

Report of the
Comptroller and Auditor General
of India

for the year ended March 2011

Laid in Lok Sabha/ Rajya Sabha on _____

Union Government (Railways)
No.32 of 2011-12

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PREFACE

The Report for the year ended 31 March 2011 has been prepared in three volumes viz. Compliance Audit Report, Performance Audit Report and a Report on 'Railways Finances' for submission to the President under Article 151 (1) of the Constitution of India.

This volume 'Compliance Audit Report' contains 16 audit observations arising out of test audit of financial transactions conducted during the year 2010-11 and nine thematic studies.

The audit of Ministry of Railways and its subordinate offices was conducted under Article 149 and 151 of the Constitution of India read with Section 13 of the C&AG 's (Duties, Powers and Condition of Service) Act, 1971 and in accordance with C&AG's Regulations on Audit and Accounts.

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PREFACE

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Overview

This Report contains the audit findings of significant nature during the compliance audit of Ministry of Railways (Railway Board) of the Union Government and its field offices for the year ended 31 March 2011. The report contains six chapters. Chapter 1 presents a broad outline of the scheme of the Report and Chapters 2 to 7 present detailed findings/observations under relevant department title.

Chapter 1 – Introduction - This chapter contains 10 paragraphs containing audited entities' profile (**Para 1.2**), audit planning (**Para 1.4**), response of the Ministry/Department to the provisional paragraphs (**Para 1.6**), the number of objections issued as a result of audit of Railway accounts and records, objections settled after Railways had taken corrective action and those outstanding for want of action by Railways (**Para 1.7**), recoveries effected or agreed to be effected at the instance of audit (**Para 1.8**), remedial actions taken by Ministry of Railways (Railway Board) on audit observations contained in previous reports. (**Para 1.10**)

Chapter 2 – Traffic – Commercial and Operations - This chapter includes four thematic studies conducted across Zonal Railways covering freight and passenger services, freight policy of enhanced loading and concessional tariffs. The audit findings, in brief, are described below:

- **Up-Gradation of Goods sheds** - The study revealed that increase in rake turnover was hampered due to deficient planning and delays in implementation. There were immediate positive gains in terms of reduced detention in the limited number of cases where the Goods sheds were upgraded, though in some others, these resulted in a decline. (**Para 2.1**)
- **MEMU/DEMU Services in Indian Railways** - The study revealed that besides improper planning of train services and inadequacies of maintenance facilities, there were delays in commissioning of new coaches meant for replacement of conventional trains. (**Para 2.2**)
- **Running of freight trains with enhanced loading in wagons up to CC+8+2** - The study revealed that the progress made by Railways in providing requisite equipment for safe running of trains was far from satisfactory. It also revealed that though the IR had achieved the objective of increasing their earnings but simultaneously the expenditure on account of frequent wear and tear to rails and extensive damages to wagons parts such as CBC, draft gears, wheels and Axles assemblies, brake gears, etc. had also increased. (**Para 2.3**)
- **Movement of traffic at Train Load Class Rates** - The study revealed stations/sidings were notified as capable of handling full rake traffic regardless of the actual facilities available. This had not served the purpose of achieving economy by avoiding the detention as placement of wagons for loading/unloading continued to be done in a piece meal fashion causing incurrence of extra operational cost. (**Para 2.4**)

Overview

In addition, Chapter 2 includes seven paragraphs highlighting individual irregularities pertaining to freight concessions, parcel leasing and its utilization and provision of quality service such as undue benefit of ₹1795.51 crore to consignors of iron ore traffic booked as domestic traffic without complying with the conditions for availing the freight concession (**Para 2.5**), loss of ₹77.27 crore on account of non-rationalization of freight tariff as per actual movement of freight traffic (**Para 2.6**), loss of ₹29.69 crore due to empty haulage of unutilized parcel vans (**Para 2.7**), sub optimal leasing of parcel cargo express leading to loss ₹15.40 crore (**Para 2.8**), poor quality of linen service in departmentally managed trains at higher cost (₹14.87 crore) (**Para 2.9**), non-recovery of wagon hire charges of ₹26.81 crore at revised rate (**Para 2.10**), and loss of ₹25.77 crore due to heavy detentions of wagons (**Para 2.11**).

Chapter 3 - Engineering – Open Line and Construction – This chapter includes the following three thematic studies conducted across all Zonal Railways :-

- **Commercial Utilization of Surplus Railway Land in Indian Railways** - Despite the concerns expressed by the PAC, the performance of the Indian Railways in safeguarding its title to land and ensuring proper maintenance of land records continued to remain unsatisfactory. Though in a number of cases Railway land was allowed to be occupied by the PSUs/other Government Department and private parties, Zonal Railways had failed to take effective action to execute license agreements and recover the license fee from the licensees. (**Para 3.1**)
- **Civil Engineering Workshops in Indian Railways**- Audit observed that the objectives of setting up Civil Engineering Workshops to help Railways in meeting their demand of essential components required for day to day maintenance of tracks and manufacture of girders for bridges etc. had not been fully met due to lack of clear strategic direction (**Para 3.2**).
- **Safety works – Level Crossings, Road Over Bridges and Road Under Bridges** - The objective of improving safety in IR by elimination of level crossings had met with limited success largely due to inadequate commitment to implementation of policy that resulted in constant gross under-utilisation of funds both in level crossings and ROB/RUBs. Railways' efforts in co-ordinating with state governments for successful completion of ROB/RUBs were inadequate (**Para 3.3**).

Besides the thematic studies, cases of irregularities have been highlighted - avoidable loss of ₹284.20 crore due to delay in completion of bridge (**Para 3.4**) and avoidable expenditure of ₹13.64 crore in strengthening of old bridge in lieu of rebuilding (**Para 3.5**).

Chapter 4 – Mechanical – Zonal Headquarters/Workshops/Production units - This chapter includes a study on planning, procurement, installation and commissioning of Machinery and Plants (M&P) through Central Organization for Modernization of Workshops. The study revealed delays at

every stage from planning to commissioning of machines. Cases of underutilization were also noticed (**Para 4.1**).

Other individual instances of serious irregularities in procurement and maintenance operations highlighted include inadequate assessment of reasonableness of tender rates and lack of decision within the validity of offer period resulting in extra expenditure of ₹52.94 crore (**Para 4.2**), tendering of steel at prices other than ex-works price of SAIL, used as benchmark by Railway units in cost estimates leading to extra expenditure of ₹19.34 crore (**Para 4.3**), stabling of rolling stock for long periods causing loss of earning capacity of ₹15.42 crore (**Para 4.4**), splitting up of tendered quantity of steel items at higher rates leading to avoidable expenditure of ₹12.36 crore (**Para 4.5**).

Chapter 5 – Signal and Telecommunications – This chapter contains a thematic study on 'Safety works on Indian Railways - Anti Collision Device (ACD) and Train Protection and Warning System (TPWS). The study revealed that despite expenditure of about ₹250 crore, the reliability of the system viz. ACD and TPWS in prevention of collision of trains was in doubt as the performance efficiency recorded during trials was between 77 to 90 per cent as against the acceptable level of 99.9 per cent (**Para 5.1**).

Chapter 6 – Stores - This chapter contains audit observations on loss of ₹19.78 crore on account of non-inclusion of profit element in the price of wheelsets sold to M/s CONCOR (**Para 6.1**), loss of ₹19.45 crore due to excess procurement of sleepers (**Para 6.2**) and loss of ₹38.44 crore due to delay in finalization of tender for procurement of sleepers (**Para 6.3**).

Chapter 1: Introduction

1.1 Compliance Audit - Report Outline

This Report seeks to highlight matters arising out of compliance audit of the transactions incurred out of Railway Budget by the Railway Board and its field formations pertaining to the year 2010-11.

Compliance audit refers to scrutiny of the transactions relating to expenditure, receipts, assets and liabilities of the audited entities to obtain an assurance that the provisions of the Constitution of India, the applicable laws, the subordinate legislations and other rules and regulations are being duly complied with. This also includes an examination of the adequacy, legality, transparency, etc. of the relevant rules to ascertain whether these ensure effective control over public expenditure and safeguard against misuse, waste and loss.

