginning (*i.e.* January, 1969 and April, 1970 respectively) with power obtained from outside source and the diesel set and its stand-by are either being put to alternative use or kept as stand-by. The remaining plants on the Western, Southern and Eastern Railways were commissioned (April, 1964, August, 1965 and August, 1970 respectively) with current generated by their own diesel set, with resultant increased operational cost of welding. The welding plant at Sabarmati (Western Railway) changed over to outside power from June, 1968. In the case of the plants at Arkonam (Southern Railway) and Moghalsarai (Eastern

Railway), the question of taking power for the welding plant is under correspondence with the State Electricity Board/Electricity Companies. The delay in the changeover to outside power supply in these cases is attributed to difficulties in getting single phase current for the welding plant from the State Electricity Board/Electric Supply Companies. While problems exist in obtaining power from outside as the welder requires large quantities of single phase current intermittently, the device adopted by the South Eastern and South Central Railways namely, providing a direct feeding transformer for single phase current could have been adopted wherever possible.

It is evident from the above that prior to placement of orders for mobile flash butt welding set in May, 1962, the availability of the special type of wagon needed to mount mobile plants, as well as the advantages in operational cost by keeping the plants stationary at location where power was available was not investigated. It may be mentioned that the suppliers of the equipment and the Eastern Railway Administration brought to the notice of the Ministry of Railways (Railway Board) (January, 1962) the desirability of importing the welding set without the power equipment prior to the placement of order, in the interest of economy and saving of foreign exchange. In August, 1967, based on the recommendations of a foreign expert, the Ministry also issued instructions to all Railways for adoption of a fixed installation with attendant advantages in terms of facilities for handling, treatment of rails prior to and after welding, cheaper power supply from outside sources, which could not be had in a mobile plant.

The import of the six diesel generating sets, its auxiliaries, etc., ordered along with the welding plants in two instalments (May, 1962 and April, 1964) and subsequently rendered or likely to be rendered surplus for the welding unit had cost the Railways £ 1,33,728 F.O.B. in foreign exchange. Further during the period of their operation, the cost of welding has also been increased to the extent of Rs. 5 to 6 per joint.

Besides the above, the commissioning of the welding plants imported under the two orders referred to above have been considerably delayed on some of the Railways. The welding plants and the accessories under the earlier order of May, 1962 were received and commissioned by the Western, and Southern Railways, between June, 1963 and August 1965; on the Southeastern Railway, this was commissioned only in October, 1966 after a delay of over 2 years. On the Western Railway, though there was not much delay in commissioning, the plant could not be worked to its

normal capacity till 1965-66 mainly for want of load. During the same period contractual commitments entered into in May, 1963 (*i.e.* a year prior to commissioning of the flash butt welding plant) by the Railway Administration for welding by the Thermite process of about 788 track miles or 1·63 lakhs joints had to be discharged.

Similarly, the three welding plants intended for South Central, Eastern and Northern Railways under the later order (April, 1964) were received between April, 1966 and February, 1967. On the South Central Railway, the machine was commissioned from 8-1-1969 (again a delay of about 2 years). The Northern and Eastern Railways could commission their plants only by end of August, 1970 and April, 1970 respectively (nearly 4 years). The delay in these cases was mainly attributed to delay in decision regarding the siting of the plant, its layout etc., arising out of the need for implementing certain suggestions in the matter given by a foreign expert in May and June, 1967. However, the changes suggested in the foreign expert's reports such as choice of site with sufficient space, scope for further expansion, entrance at one end exit at the other etc., meant essentially for a rational plan of layout cannot by themselves explain inordinate delay in commissioning.

As a result of these delays, the main objective of the Ministry of Railways (Railway Board) formulated in 1960 to adopt flash butt welding more extensively in preference to thermite welding could not be achieved to any great extent so far as indicated in the table given below:—

TABLE

Year	Track welded (in Track kilometres)				
	Thermite Process		Flash Butt welding 3/5 rail panel laid in track	Normal capacity for Flash Butt Welding available.	Total welded track for the year
	Short-welded panels (3/5 rails)	Long welded panels (0·8 Km. length)			
1961-62 . .	701	..	202	460	903
1962-63 . .	1076	..	223	460	1299
1963-64 . .	1907	2	332	460	2241
1964-65 . .	1883	6	283	575	2172
1965-66 . .	1520	24	278	645(805)*	1822
1966-67 . .	1361	34	382	720(805)*	1777
1967-68 . .	962	102	450	805(1180)*	1514
1968-69 . .	1137	102	668	875(1180)*	1907

*Figures in brackets indicate the capacity that would have been available if the imported machines already received on Railways were commissioned after a year of their receipt.