This Report presents only such audit findings of significant materiality having regard to the totality of nature, volume and size of public spending in keeping with the generally accepted auditing standards and is intended to aid the Executive in instituting corrective actions/mechanisms to bring about improved governance and better financial management. In particular, the Report explores the performance/implementation issues of nine selected themes as briefly highlighted in Para 1.4. The detailed audit findings are presented department-wise from Chapters 2 - 6 to enable better clarity in terms of accountability of the audited entity, both the policy-arm at the Board level and the implementing agency at the field level.

Para 1.2 to 1.5 of this Chapter outlines the broad profile of the Ministry of Railways and its subordinate field offices, basis of selection of units and issues for audit investigation and the reporting procedure for inclusion of audit observations in the Audit Report. Para 1.6 to 1.10 provide a summary of the year-wise pendency of audit observations vis-à-vis response received from the Railway authorities and present impact of audit in terms of recoveries effected and important remedial actions taken.

1.2 Audited Entity

Presently the Indian Railways, a premier transport organization of the country is the largest rail network in Asia and the second largest in the world under one management.

Indian Railways is a multi-gauge, multi-traction system with a total route length of 64015 kms (as on 31 March 2011)

	Broad Gauge (1676 mm)	Meter Gauge (1000 mm)	Narrow Gauge (762/610 mm)	Total
Track Kilometers	86,526	18,529	3,651	108,706
	Electrified	Total		
Route Kilometers	16,001	64,015		

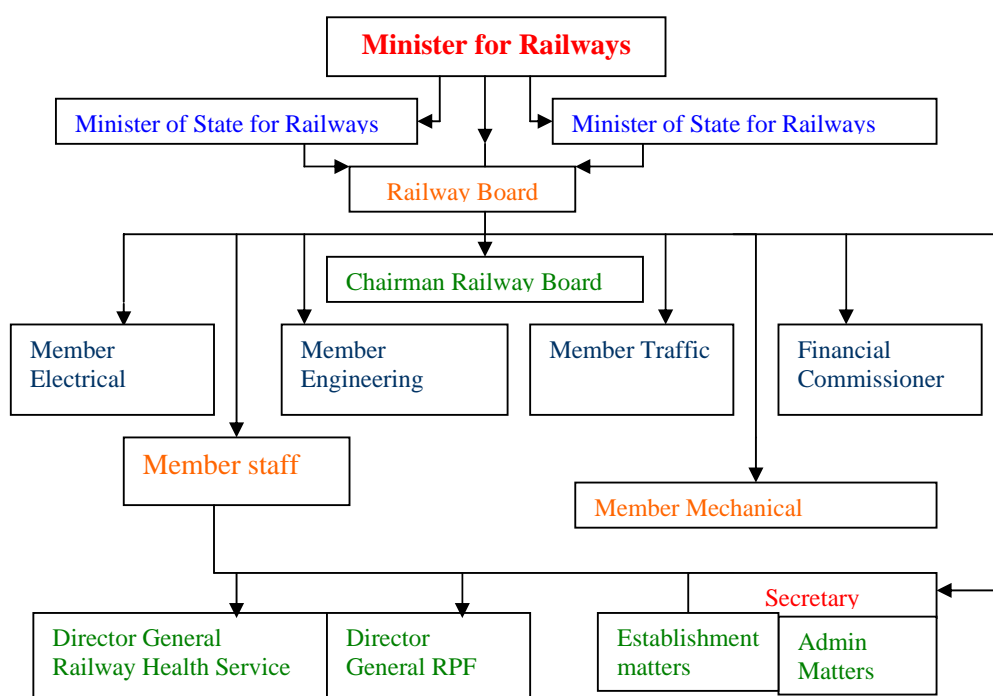
Indian Railways runs around 11,000 trains everyday of which 7,000 are passenger trains. They carry approximately 19 million passengers and more than a million tonne of freight traffic daily. As on 31 March 2011, the Indian Railways owned and maintained infrastructural assets and rolling stock as in Table below:

Locomotives	Coaching Vehicles	Freight wagons	Stations
7,566	37,840	2,22,147	6,853
Yards	Goods Sheds	Repair Shops	Work Force
300	2,300	700	1.54 million

Organization Structure

The Railway Board comprising six Members (Electrical, Mechanical, Traffic, staff, Engineering and Finance Commissioner) headed by the Chairman reporting to the Minister of Railways, is responsible for laying down policies on all matters of operations, maintenance, finance and acquisition of assets and monitoring their implementation across zones. The Railway Board is responsible for regulating pricing of both passenger and freight tariffs.

The Functional Directorates under each Member assist and aid in decision-making and its further monitoring.



At the field level, there are 17 Railway Zones, one research wing namely, Research & Development Organisation (RDSO) Lucknow, a Central Organisation for Modernization of Workshops (COFMOW) for procurement of specialized machinery, two Diesel locomotive works at Varanasi and

Chittaranjan, two coach factories at Kapurthala and Perambur, one wheel and axle plant at Yelahanka and a diesel modernization works at Patiala. The names of Railway Zones with their headquarters and total route kilometers are given below:

Railways	Headquarters	Route kms.
Central	Mumbai	3,905
Eastern	Kolkata	2,414
East Central	Hajipur	3,557
East Coast	Bhubaneshwar	2,568
Northern	New Delhi	6,935
North Central	Allahabad	3,151
North Eastern	Gorakhpur	3,634
Northeast Frontier	Maligaon (Guwahati)	3,758
North Western	Jaipur	5,535
Southern	Chennai	5,145
South Central	Secunderabad	5,749
South Eastern	Kolkata	2,635
South East Central	Bilaspur	2,448
South Western	Hubli	3,107
Western	Mumbai	6,509
West Central	Jabalpur	2,965
Metro Railway	Kolkata	
Total		64,015

Each Zone is headed by a General Manager who is assisted by Principal Heads of Departments namely Civil Engineering, Electrical, Mechanical, Stores, Accounts and Railway Protection Force.

Besides above, there are 12 Public sector undertakings (PSUs) functioning under administrative control of the Ministry of Railways. The operations of these PSUs cover a wide spectrum i.e. from providing passenger and freight container services to lend-lease financing, tourism and catering.

1.3 Integrated Financial Advice and Control

A fully integrated financial advice and control system exists both at the Railway Board led by the Financial Commissioner and the Financial Advisers and Chief Accounts Officers at the Zonal level. The Financial Heads are responsible for rendering advice and scrutinizing all proposals involving expenditure from the public exchequer.

1.4 Audit Planning

Broadly, the selection of the units for audit of the Railways was planned on the basis of a risk assessment with regard to the level of budgets planned, resources allocated and deployed, extent of compliance with internal controls, scope of delegation of powers, sensitivity and criticality of function/activity,

Chapter 1 Introduction

external environment factors, etc. Previous audit findings, PAC's recommendations, media reports, where relevant, were also considered.

Based on such risk assessment, test audit of 3,457 audited entities of the Railways out of a total of 13,887 units was carried out during 2010-11.

The audit plan in particular focused on nine selected themes of significance in terms of policy and its implementation inter-alia covering freight tariffs, passenger services and safety works. Each study is accompanied by recommendations/suggestions on the basis of audit findings, reported under department specific chapters, so that the authorities concerned may act upon to obtain better results in terms of the policy/scheme objectives. In brief, the themes covered the issues as under:

Chapter 2 – Traffic - Commercial and operations

Up-gradation of Goods sheds - The Ministry had announced an initiative for up-gradation of 100 goods sheds for being augmented to cope with increasing traffic demand.

- Audit study focused on the pace of identification and efficiency in implementation of the selected goods sheds and the consequential impact on rakes handled as originally envisaged

MEMU/DEMU Services in Indian Railways - With a view to decongest the busy routes, Ministry of Railway had envisaged replacement of conventional coach trains with the more efficient and faster moving MEMU/DEMU for commuting public near metros and other major cities.