The latter was accepted by the Ministry as inescapable only for site-welding of short-welded panels prepared in flash butt welding plants into long welded panels of half a mile or more or welding in remote sections in view of transport problem.

On an assumption of Rs. 26·75 and an average rate of Rs. 10·00 per joint for flash butt weld on account of operation and transport cost respectively and Rs. 50 per joint for thermite weld, the extra expenditure due to adoption of welding by thermite process in the years 1967-68 and 1968-69 for Northern Railway alone (estimated at 31,436 joints) works out to Rs. 4·17 lakhs.

The Ministry of Railways (Railway Board) explained (December, 1970) that though thermite weld is no doubt less desirable, the cheapness of overall cost of flash butt weld depends on the lead cost and an average rate of Rs. 10 per joint as lead cost may be attainable only with certain improvements in turnround of rakes and efficiency in transportation with improved design of rakes for which efforts are in hand.

In regard to delay in commissioning of the plants, the Ministry stated that erection of a welding plant is a major project costing nearly Rs. 20 lakhs. Considerable planning has to be put in advance and during installation many items of structural work and equipments have to be executed in a co-ordinating way to exacting technical requirements. Considering all these circumstances period taken for commissioning various plants cannot be considered unduly long.

The Ministry of Railways (Railway Board) have explained (January, 1971) the delay in the case of plant on the South Eastern Railway as being mainly due to time in getting possession of land. The sites of the plants on Eastern and Northern Railways, had to be changed from consideration of transport of rails and the recommendations of French Expert received in August, 1967. Commissioning of the two plants on the Northern and Eastern Railways also involved additional period for careful adjustment of machinery to obtain desired quality of welds.

41. Underutilisation of Sleeper Treatment Plants on the Railways.

Non-durable wooden sleepers are laid in the track only after proper preservative treatment with creosote and furnace oil of prescribed mixture. For ensuring adequate treatment of the non-durable sleepers procured from the State Forest Departments, the Ministry of Railways (Railway Board) established four sleeper

Treatment Plants on the Northern, North Eastern, North-east Frontier and Southern Railways between 1923 and 1968 at a cost of Rs. 88·49 lakhs to serve the different regions of the Indian Railways with a capacity to treat nearly 2 lakh cubic metres or 22 lakh equated B.G. Sleepers per year.

The raw sleepers required for the treatment plants are procured from the adjacent state forests through the agency of the State Forest Departments. It is observed that from 1964-65 (sleeper year) there has been considerable fall in the offtake of raw sleepers by the Railways. [Annexure II(a) to this Report].

The quantity of raw sleepers treated and supplied to the Railways for use in the track by the treatment plants have gone down correspondingly to about 11 lakh equated B.G. sleepers in 1968-69. The cost of treatment of sleepers per cubic metre has risen from Rs. 47·00 in 1964-65 to Rs. 78·00 in 1968-69.

The reduction in the procurement of non-durable sleepers is attributable directly to the policy of the Ministry of Railways (Railway Board) to reduce the future use of the treated sleepers (both broad gauge and metre gauge) in track. While the wooden sleepers of durable type are considered as satisfying all the technical requirements of sleepers and as most suitable for the track, the non-durable sleepers have been considered by the Railway Board as very unsatisfactory and as being the most expensive in view of its very short service life in track. Accordingly, the allotment of these types of sleepers to the Railways have been reduced from year to year *i.e.* 29·06 lakhs Nos. in 1964-65 to 15 lakh Nos. in 1970-71.

In principle, the non-durable sleeper possesses all the mechanical properties of the durable varieties of wood except that unlike the naturally decay-resistant varieties, they are liable to decay due to fungal and insect attack. But the decay could be considerably delayed and their service life in track prolonged by resorting to proper preservative treatment with creosote oil mixed with fuel oil. According to data published earlier by the Railway Board, some of the non-durable species with a life period of 2 to 7 years when untreated, were found to give after treatment, a service life of 13 to 20 years. Investigations carried out at the Forest Research Institute in Dehra Dun in collaboration with the Railways over a period of years have also similarly established the results of treatment.

In view of this the poor performance of treated sleepers on the Indian Railways in recent years must by and large be attributed

to un-satisfactory treatment techniques and maintenance practices in the Railways in India;

(i) Ineffective treatment; The Railway Board prepared and issued in 1964, a manual for the creosoting of sleepers, in view of the absence of such a set of instructions till then. There has been improper treatment due to shortage in indigenous supply of creosote oil. Although, there was adequate indigenous potential, the present arrangement for supply has not ensured a regular dependable supply every year, the actual supplies fluctuating year to year from 4800 tonnes in one year to 7400 tonnes in other against an annual requirement of 8400 tonnes. Further, pressure creosoting was hastily done without adequate air seasoning to the required level of moisture content; inadequate provision of equipment in the sleeper treatment plants such as steam traps, condensors and controlling instruments etc., also contributed to poor treatment. The average absorption of the creosote mixture by the treated sleepers at the treatment plants specially between 1961-62 and 1964-65 was between 1·8 and 3·5 lbs. against the required quantity of 7 lbs. per cft.

(ii) The treated sleepers were previously laid in certain section without bearing plates though instructions regarding the use of bearing plates on treated sleepers existed from the beginning.

(iii) Assessment of service life of track sleepers have been based upon the conditions of individual sleepers, whereas in view of the individual peculiarities of a natural material like wood, assessment of life should be based upon analysis of life performance of groups of such sleepers. As a corollary, replacement of wooden sleepers should generally be undertaken on a casual renewal basis. But the practice of casual renewals with new wooden sleepers have been practically stopped except with second hand sleepers.

(iv) The practice of beater packing has been injurious to the treated surface of such sleepers and better maintenance practices like measured shovel packing have not been introduced generally. It may be mentioned in this connection that such improved practices are unavoidable for the maintenance of tracks laid with the concrete sleepers also.

The present policy of reduced intake of raw sleepers and consequent under-utilisation of treatment plants, besides contributing to

higher unit cost of treatment as referred to above has also other financial implications:

(i) Lower initial cost as would be seen from comparative cost with fittings (including cost of treatment in the case of non-durable wood) of the various types of sleepers. (Annexure II (b) to this Report.)

(ii) Annual cost of Service:—On the assumption that a properly treated non-durable sleeper gives nearly as much service life as a durable sleeper, the average annual cost of service of the various types of sleepers per track kilometre of 1600 sleepers compare as in Annexure II(c) to this Report.

The Ministry of Railways (Railway Board) explained (August, 1970) that while owing to the need to complete plan programmes, a large number of non-durable varieties of sleepers had to be procured and treated with the available creosote, their experience is that such sleepers have very short service life and that earlier data must be considered outmoded. It may be mentioned in this connection that in a recent meeting of Sub-Committee of the Central Board of Forestry (August, 1970) in which, the Ministry of Railways were also represented, the assessment of very short service life of the treated sleepers made by the Ministry of Railways (Railway Board) has been disputed by the principal State Forest Officers and the Forest Research Institute.

The Ministry further stated (August, 1970/January, 1971) that undependable and erratic supplies of creosote made the sustained utilisation of treatment plants as well as the planning and execution of treatment of sleepers most difficult. Economies in the operation of the treatment plants by reduction of staff, reduction in shifts, etc., are stated to be under investigation. The Board further stated that on the basis of annual cost of service the non-durable sleepers are very much more expensive than both the C.S.T. 9 and Steel.