- Audit reviewed the performance of the efficiency of these services in all the Zones for the period 2008-09 to 2010-11 with focus on rake management and their maintenance in light of the current shortfall of overall availability of passenger coaches.

Running of freight trains with enhanced loading in wagons up to CC+8+2 - Railway Board had permitted enhanced loading beyond the permissible carrying capacity with the objective to carry more tonne per wagon to increase the throughput on congested routes reducing the unit cost of operations by saving on locomotives, additional wagons, staff and path to move additional trains.

- Audit reviewed the progress on follow-up of requirements to be complied with as per the recommendations of the PAC (19th Report of 2009-10) for permitting enhanced loading.

Movement of traffic at 'Train Load Class Rates' - The policy of providing lower train load rates was envisaged with a view that Railways would achieve saving by way of reduction in operational costs due to minimized marshalling and lesser detention to rolling stock. The benefit so accrued was to be passed on to the consumers.

- Audit study focused on the compliance by Zonal offices of extending trainload benefit in stations notified for handling full rakes and the actual efficiency in managing the rakes.

Chapter 3- Engineering (Open line and Construction)

Commercial Utilization of Surplus Railway Land in Indian Railways –

- Audit conducted a study across the Indian Railway to evaluate the implementation of policy framed by the Railway Board in commercial exploitation of its surplus land as well as recommendations of the PAC for setting up a time frame for executing/ renewal of agreements and to ensure that the license fee in respect of land licensed to private parties, departments and Public Sector Undertakings (PSUs) was calculated on the market value of land and recovered accordingly.

Civil Engineering Workshops in Indian Railways - Civil Engineering Workshops (CEWs) manufacture bridge girders, track components, Platform shelters, foot over bridges and various components to meet the internal demands of Indian Railways.

- Audit reviewed the performance of all the ten CEWs to assess whether these were well equipped to meet the growing demand of fabrication requirements for bridge rebuilding as well as for construction of bridges on new lines.

Safety works – Level Crossings, Road Over Bridges and Road Under Bridges - Level crossings (LCs) at railroad intersections present a significant risk of accidents. For enhancement of safety standards at manned LCs instructions were issued by Railway Board for interlocking of LCs, Provision of Lifting Barriers and Telephones, elimination of LCs by construction of ROBs/RUBs/Limited Use Subways/Limited Height.

- Audit reviewed the progress of implementation of these works as a follow-up to the earlier audit study (Report No.9 of 2005).

Chapter 4 – Mechanical - Zonal Headquarters, Workshops and Productions units

Plant and Machinery Procured by COFMOW - COFMOW was set up as a service organization dedicated to induct updated technology in the IR through bulk procurement of specialized plant and machinery.

- Audit reviewed performance efficiency of COFEMOW vis-a-via Zonal offices in pre-and post-procurement phases in respect of selected Machinery and Plant (M&P).

Chapter 5 – Signal and Telecommunication

Safety work over Indian Railways – Anti Collision Device (ACD) and Train Protection and Warning System (TPWS) - The performance of pilot project for installation of ACD over Northeast Frontier Railway (NFR) was reported to Parliament (Report No. 26 of 2008-09 tabled on 24 July 2009). Railway Board in their reply had stated that ACD was successfully implemented on trial basis on Northeast Frontier Railway and would be extended to three other Railways.

- Audit reviewed the progress and outcome of the trials conducted so far by selected Zonal Railways to form an assessment.

1.5 Reporting

The thematic studies were conducted across the Zonal Railways using sampling methodology and accessing relevant records and documents of the field units including those of the Railway Board. The audit findings were issued to the respective Zonal Managements for their response. Similarly, Audit Notes/Inspection Reports (IRs)/Special letters arising out of regular audit of vouchers and tenders were issued to the Associated Finance and Head of the unit for obtaining their replies. Audit findings were either settled or further action for compliance was advised depending upon action taken. Important audit observations, not having been complied with, were followed up through draft paragraphs addressed to the General Managers of Zonal Railway with copies endorsed to the FA&CAOs and Heads of the Departments for reply within the prescribed period. Selected issues raised in these draft paragraphs were taken up as Provisional Paragraphs with the Ministry of Railway (Railway Board) for furnishing their reply within a period of six weeks (as prescribed by the Public Accounts Committee) before their inclusion in the Audit Report.

1.6 Response of the Ministry/Department to Provisional Paragraphs

A total of 166 draft paragraphs including observations on thematic topics were issued to the General Managers of the Railway Administration up to August 2011. The response of the Railway Administration was received only in 26 cases. After considering the replies wherever received, 25 Provisional paragraphs (including nine thematic studies) proposed for inclusion in this Report were forwarded to the Chairman Railway Board, Members concerned and the Financial Commissioner between August 2011 and January 2012. Ministry of Railways had not replied to any of these cases up to January 2011.

1.7 Audit objections issued, settled and outstanding

During the year 2010-11, based on the results of test audit, a total of 13,967 Audit objections involving financial irregularities of ₹6999.74 crore were issued through Special letters, Part-I Audit Notes and Inspection Reports. Besides these, there was a carry forward of 30,099 audit objections pertaining to the previous years. A total of 17,422 Audit objections were settled during the year after the Railway Administration recovered/ agreed to recover the amounts involved or had initiated corrective/ remedial action. The balance 26,644 audit objections outstanding as on 31 March 2011 involved financial irregularities amounting to ₹13500 crore.

1.8 Recoveries at the instance of audit

As a result of cases of undercharges in realization of freight and other earnings, overpayments to staff and other agencies, non-recovery of dues of the Railway etc. brought to the notice of the Railway Administration during the year 2010-11, an amount of ₹118.92 crore was accepted for recovery (₹105.56 crore was recovered and ₹13.36 crore was agreed to be recovered). Four Zonal Railways accounted for recoveries exceeding ₹10 crore: Northeast Frontier (₹33.42 crore), West Central (₹23.05 crore), North Western (₹18.46

crore) and Northern (₹10.84 crore) Out of the total amount of ₹118.92 crore recovery accepted, an amount of ₹53.96 crore pertained to transactions that were already checked by Accounts. As a result of further review carried out by Accounts another ₹13.10 crore were recovered.

1.9 Remedial actions

In addition, Railway Board also initiated remedial action in response to audit observations by way of action for recovery in case of short realization, appropriate changes in freight tariffs and issue of instructions during 2010-11 for better and improved compliance (Table below).

Para (Year)	No.	Audit observations	Action Taken by Ministry
5.5 (No. 8 of 2004)		Railway Administrations had not implemented the revised Railway Employees liberalized Health Scheme (RELHS), 1997 as amended in December 2002. Thus incorrect recovery of the contribution towards scheme from retired employees and their spouses had resulted in short realization of ₹0.81 crore.	Railway Board admitted the lapse on the part of implementing offices and issued instructions (March 2011) to Zonal Railways for recovery of the balance amount.
3.2.4 (No. 6 of 2007)		Delay of 11 years in completion of the work of laying additional pipe line mainly because of lack of coordination among various Government Departments viz. non-clearance by Forest Department, had caused idling of assets costing ₹4.65 crore.	The Railway Board while accepting the Audit contention issued instructions to all Zonal Railways to ensure proper coordination among various departments so that the works are completed in time and idling of invested was avoided.
5.3.2 (No. 6 of 2007)		Incorrect adoption of capital cost of BFKI wagons by Northern Railway committee had resulted in short recovery of maintenance charges of ₹14.20 crore. Further non-adoption of rates of maintenance charges as recommended by multi disciplinary committee had also resulted loss of ₹180.51 crore	Railway Board while accepting the loss also revised the system from 1 April 2006. The new system provide for setting up a percentage of haulage charges recovered from container operators towards maintenance cost of their rolling stock. This amount is apportioned from the haulage charges and kept in a Centralized Deposit Account.
4.1.13 (No. 6 of 2008)		The costly items of signal and telecommunication procured during 1999 to 2006 for use in specific works were lying unutilized resulting in idling of investment of ₹1.10 crore.	Railway Board accepted the audit contention and issued instructions (January 2010) to all Zonal Railways to be more careful in procurement of signaling items.
2.1.10 (No. 19 of 2008-09)		North Eastern Railway had suffered a loss of ₹1.79 crore on account of attaching dummy wagons to the oil tank rake carrying vegetable oil which are provided to rakes loaded with explosive material.	The Railway Board accepted that there was no need to provide dummy wagons to rakes of vegetable oil and instructed the Zonal Railways to dispense with the practice of providing dummy wagons to such rakes.