However, as brought out above, given proper treatment and satisfactory maintenance on the track, the non-durable sleepers can be made to serve as well as the durable varieties which command the highest priority in the Ministry's policy for procurement of sleepers. The difference in annual cost of service as between wooden durable and non-durable treated is not significantly large. The non-durable sleepers are ranked even lower than cast iron sleepers in the Ministry's order of preference for sleepers. At the same time it is found by the Ministry that the cast iron sleeper is unsuitable for the trunk routes and main lines with the present day speeds for broad gauge and metre gauge. With increase in axle load and traffic densities, wear takes place quicker at the rail seat and at rail joints wooden

house. Action for listing and survey of the equipment should have been initiated well before the closure of the power house.

45. North Eastern Railway—Employment of Government Labour at the Transhipment Yard at Manduadih.

A scheme of employment of labour supplied by the Central Labour Depot, Gorakhpur at the transhipment yard at Manduadih—in addition to the handling contractor's labour, was introduced in April, 1964. Initially 106 labourers were drawn from the Depot. Even after the introduction of the labour saving device of gravity transhipment with effect from April, 1967 the complement of Depot labour which could have been conveniently dispensed with was only reduced to 53. An additional expenditure of Rs. 1.24 lakhs (approx.) was incurred from April, 1967 to December, 1970 on the employment of Depot labour compared to what would have been payable to the contractor for the output given by the Depot labour.

The Administration stated that the continued employment of Depot labour at Manduadih was justified because (i) it provided a stabilising influence on transhipment performance as the labour supplied by the contractor was fluctuating; (ii) it enabled meeting the fluctuating needs of traffic which the contractor was not able to tackle; (iii) it ensured availability of Government labour when there was a sudden drop in the contractor's labour during marriage and harvesting seasons, festivals, etc.; and (iv) it helped in avoiding extra detentions to wagons.

It may, however, be observed that according to the terms of agreement, the handling contractor is required to employ full complement of labour all the twenty four hours of the day and the Railway Administration are under no obligation to augment the contractor's labour force. Further, the contractor is liable to pay the penalties and demurrage charges for detentions to wagons. As regards the 'stabilising influence' which the Depot labour was designed to bring to bear on the performance of the contractor, it may be stated that the average number of wagons handled daily by the Depot labour during the three years 1967-68 to 1969-70 was 14 B.G. and 2 M.G. against the average of 208 B.G. and 48 M.G. wagons handled by the contractor's labour. Thus the output of the Depot labour was hardly 6 per cent. of that of the contractor's labour although in strength the former was about 10 per cent. of the latter. The total labour force (*i.e.* both Depot and contractor's) engaged did not increase proportionately to the increase in the number of wagons received for transhipment with the result that detentions to wagons

were not eliminated. During the period 1967-68 to 1969-70, there had been an average daily back log of about 190 wagons.

OTHER TOPICS OF INTEREST

46. Central Railway—Works started on Urgency Certificates.

As per extant rules, no work may be commenced and no liability on expenditure incurred on a work until a detailed estimate is sanctioned and requisite funds allotted by the competent authority. However, as an exception, works considered necessary to safeguard life, property or to repair damages to the line caused by floods, accidents etc. and those required to meet immediate needs of traffic could only be started without such sanction.

The Railway Administration in order to increase the line capacity to cater to the increase in traffic anticipated at the end of Third Five Year Plan, sanctioned doubling works on Itarsi-Jabalpur section on urgency certificates. Out of 152 miles of this section patch doubling in respect of 71 miles as a first phase was included in the works programme upto 1962-63. For doubling of the remaining portion, the Railway Administration approached Railway Board in June/July, 1962 for the sanction of urgency certificates to which the Railway Board did not agree. However, on repeated representations by the Railway Administration, the Railway Board sanctioned Urgency Certificates in June/July, 1963 for patch doubling of about 116·29 Kms. of Itarsi-Jabalpur section, even though earlier, in December, 1962 the Board had stated that if the works were to be taken against budget provisions to be made in 1963-64, there was no necessity for the Urgency Certificate and that there was enough time for the preparation of Abstract Estimates for the work.

Inspite of the plea of urgency, there were delays of more than a year in 8 out of the 17 cases in the preparation of Abstract Estimates and delays ranging from 6 months to 35 months in the opening of some of the sections to traffic with reference to the original target dates. The execution of contracts in a few cases was delayed due to large increases in the quantities of works, delay in acquisition of land, finalisation of plans and drawings, slowing down of works due to paucity of funds etc. The tenders for most of these works were invited on the basis of inadequate data in the absence of detailed estimates which resulted in abnormal variations in quantities in some cases during actual execution of works.

The variations in quantities gave rise to claims for extra payment from contractors and a sum of Rs. 4.58 lakhs was paid to three contractors on this account. In addition a sum of Rs. 1·22 lakhs was paid to one contractor as a result of arbitration.

In other sections of the Railway also, where works were sanctioned on urgency certificates, there were delays in preparation of Abstract Estimates (about 2 years) in some cases and in opening of the section to traffic (from 3 months to 24 months) in some cases. As the tenders were floated on inaccurate data, there were large variations in the quantities in some cases even to the extent of 5,000 per cent in one item. Due to abnormal variations in quantities and inordinate delays in the preparation of plans etc. the execution of works was delayed from 6 to 24 months. Additional payment to the tune of Rs. 4·55 lakhs had to be made to the contractors in two cases in settlement of their claims for increased rates for the additional quantities. Further claims amounting to Rs. 15·63 lakhs for various other reasons were preferred by the contractors out of which Rs. 9·13 lakhs have been awarded by the arbitrators to the contractors. A sum of Rs. 2·48 lakhs has already been paid in satisfaction of awards in other two cases.

47. **Incentive Scheme for track maintenance.**

With a view to introducing an incentive scheme for the maintenance of permanent way (on the analogy of a scheme that was stated to have been successfully introduced by the British Railways), the Ministry of Railways (Railway Board) decided in 1965 to conduct the necessary time and method studies as a prelude. Based on the experience of the working of the incentive schemes in Railway workshops and in the context of the need for improvements in the standard of track and decrease in the cost of maintenance under conditions of increasing and increased speeds, densities of track and costs of operation and maintenance it was expected that such a scheme might lead to higher productivity and higher standards of maintenance necessary for high speeds, etc. It was noted, however, that only the British Railways had tried out such a scheme. Though it was recognised that a study of the methods of track maintenance was a desirable preliminary step before undertaking a detailed study of specifications, allowable man-hours, etc. for individual jobs/operations of track maintenance, it was concluded that as the introduction and establishment of new methods was likely to be time consuming it was necessary to take up work measurement without any large-scale method study and on the basis of existing methods, tools, etc. used for maintenance; such method study was limited to marginal changes in methods. In order to undertake the work of evolving work specifications and to work out time required for individual jobs/operations under differing climatic, seasonal and terrain, etc. conditions, a cell was set up in the Railway Board and a team consisting of one Assistant Engineer and eight Permanent Way Inspectors

with supporting staff was set up for each of the five Zonal Railways selected for the purpose (Central, Eastern, Northern, South Eastern and Western Railways).

At the request of the Ministry of Railways (Railway Board) the services of a British expert on incentive scheme for track maintenance were obtained under Colombo Plan training aid programme, in September, 1967. On the basis of his recommendations the Railway Board decided in May, 1968 to give up the proposal for introduction of an incentive scheme for track maintenance, on the following grounds:—

(i) introduction of an incentive scheme for maintenance work was difficult owing to difficulties in measuring such work and in ensuring quality of output, as the prevailing climate was not conducive to exercise of discretion which was called for in large measure for track incentive schemes;

(ii) there was considerable scope for improvement of systems of maintenance like directed maintenance, measured shovel packing, etc. and better results could be obtained by pursuing them;

(iii) difficulties were expected in administering the incentive scheme especially in approving work done and in ensuring correctness of details of work on the basis of which incentive payment in each case was to be made;

(iv) owing to present standards of low performance and bonus level applicable to the unskilled categories of workmen who constitute the maintenance staff, it was felt that the incentive amounts earned would be too low to provide sufficient motivation.

The expenditure incurred on the special staff employed on the Zonal Railways amounted to about Rs. 6 lakhs.

The Ministry of Railways (Railway Board) stated (December, 1970), that the data collected in the studies so far undertaken could prove useful in the estimation of track jobs on the basis of scientific norms.