Chapter 1 Introduction

Para No. (Year)	Audit observations	Action Taken by Ministry
3.1.9 (No. 19 of 2008-09)	Constructions of staff quarters without obtaining approval from the Municipal Corporation of Greater Mumbai had led to unproductive expenditure of ₹1.09 crore and loss of ₹0.35 crore on account of non-utilization of assets.	Ministry of Railways had issued instructions in July 2010 to all Zonal Railways to obtain necessary clearance from local bodies before commencement of work so that the expenditure incurred was utilized gainfully.
6.3.5 (No. 19 of 2008-09)	Delay in assessment of the requirement of traction power and enter into revised agreement indicating the correct contract demands had resulted in payment of penalty of ₹2.76 crore on account of exceeding the contract demand.	Railway Board admitted that some delay had occurred in assessing the correct requirement of traction power. They, therefore, issued instructions (January 2011) to all Zonal Railways to monitor the maximum demand at each power supply point and take immediate action for revision of the contract demand as per requirement so that the penalty on this account was avoided.
3.1.5 (No. 11 of 2010-11)	Injudicious creation of the passenger amenities in excess of the prescribed norms and execution of works not related to passenger amenities or Railway's working had resulted in additional expenditure of ₹9.99 crore.	Accepting the audit contention, Railway Board issued instructions (March 2011) to the Zonal Railways to ensure the passenger amenities at stations were provided as per norms and unnecessary work be avoided.
2.1 (No. 34 of 2010-11)	Allowing container operators including CONCOR to carry bulk commodities traditionally carried by Indian Railway at haulage rates had exposed the Railways to the risk of huge loss in revenue and potential for diversion of regular rail traffic.	While admitting the audit finding as partial correct, Railway Board revised the freight tariff (RC No. 30 of 2010 effective from) by stipulating separate rates for nine commodities (predominantly carried by IR) equal to IR rates minus a percentage allowance to container operators.

1.10 Paragraphs on which Action Taken Note received/pending

To ensure the accountability of the Executive on all issues dealt with in the Report of the Comptroller and Auditor General of India, the PAC had decided (1982) that the concerned Ministries/ Departments of the Government of India should furnish corrective/ remedial Action Taken Note (ATNs) on all paragraphs contained therein and had further desired in their Ninth Report (Eleventh Lok Sabha) presented to Parliament on 22 April 1997 that henceforth corrective/ remedial ATNs, duly vetted by Audit, on all paragraphs included in the Reports be furnished within four months after the Report was laid on the table of the Parliament.

The position of ATNs furnished by the Railway Board (January 2012) on the paragraphs included in the Reports of the Comptroller and Auditor General of India – Union Government (Railways) up to the year ended 31 March 2011 is given below:

Year	Total para	No. of para on which ATN Finalized	No. of Paragraphs on which ATNs are pending				
			Not received	ATN on which comments sent to Railway Board	ATNs finally vetted	ATN under verification by Audit	Total
1996-97	95	94	0	0	1	0	1
1997-98	96	95	0	1	0	0	1
1998-99	106	104	0	0	0	2	2
1999-00	101	99	0	1	1	0	2
2000-01	101	98	0	2	0	1	3
2001-02	101	90	0	8	1	2	11
2002-03	110	105	0	2	3	0	05
2003-04	114	101	0	11	1	1	13
2004-05	105	91	0	7	4	3	14
2005-06	138	117	0	15	3	3	21
2006-07	165	112	0	28	14	11	53
2007-08	172	106	0	41	11	14	66
2008-09	104	51	0	31	8	14	53
2009-10	59	4	29	8	2	16	55
Total	1567	1267	29	155	49	67	300

ATNs in respect of nine Paragraphs relating to the Report for the year 2009-10 were not furnished till January 2012. Besides, 163 ATNs received for vetting by audit were returned with observations for lack of adequate remedial action. In 71 cases, the action stated to have been taken was under verification by Audit.

Chapter 2: Traffic - Commercial and Operations

Traffic Department comprises two main streams – Commercial and Operations. The commercial department is responsible for marketing and sale of transportation provided by a railway, for developing traffic, improving quality of service provided to customers and regulating tariffs of passenger, freight and other coaching traffic and monitoring their collection, accountal and remittance.

The Operating department is responsible for planning of transportation services – both long-term and short-term, managing day to day running of trains including their time tabling, ensuring availability and proper maintenance of rolling stock to meet the expected demand and conditions for safe running of trains.

At the Railway Board level, the traffic department is headed by Member (Traffic), who is assisted by Additional Members/ Advisors. At the zonal level, the operating and commercial departments are headed by Chief Operations Manager (COM) and Chief Commercial Manager (CCM). At the divisional level, the operating and commercial departments are headed by Senior Divisional Operations Manager (Sr. DOM) and Senior Divisional Commercial Manager (Sr. DCM).

The total expenditure of the Traffic Department during the year 2010-11 was ₹7,796.78 crore. During the year, apart from regular audit of vouchers and tenders etc., 856 offices of the department including 636 stations were inspected.

This chapter includes four thematic studies conducted across Zonal Railways covering freight and passenger services, freight policy of enhanced loading and concessional tariffs.

- **Up-Gradation of Goods Sheds** - The study revealed that increase in rake turnover was hampered due to deficient planning and delays in implementation. There were immediate positive gains in terms of reduced detention in the limited number of cases where the Goods Sheds were upgraded, though in some others, these resulted in a decline.
- **MEMU/DEMU Services in Indian Railways** - The study revealed that besides improper planning of train services and inadequacies of maintenance facilities, there were delays in commissioning of new coaches meant for replacement of conventional trains.
- **Running of freight trains with enhanced loading in wagons up to CC+8+2** - The study revealed that the progress made by Railways in providing requisite equipment for safe running of trains was far from satisfactory. It also revealed that though the IR had achieved the objective of increasing their earning but simultaneously the expenditure on account of frequent wear and tear to rails and extensive damages to wagons parts such as CBC, draft gears, wheels and Axles assemblies, brake gears, etc. had also increased.
- **Movement of traffic at Train Load Class Rates** - The study revealed stations/sidings were notified as capable of handling full rake traffic regardless of the actual facilities available. This had not served the purpose

of achieving economy by avoiding the detention as placement of wagons for loading/unloading continued to be done in a piece meal fashion causing incurrence of extra operational cost.

In addition, this chapter incorporates seven paragraphs highlighting individual irregularities pertaining to freight concessions, parcel leasing and its utilization and provision of quality service to passengers.

- Undue benefit of ₹1795.51 crore to consignors of iron ore traffic booked as domestic traffic without complying with the conditions for availing the freight concession.
- Loss on account of non-rationalization of freight tariff as per actual movement of freight traffic.
- Loss due to empty haulage of unutilized parcel vans.
- Sub optimal leasing of parcel cargo express leading to loss.
- Higher cost of linen service in departmentally managed trains without ensuring quality.
- Non-recovery of wagon hire charges at revised rate
- Loss due to heavy detentions to wagons

2.1 Up-Gradation of Goods Sheds

Executive Summary

The Eleventh Five Year Plan (2007-2012) had projected a growth of freight traffic exceeding 1000 Million Tonne by end of the Plan period and anticipated infrastructural capacity constraints as a key factor. Apart from long-term projects, the Plan had also laid emphasis on short-term works that were expected to yield high returns for achieving quicker wagon turnover and increased throughput. The Budget speech 2007-08 thus announced the initiative of the Ministry of Railways to develop basic facilities at freight terminals handling more than 15 rakes per month (200 Goods Sheds), over next three years. Consequently, the Ministry of Railways (Railway Board) initiated action (June 2007 & March 2008) to upgrade 100 Goods Sheds. The facilities to be provided included full length lines 1, 2 or 3 as per volume of traffic, Rail level(RL)/High level (HL) platform with covered shed, pucca circulating/handling area, all weather approach road, including lighting for facilitating night unloading/loading, etc. A committee of Sr.DCM, Sr.DEN (Co-ord), Sr.DFM and Sr.DEE of the concerned Division was to inspect the infrastructure existing in the Goods shed and quantify the requirement to prevent over or under provision of works.