48. **Northern Railway—Remodelling of the yard at Chunar.**

Remodelling of Chunar Yard at a cost of Rs. 25 lakhs, to deal with the additional traffic expected to materialise from the Churk-Chunar branch line at the end of the Third Five Year Plan, was sanctioned in June, 1961. The work was commenced in January,

1962 and the remodelled yard was brought into commission in September, 1963. The actual outlay on the project to end of July, 1970 amounted to Rs. 28 lakhs.

A work study for the Chunar Yard conducted by the Railway Administration in early 1969 revealed that by rationalising the operations of marshalling, examination of wagons, formation of trains and supply of empties; performed at Mughalsarai, Churk and Cheoki, the Chunar yard could be completely dispensed with and an annual saving of Rs. 4·3 lakhs achieved. The rationalisation was, thereupon, brought into effect from 1st March, 1969, but the yard has not been closed as certain operations are still stated to be performed there.

49. North Eastern Railway—Excessive rate allowed to a handling contractor.

The Gravity Transhipment Yard at Manduadih started functioning in April, 1967. The facilities provided in the new yard consisted of a Broad Gauge line on an elevated platform with two Metre Gauge lines on the ground, so that on opening of doors of the Broad Gauge Box wagons, part of the contents fall automatically into the open Metre Gauge empties kept on ground level; the balance being shovelled into the Metre Gauge empties with the help of manual labour. In view of the consideration that gravitational transhipment took lesser time, as compared to flat transhipment that was in force earlier, negotiations were held by the Administration with the contractor to get a reduction in the existing rate. Accordingly, the handling rate was reduced from Rs. 26·81 to Rs. 21·13 per Box Wagon (21% reduction). However, the existing free time allowance of 9 hours was allowed to be continued as an experimental measure, subject to review on the basis of actual experience to be gained in the working of the new yard; and a provision to this effect was made in the subsidiary agreement entered into with the contractor. The Ministry of Railways (Railway Board) had earlier in March, 1967, impressed upon the North Eastern Railway Administration the desirability of ensuring that the reduction sought in the handling rate for BOX wagon should be commensurate with the reduction in man-hours that would accrue to the contractor as a result of gravity transhipment. The North Eastern Railway Administration reduced the free time allowance from 9 hours to 5·5 hours with effect from 10th September, 1967 (39% reduction) but did not seek any further proportionate reduction in the handling rate. The proportionate handling rate worked out to Rs. 16·38 per BOX wagon as against Rs. 21·13 allowed to the contractor.

When fresh tenders were invited in January, 1969, the lowest rate accepted was Rs. 20·76 only, as against Rs. 21·13 allowed to the contractor from April, 1967 onwards.

50. **Recoveries at the Instance of Audit.**

During the year 1969-70, an amount of Rs. 23·99 lakhs was recovered or noted for recovery at the instance of audit. As a result of further reviews made by the Railways of these and similar cases, a further amount of Rs. 5·78 lakhs was noted for recovery.

(R. K. KHANNA)
Director of Railway Audit.

NEW DELHI:
Dated the 6th *March*, 1971.
15th *Phalguna*, 1892.

Countersigned.

(S. RANGANATHAN)
Comptroller and Auditor General of India.

NEW DELHI:
Dated the 6th *March*, 1971.
15th *Phalguna*, 1892.

ANNEXURE I

(*see* para 12)

(a) *Net tonne kilometres for steam Locomotive per day in use— Broad Gauge—all Railways.*

1960-61	60,267
1961-62	58,147
1962-63	56,315
1963-64	49,621
1964-65	42,865
1965-66	40,907
1966-67	38,302
1967-68	36,726
1968-69	33,210
1969-70	34,284

(b) *Net tonne kilometres per Diesel Locomotive per day in use— Broad Gauge.*

	Central	Eastern	Northern	Western
1964-65	323,393	236,220	313,408	
1965-66	327,411	243,289	324,707	
1966-67	308,569	247,840	303,054	
1967-68	268,773	240,961	288,373	275,787
1968-69	264,409	205,307	318,517	235,270
1969-70	251,037	194,587	294,289	272,665

(c) *Net tonne kilometres per Electric Locomotive per day in use— Broad Gauge.*

	Central	Eastern	Northern
1964-65	85,578	391,413	
1965-66	85,474	375,895	421,566
1966-67	78,045	356,061	373,299
1967-68	61,940	360,271	320,394
1968-69	85,991	356,074	326,591
1969-70	117,148	340,162	292,911

(d) *Net tonne kilometres per Steam Locomotive per day in use—Metre Gauge.*

	Northern	Northeast Frontier	Southern	Western
1961-62	34,422	27,481	26,881	32,043
1962-63	33,940	17,819	26,764	33,680
1963-64	33,378	16,413	26,282	32,928
1964-65	30,042	15,359	25,873	30,756
1965-66	31,543	11,737	24,267	30,000
1966-67	30,884	10,029	22,944	30,476
1967-68	30,413	9,990	23,796	30,463
1968-69	28,139	9,044	24,213	29,734
1969-70	27,403	9,268	21,324	27,988

(e) *Efficiency index of engine utilisation (All traction)*

	Average Tractive effort of locomotives (Kgs.)	Average train load hauled per Kg. of Tractive effort	
		Net (Kgs.)	Gross (Kgs.)
Broad Gauge			
1962-63	15,015	46·6	93·6
1965-66	15,906	45·6	92·4
1966-67	16,139	45·5	92·0
1967-68	16,460	44·0	90·2
1968-69	16,842	43·9	89·9
1969-70	17,073	42.2	87.6
Metre Gauge			
1962-63	8,459	38·2	80·3
1965-66	9,110	38·1	78·6
1966-67	9,161	37·8	77·7
1967-68	9,281	37·5	77·4
1968-69	9,346	38·3	78·5
1969-70	9,512	38·1	77·2

ANNEXURE II

(*See* para 41)

(a) *Details of quantity of wooden sleepers procured from State Forest areas by the Indian Railways.*

State Forest Area	Qty. procured in terms of lacs cft.	
	1964-65	1967-68
Assam & Nagaland.	17·42	8·57
Uttar Pradesh	9·20	8·62
Mysore	13·04	6·35
Kerala	1·26	0·26
Himachal Pradesh	2·59	1·96
Jammu & Kashmir.	13·79	~~13·89~~ 3.89

(b) *Details of initial cost of sleepers of various types with fittings etc.*

Type of sleeper	Cost of sleeper with fittings and other incidental charges		Remarks
	Rs. B.G.	Rs. M.G.	
1. Wooden sleeper non-durable .	55	32	
2. (*i*) Wooden durable . .	46	21	
(*ii*) Wooden durable with bearing plates . .	61	32	
3. Cast Iron CST-9 sleepers .	76(92)*(b)	45(55)*(b)	*(b) Revised cost as per latest cost data.
4. Steel sleepers	90(92)(b)	..	
5. Concrete sleepers.			
(*i*) Mono block . . .	134	..	
(*ii*) Two block . . .	152	..	

(c) *Details of annual cost of service of various types of sleepers.*

Type of sleeper	Annual cost of service (excluding the maintenance cost of all types of sleepers)		Remarks
	B.G.	M.G.	
	Rs.	Rs.	
1. Wooden sleeper (Non-durable)	7992	4374	
2. Wooden sleeper durable	7584	3718	
3. Cast Iron CST-9 sleepers	6966 8720(a)	3920 5008(a)	(a) As per latest cost data.
4. Steel sleepers	7786 7994(a)	..	
. Concrete sleeper			
(*i*) Mono block (b)	10335	..	(b) Entirely new item; incidence of development expenses, interest on capital, cost of handling equipments, automatic track machines etc. not taken into account.
(*ii*) Two block (b).	11061	..	

GMGIPND—TSS—109 C.A.G.—4-3-1971—2,100

PAG. 41. 69-70 (
2100

©

COMPTROLLER AND AUDITOR GENERAL OF INDIA
1971

Price: *Re.* 1·70 *P. or* 4 *sh.* 0 *d. or* 61 *cents.*

PRINTED BY THE GENERAL MANAGER, GOVERNMENT OF INDIA P ES
NEW DELHI, AND PUBLISHED BY THE MANAGER OF PUBLICATIONS, DELHI, 97