Audit scrutiny of the implementation of Railway Board's decision to upgrade 100 Goods Sheds initiated in June 2007 and March 2008 for the period 2007-08 to 2010-11 revealed that Divisional Committees for examination of infrastructure requirement were not formed in eight zones. Though 100 Goods Sheds were planned to be upgraded, works in only 53 Goods Sheds were sanctioned out of which works in nine Goods Sheds were completed (October 2011), in 15 not started, in 27 the works were in progress and in two the works were dropped. There was under utilization of budget allotment by the Zonal Railways as a whole during the entire period. The total surrender/lapse of fund was more than fifty percent of budget grant in case of six Zonal Railways while total expenditure exceeded fifty percent of Final Grant in case of three Zonal Railways. Moreover paucity of funds delayed completion of work in 12 Goods Sheds. Further, as per the scope of works finalized, adequate number of lines as per the norms were not provided in 19 Goods Sheds, lighting arrangements found deficient at eight Goods Sheds, cover over the full length of platform and pucca circulating area was not provided at 28 and 24 Goods Sheds respectively and all weather approach roads were not provided at 21 Goods Sheds. Non-commencement and non-completion of up-gradation works (36 Goods Sheds) in 15 zones resulted in continued detention of wagons with loss of earning capacity of ₹229.36 crore (approx.) per annum. In nine upgraded Goods Sheds, rake handling increased in

seven and declined in two whereas the detention increased in three while there was no change in two. Audit also examined up-gradation works of 23 Goods Sheds (other than those initiated in pursuance of Railway Board's letters of March 2007 and June 2008) completed during 2007-08 to 2010-11 and found that in 13 Goods Sheds there was increase in average rake handled per month followed by decline in detention per wagon in four Goods Sheds. There was decline in average rake handled per month in eight upgraded Goods Sheds. In 10 upgraded Goods Sheds there was increase in per wagon detention. Further in six Goods Sheds newly created at a cost of more than ₹32.25 crore, the infrastructure remained grossly underutilized due to planning failure arising from lack of consultation with main customers, lack of approach road, cross over line, full length line etc.

2.1.1 Introduction

Freight traffic constituted more than 65 per cent of total revenue earnings of the Indian Railway as on March ending 2011. The XI Plan (2007-12) had projected growth in freight traffic exceeding 1000 million tonnes by the end of the plan period based on assumed scenario of 8 per cent Gross Domestic Product growth per annum and had identified infrastructural capacity as a critical factor in assisting the growth and therefore had laid emphasis on both short-term and long-term projects for augmenting /easing capacity constraints. Terminal capacity is an important determinant of carrying capacity affecting the flow of freight trains. Apart from shortage of wagons, IR is handicapped in terms of inadequate rake handling facilities at a number of sidings/ Goods terminals hampering speedy turnover of wagons. As per XI Plan, Indian Railways had 1772 full rake and half rake Goods terminals including sidings (Broad Gauge and Meter Gauge) out of which, 996 were Goods Sheds. The XI Plan had made specific budget allocations for up-gradation works of sidings/ terminals in order to enable them to cater to additional traffic.

In pursuance, the budget speech of Minister of Railways 2007-08 announced that Railways had decided to develop basic facilities at freight terminals handling more than 15 rakes per month (200 Goods Sheds), over next three years. Further, the Ministry of Railways (Railway Board) in April 2007 identified 50 Goods Sheds over the Zonal Railways to be upgraded/ augmentation works. This was followed by prescription of norms (June 2007) for laying of length line and desirable standard of facilities to be provided at the Goods Sheds as below:

a.	Less than 15 rakes per month	1 full length line
b.	15-29 rakes per month	2 full length lines
c.	Greater 30 rakes per month	3 full length lines with at least 1 High level Platform with covered shed.

Chapter 2 Traffic – Commercial and Operations

The desirable facilities, inter-alia, pertained to the type of platform, with or without covered shed and requirements of pucca circulating/handling area, all weather approach road, lighting for facilitating night unloading/loading, etc

The Railway Board invited further proposals for identifying 50 more Goods Sheds out of a probable list of 137 circulated (March 2008) to all the Zonal Railways. The list of identified Goods Sheds was to be furnished to Railway Board by 31st March 2008.

2.1.2 Audit Objective

Audit had previously reported cases of huge detention of wagons on account of inadequate handling facilities at stations/sidings causing loss of revenue. The Ministry had responded in some cases and taken action on a case by case approach. Audit Report No.6 of 2007 had also pointed out instances of stations/sidings notified for handling rake load traffic without ensuring adequate capacity. The Public Accounts Committee in their 19th Report presented to 15th Lok Sabha had desired that Railway Board should augment their efforts for speedy and proper up-gradation of terminal facilities.

Audit therefore took up the subject to evaluate the success of implementation of the works identified with reference to

- Efficiency in planning and execution of works at selected sidings/Goods Sheds as envisaged in the norms
- Impact on freight loading in terms of detention

2.1.3 Audit Methodology and Scope

The relevant records of concerned departments (Operating, Commercial, Civil Engineering including Construction Organization, Mechanical, Electrical, Signal and Telecommunication and Accounts) at Zonal Headquarters, Divisional Headquarters and at field units were examined in all Zonal Railways. The relevant Board instructions, Plan documents, manuals, etc. were duly considered.

The scope of Audit covered a period of four years from 2007-08 to 2010-11.

2.1.4 Sample size

All the Goods Sheds identified for up-gradation in terms of directives from Railway Board in April 2007 and March 2008 were taken up for Audit examination. In addition, 23 Goods Sheds out of 57 Goods Sheds locally identified where up-gradation works were completed during review period were test checked. Another six cases of newly created Goods Sheds where the performance was far less than the projected work estimates and two other Goods Sheds where detention of wagons was considerable but not included in up-gradation plan yet and noticed in regular audit/inspections were also covered.

2.1.5 Audit Findings

2.1.5.1 Failure in constituting Divisional Committee

As per the Railway Board's instructions, a committee of Sr. Divisional Commercial Manager, Sr. Divisional Engineer (Co-ord), Sr. Divisional Financial

Manager and Sr. Divisional Electrical Engineer of the concerned Division were to inspect the infrastructure existing in the Goods Sheds and quantify the requirement to prevent over or under provision of works. The proposal of up-gradation was to be submitted to Railway Board by 30th June 2007. In eight¹ Zonal Railways, the Divisional Committees were not formed. In CR, only in one division (Bhusawal) out of the three divisions where the works were taken up, the Divisional Committee was formed. The Divisional Committee formed by SECR did not include Sr. DFM.

2.1.5.2 Delay in submitting proposal and delay in sanctioning the works

Out of the 50 Goods Sheds initially identified by the Railway Board in April 2007, the Zonal Railways submitted total proposals for up-gradation of 42 Goods Sheds by December 2008. Only two Zonal Railways (SR & WCR) had submitted the proposals by the due date (June 2007). The reasons held out in five cases for not sending the proposals were (i) up-gradation work of Goods shed was already taken up as part of gauge conversion (Hissar in NWR), (ii) one Goods shed did not fall within the criteria due to less number of rakes handled (Mandideep-WCR), (iii) being private siding, with station land locked with no scope for development (Sankval in SWR) (iv) the work of development was already completed in March 2007 (Aligarh Junction and Kanpur in NCR) and in respect of remaining three, the reasons were not on record. Out of the 42 Goods Sheds for which proposals were sent by Zonal Railways, the Railway Board finally sanctioned the works on 38² Goods Sheds- 10 sanctioned in or prior to 2007-08, 20 sanctioned in 2008-09 and two in 2009-10 and in remaining six cases, the information was not made available. The delay in submitting the proposals resulted in the delayed sanction of works.

In addition, works in two Goods Sheds – Yamuna Bridge and Rairu of NCR - were also sanctioned in 2007-08 by the Railway Board for up-gradation for which no proposal was sent by Zonal Railway.

Further, in response to another probable list of 137 Goods Sheds circulated by the Railway Board on 19 March 2008 for identifying for up-gradation of 50 more cases on priority by the zones for inclusion in the approved Works Programme 2008-09, the Zonal Railways submitted proposals of up-gradation works for 60 Goods Sheds, out of which works only in 13³ Goods Sheds were approved by the Railway Board. The reasons for non-approval of the remaining Goods Sheds were neither reported to Zonal Railways nor on record of the Zonal Railways. Works in these 13 Goods Sheds were sanctioned in 2008-09 (3), 2009-10 (7), and 2010-11 (3) respectively instead of 2008-09 as originally envisaged.

¹ ER, NCR, NER, NWR, SR, SCR, SER and WR.

² CR-4, ER-2, ECR-3, ECoR-1, NR-4, NER-3, NFR-3, NWR-1, SR-2, SCR-1, SECR-1, SER-4, SWR-1, WR-6, WCR-2

³ CR-1, ER-1, ECoR-1, NR-3, NER-2, SR-1, SER-1, SECR-2, SWR-1

2.1.5.3 Shortfall in number of works sanctioned

Thus, works in only 53 Goods Sheds were sanctioned by Railway Board by 2010-11 against the planned programme of 100 Goods Sheds. Subsequently two Goods Sheds (Gonda and New Chhapra Kacheri) though sanctioned were dropped.

2.1.5.4 Fund Management

During 2007-08 to 2010-11, the total budget grant for 51 Goods Sheds was ₹131.88 crore against which ₹113.19 crore were actually spent. The position of budget allotment and actual expenditure on up-gradation of Goods Sheds is given in Table below:

Items	2007-08	2008-09	2009-10	2010-11	Total Amount (₹ in crore)
No. of Goods sheds	8	31	47	51	
Budget Grant (BG)	7.75	17.65	48.82	57.66	131.88
Final Grant (FG)	6.01	16.54	43.13	40.09	105.77
Actual Expenditure (AE)	1.88	13.46	45.89	51.96	113.19
Excess/Saving BG-AE	(-)5.87	(-)4.19	(-)2.93	(-)5.71	(-)18.70
Excess/Saving FG-AE	(-)4.13	(-)3.08	(+)2.76	(+)11.86	(+)7.41
% of Expenditure w.r.t. BG-AE	24.23	76.27	93.99	90.10	85.82
% of Expenditure w.r.t. FG-AE	31.24	81.40	106.41	129.59	107.02

There was under utilization of budget allotment by the Zonal Railways as a whole during the entire period. The actual utilization of funds was the lowest (24.23 per cent) during 2007-08 and improved (76.27 per cent) during 2008-09. During 2009-10 & 2010-11 the final grants fell short of the actual expenditure that had picked up momentum in terms of original budget allotment during 2009-10 (93.99 per cent) and 2010-11 (90.09 per cent) respectively. Zone-wise analysis further revealed:-

- The total surrender/lapse of fund was more than fifty per cent of budget grant in case of six Zonal Railways (SR, NFR, NWR, ER, SCR and SECR)
- Total expenditure exceeded 50 per cent of Final Grant in case of three Zonal Railways (ECR, SER and SWR) after unnecessary surrender/ withdrawal of Budget Grant.
- In ER out of total Budget Grant of ₹ 12.41 crore (Final Grant of ₹9.37 crore) allotted during the years 2007-08 to 2010-11 for two Goods Sheds, only ₹0.003 crore was utilized.
- In SCR Budget allotment of ₹4.26 crore during 2008-09 to 2010-11 against one Goods Shed was totally surrendered/withdrawn as no expenditure was incurred.

- In ECR in respect of three Goods Sheds, against the budget allotment of ₹2.79 crore expenditure of ₹6.02 crore was incurred during 2009-10 to 2010-11.
- In SWR expenditure of ₹ 4.98 crore was incurred on one Goods Shed during 2010-11 whereas budget allotments were totally surrendered/withdrawn.
- The fund utilization with reference to final grant was more efficient in comparison in respect of ECoR, NCR, NER, CR, SR, WCR and WR as the expenditure was 85, 89, 99, 103, 91, 106 and 110 per cent respectively. Further one of the main causes of delay in completion of work was attributed to paucity of funds in 12 cases of Goods Sheds by six Zonal Railways as discussed in the subsequent paras.

Thus, ineffective financial management in most of the Zonal Railways adversely affected the progress of works. The incurrence of expenditure without allotment of funds or far in excess of allotted funds also denoted weak financial controls.

2.1.5.5 Execution of works

Shortfall in facilities incorporated in the scope of work finalized for execution

Audit reviewed the quality of compliance as regards the scope of works planned and taken up for execution by the Zonal Railways, especially in view of the fact that creation of some of the desirable facilities at both the loading and unloading points would enhance customer value. It was seen that:

- Out of the 53 Goods Sheds selected for up-gradation works, adequate number of lines as per the norms were not provided in respect of 19⁴ Goods Sheds. Audit observed that only in five Goods Sheds, the Divisional Committees to inspect and recommend required facilities as stipulated by Railway Board were constituted, whereas in nine of these Goods Sheds, these committees were not constituted and in remaining five cases, information was not available.
- Cover over the full length of platform was not provided at 28 Goods Sheds, out of which in 13⁵ Goods Sheds, the commodities dealt with were cement, food grains, fertilizers etc. for which cover over full length of platform was required. Out of these only in five cases Divisional Committees were formed; and in eight cases these Committees were not formed.
- Adequate lighting arrangements were not provided at eight⁶ Goods Sheds.
- Pucca circulating area was not provided at 24 Goods Sheds.
- All weather approach roads were not provided at 21 Goods Sheds.
- Further, none of the plans for up-gradation of Goods Sheds was included all the envisaged facilities.

⁴ CR-4, ER-1, ECoR-1, NR-1, NCR-1, NER-3, NFR-2, SR-1, SER-5

⁵ Jalgaon (CR), Dankuni (ER), Cuttack (ECoR), Yamuna Bridge (NCR), New Jalpaiguri, New Guwahati, Changsari (NFR), Kanakpur (NWR), Tiruchirapalli, Tiruppur (SR), Balasore, Jharsuguda, Tatanagar (SER).

⁶ ECR-1, ECoR-1, NR-1, SR-2, SER-1, SECR-2

The large shortfall in facilities incorporated in the plans indicated despite laying down standards, enough thought had not been given to planning of the scope of works so as to achieve the goal of providing better value to the customer.

(Annexure I)

Delay in commencing the works

The status of works as on 31 March 2011 in 53 Goods Sheds sanctioned by Railway Board was reviewed by audit.

In 15 Goods Sheds, works were not yet started (March 2011). Out of these, eight were sanctioned in 2008-09. The works were held up on account of delay in finalization of work estimates, tender finalization, non availability of land etc

- Whereas in 27⁷ Goods Sheds the works were in progress (March 2011).
- After incurring an expenditure of ₹1.00 crore, the work at Gonda Goods shed in NER was dropped with the approval of General Manager due to severe constraints of proper approach road.
- NER also proposed to drop New Chhapra Kacheri due to lack of space to provide covered shed and platform.
- Thus works were completed only in 9⁸ Goods Sheds. From the above, it was seen that only 18 per cent of the works sanctioned by the Railway Board had been completed (March 2011).

While delay in submission of the proposal for sanction by the Railway Board translated into delayed start, the works were actually commenced in two, 11, 14 and nine Goods Sheds in the year 2007-08, 2008-09, 2009-10 and 2010-11 respectively. Out of these, at least in 12 Goods Sheds, paucity of funds was stated to be affecting the progress of work. In others, reasons such as non-availability of traffic block (three), non-availability of clear site (four), tender/contract delays (one), delay in finalizing the plans & detailed estimates (eight) etc., were cited.

(Annexure II)

The following two typical cases bring out lack of proper planning and co-ordination affecting speedy completion of works:

- In Sanatnagar, the SCR initially proposed the work of developing the Goods shed without assessing the requirement and existence of infrastructure by the Divisional Committee. In the justification, it was stated that by development of full length lines, direct reception facilities and round the clock working, the incremental traffic of 10 to 15 rakes per month could be achieved. Though the work with an estimated cost of ₹8.00 crore was approved by the Railway Board in 2008-09, SCR proposed to drop the work on account of obstruction of Electrical Sub-Station, Manjeera pipe line etc. This was not agreed to by the Railway Board. Accordingly SCR submitted detailed modified estimate for development of terminal facilities excluding direct connectivity towards Wadi end and included yard remodelling to Railway Board that approved the same at an estimated cost of ₹10.35 crore. However,

⁷ CR-2, ECR-3, ECoR-1, NR-4, NCR-2, NER-1, NFR-2, NWR-1, SR-2, SWR-1, SER-3, WCR-1, WR-4

⁸ CR-2, ECoR-1, NFR-1, NR-2, SECR-1, WCR-1, WR-1

the work had not been executed so far with funds allotted being surrendered and the goal of anticipated incremental traffic of 10 to 15 rakes per month thus remained uncertain. When the matter was taken up by Audit, South Central Railway Administration replied that the delay in execution was due to lack of clarity on development of freight terminal vis-à-vis world class station at Secunderabad that might involve criss-cross movement of trains. While this case exemplified lack of co-ordination between Zonal Railway and the Board, the long delay in commencement of the works (three years) was sure to hamper the operational efficiency and the revenue goals.

- In ECoR, the Jajpur Keonjhar Road Goods shed near Cuttack on Chennai – Howrah mainline is an iron ore loading point and TISCO was the major customer. Some portion of the land premises of the shed was leased to TISCO for storing iron ore etc. This shed had one full length and two half length lines which were proposed to be converted to full length. The development of full length line necessitated the use of some portion of land leased to TISCO. Senior Divisional Operations Manager, Khurda Road Division had requested the Commercial Department (April 2007) to get the plot vacated by TISCO because this was required by Railways for use by other parties too for loading. This was not done. However the up-gradation work was approved by Railway Board in February 2009 and contract was awarded in May 2010 at a cost of ₹3.17 crore without obtaining possession of land leased to TISCO. As such, the work had to be stopped after incurring expenditure of ₹1.24 crore for want of availability of land occupied by TISCO on lease. Due to failure on the part of Railway Administration to get their plot vacated, the expenditure of ₹1.24 crore incurred for the work of up-gradation became unfruitful. Besides, the possible increase in revenue (assessed at ₹5.00 crore per annum) from freight offered by other customers, could not be achieved.

A test check of the detention of wagons for the period January to March 2011 in 44 Goods Sheds (where works were in progress or works yet to be commenced and works dropped) revealed that in 36 Goods Sheds in 15 Zonal Railways, there was heavy detention of wagons excluding a reasonable time of 15 hours per rake for handling fixed by Railway Board. The position of detention and consequential loss of potential revenue is reflected in the Table given below:

Name of Railway	Name of Goods shed	No. of wagon days detained	Total of loss of earning capacity (₹) in crore
CR	Turbhe	3908	3.17
ER	Durgapur, Dankuni	8371	6.80
ECR	Narayanpur Anant, Fatuah, Danapur	8127	6.60
ECoR	Jajpur Keonjhar Road	2644	2.15
NR	Delhi Kishanganj, Ballabgarh, Ghaziabad, Chandigarh, Moga	10015	8.13
NCR	Yamuna Bridge, Rairu	1716	1.39
NER	Rudrapur City, Gonda, Ballia	12081	9.81

Name of Railway	Name of Goods shed	No. of wagon days detained	Total of loss of earning capacity (₹) in crore
NFR	New Jalpaiguri, New Guwahati	10320	8.38
NWR	Kanakpura	2092	1.70
SR	Tiruppur, Tiruchirappalli, Korukkupet	2690	2.18
SCR	Sanatnagar	497	0.40
SER	Tatanagar, Jharsuguda, Barbil, Noamundi, Balasore	3989	3.23
SEC	Tilda, Belha	1774	1.44
SWR	Sasalu, Sanvordam	1134	0.92
WR	Navalakhi, Boisar, Chirai	1267	1.02
15	36	70625	57.34
			57.34
Proportionate annual loss of earning capacity (57.34 X 4) =			₹229.36

The proportionate recurring annual loss of earning capacity worked out to ₹229.36 crore. This did not consider the potential earnings that would have accrued had the additional rakes materialized as anticipated on creation of enhanced facilities.

2.1.5.6 Completed works

Audit reviewed nine Goods Sheds in which works were completed and also the impact on traffic handled before and after commissioning of the Goods Sheds:

Delay in completion of works

It was noticed that there was delay in completion of works ranging between six months and 14 months in seven Goods Sheds (except in two Goods Sheds – Kalumna-SECR and Changsari-NFR). Out of these, in two Goods Sheds (Ahmednagar and New Mulund) the delay was attributed to paucity of funds and in others, obstruction at site, delay in finalization of plan and estimates etc.

(Annexure II)

Inadequacy of facilities provided

It was also found that all the facilities such as adequate number and length of lines as per norms fixed by Railway Board were not provided in three Goods⁹ Sheds where up-gradation works had been completed.

- In CR, it was noticed that at Ahmednagar Goods Shed, two works – High level platform for full length line of 715 metres and cover over the platform – was sanctioned in 2007-08 and 2008-09 respectively. The Divisional Railway authorities combined the works and took up as a single work in 2008-09 and completed in January 2010. However, neither full length high level platform (only 400 metres provided), nor cover over platform was provided to the full length (only 200 metres provided).
- It was also noticed that in Solapur Goods shed, though two works – “High Level Platform with covered shed for 40 BCN on new jumbo rake siding”

⁹ New Mulund, Cuttack, Govindgarh.

and “Provision of connectivity of new jumbo rake siding towards Wadi end” were sanctioned by Railway Board in 2008-09, only one work was taken up by the Railway Administration and the second work was not taken up as it was not found feasible to provide connectivity due to existence of FCI godown in the alignment. Though Railway Board insisted on preparation of the detailed estimate for this work, the same had not been prepared by CR as yet (March 2011).

Impact on traffic

Audit reviewed the performance of nine up-graded Goods Sheds in terms of rakes handled (six months prior to up-gradation and after up-gradation period till March 2011) and earnings six months before and after up-gradation and detention of wagons three months prior to up-gradation and after up-gradation. (Table below)

Railway	Name of Goods Sheds	Date of commissioning	Rakes handled (Average per month) prior commissioning	Rakes handled (Average per month) after commissioning	Detention per wagon prior to commissioning	Detention Per wagon after commissioning
1	2	3	4	6	8	9
NR	Muzaffar nagar	07.04.11	20	25+	0.27	0.26(-)
NFR	Changsari	30.04.07	21.67	24+	0.38	0.27(-)
SECR	Kalumna	10.02.09	17.17	20+	0.87	1.14+
WR	Dewas	01.09.10	9.33	13+	0.21	0.18(-)
WCR	Gosalpur	28.10.09	5.17	18+	0.57	0.54(-)
CR	Ahmednagar	30.01.10	27.92	26.89(-)	0.39	0.45+
NR	Govindgarh	01.06.10	37.33	24.83(-)	0.22	0.22(=)
CR	New Mulund	10.11.10	32	35+	0.43	0.45+
ECOR	Cuttack	30-10-09	38.17	48+	0.75	0.75(=)

As expected, the average rakes handled increased in seven Goods Sheds (CR-1, ECoR-1, NR-1, NFR-1, SECR-1, WR-1 and WCR-1) but the corresponding detention declined in only four Goods Sheds (NR-1, NFR-1, WR-1 & WCR-1) whereas detention increased in two Goods Sheds (Kalumna -SECR& New Mulund -CR) and remained unchanged in one Goods Shed (Cuttack-ECOR).

The increase in detention in respect of New Mulund was attributed to commercial account (more time taken by parties for loading/unloading) by CR and was not acceptable, as the detention assessed by Audit had already factored detention on commercial account into the calculation. Audit found that no Divisional Committee to study and recommend the required facilities was constituted for this siding as envisaged in the Railway Board’s policy. Further number of lines as prescribed by Railway Board norms was not provided

In respect of Kalumna, bunching of Goods trains and waiting for locos were cited as contributory factors for increase in detention. Further prescribed facilities such

as Rail level platform, covered shed, pucca circulating area and all-weather approach road were not provided. Audit observed that the Divisional Committee constituted for this Goods Shed was incomplete due to non-inclusion of Sr.DFM.

On the contrary, the handling of rakes decreased in two Goods Sheds (Ahmednagar-CR & Govindgarh-NR) despite commissioning of additional facilities. Also this was followed by increase in detention in Ahmednagar Goods shed (CR) with no change in Govindgarh Goods shed (NR). Audit observed that the Divisional Committee was not constituted for Ahmednagar Goods shed. Further prescribed facilities such as High level/ Rail level platform and cover over platform were not provided as per the norms. Number of lines as per Railway Board's norms was also not provided in Govindgarh Goods shed (NR).

It was not clear whether Railway Board/Zonal Railways had taken steps to review the performance of the Goods Sheds after commissioning and in particular, the reasons for increase in detention in the three cases mentioned above as well as the decline in rake handling in two other cases were not readily apparent. As the Divisional Committee was not formed in three out of nine upgraded Goods Sheds, it was not verifiable whether the facilities created and upgraded were commensurate with actual requirement.

2.1.5.7 Up-gradation works completed during 2007-08 to 2010-11 other than those identified by Railway Board in 2007 & 2008.

In addition to the works specifically sanctioned by Railway Board, Audit test checked 23 cases out of total 57 completed works in six Zonal Railways during 2007-08 to 2010-11 to evaluate the performance in terms of rakes handled and detention of wagons. For the purpose, the following periods were covered:

- Average per month rakes handled over a period of six months prior to and after commissioning of facilities till March 2011
- Average monthly detention per wagon for a period of three months prior/after commissioning (Table below):

Railway	No. of Goods Sheds test checked	Cost of construction ₹in crore	Rakes handled (No of Goods Sheds)			Detention (No. of Goods Sheds)		
			Incr	Decr	NA	Incr	Decr	NA
CR	9	5.23	5	2	2	5	1	3
ER	4	*5.49	3	1	0	2	2	0
NCR	3	NA	2	1	0	1	2	0
SR	2	2.69	1	1	0	1	1	0
SCR	2	6.74	2	0	0	0	2	0
SECR	3	NA	0	3	0	1	1	1
Total	23	20.15	13	8	2	10	9	4

* in respect of 3 goods Sheds

Out of the 23 upgraded Goods Sheds, rakes handled had increased in 13 Goods Sheds and had declined in 8 cases. In the remaining two Goods Sheds (Manmad

and Daund in Central Railway), the information was not available. Further, it was observed that -

- The increase in rake handling in 13 Goods Sheds was followed by decline in detention in four Goods Sheds cases, as expected. However, in seven Goods Sheds [Bhigwan, Latur, Rajur and Nagothane in CR (four), Raniganj and Siuri in ER (two) and BAD in NCR] despite increase in rake handling, the detention had increased. The reasons for increase in detention were not readily available in two cases (Nagothane in CR & BAD in NCR). In the remaining five, the increased detention was on account of the following:-
 - The unloading area provided at Bhigwan (CR) was not adequate to accommodate the unloaded consignments. Moreover, the vehicular movement was restricted on account of convergence of two lines.
 - At Latur (CR) exit points were not available at both ends. There was delay in arrival of locomotives for removal of unloaded wagons.
 - At Rajur (CR) weighment facilities were not available and there was delayed supply of locomotives.
 - The increase in detention at Siuri (ER) was attributed to ongoing doubling work as well as delay in completion of signaling upgradation.
 - At Raniganj (ER) despite the fact that commodities handled were sugar and cement, no provision for covered shed was made. Moreover, truck entry during the day time was restricted.
- In nine Goods Sheds where the rake handling had declined leading to decline in detention in five [Saswad Road (CR), Bongaon (ER), Etah (NCR), Angamali (SR) and Durg (SECR)], there was increase in detention in three Goods Sheds [Kherwadi (CR), Kalamassery (SR) and Kharsia (SECR)]. In the remaining goods shed [Uslapur (SECR)], the information regarding detention was not available. The reasons for increase in detention were not available except for Kalamassery where the same was attributed to lack of lighting facilities, inadequacy of concrete paving and presence of three Overhead Electric masts causing hindrance to the movement of road vehicles.

The decline in the performance of a few upgraded Goods Sheds in terms of increased detention (as discussed above) is a matter of concern as despite investment in infrastructures, the Railways had not succeeded in reducing detention. Above analysis also revealed that some of the inadequacies such as provision of covered shed, weighment facilities etc could have been appropriately addressed at the planning stage. Further, need for matching efficiency in supply of locos to clear increased rake handling was also clearly indicated. Finally, there was no information on record to gauge why the average rakes handled per month had declined in nine cases after the Goods Sheds were upgraded.

(Annexures III & IV)

2.1.5.8 Newly created Goods Sheds

Audit had also examined the following cases of six newly created Goods Sheds during 2007-08 to 2010-11 and observed that the actual handling of rakes was far less than projected resulting in under-utilization of the infrastructure. On the other hand, few cases of chronic detention at existing Goods Sheds due to infrastructural constraints were also noticed that were not addressed by the Zonal Railways as detailed below:

Infructuous expenditure due to defective planning

Mundiyampakkam (MYP) Goods shed - SR

The Villupuram (VM) Goods shed (Southern Railway) near Tindivanam on the route Chennai – Trichy was the main Goods handling point for Food Corporation of India (76 per cent) and other private parties (24 per cent) till 2007-08. During the Gauge Conversion of Villupuram – Katpadi (KPD) section, in anticipation of growth in freight traffic, the Divisional authorities proposed to develop Villupuram as an exclusive coaching terminal by shifting the Goods terminal to Mundiyampakkam (MYP), 6.3 kms away from Villupuram towards Chennai as a part of doubling of Villupuram- Chengalpattu (CGL) section.

However, Zonal Railway did not ascertain whether the existing main customer (FCI) would agree to handle their traffic at the proposed new location and whether FCI had made suitable arrangements for stacking their stock at Mundiyampakkam. The Goods shed at VM was closed (September 2008).

The new Goods shed at Mundiyampakkam constructed at a cost of ₹10.34 crore was opened for traffic (September 2010). The new shed had two full length lines (approx cost ₹2.00 crore) and 720m long and 20m wide island concrete platform etc (approx cost ₹8.34crore). The facilities thus provided were meant for the handling of minimum 15 rakes as per Railway Board norms. However, audit observed that the traffic exclusively pertained to FCI and only five rakes were handled during the period September 2010 to March 2011.

As such, Railway's decision to shift Villupuram Goods shed to Mundiyampakkam was not a prudent decision that resulted in grossly unfruitful additional expenditure to the extent of ₹7.55 crore. Railway Administration in reply (November 2011) stated that the facilities provided as part of Goods shed included one full length spur: however the pavement was arranged in such a way for placement for additional rake and average 5.4 rakes were handled during April 2011 to August 2011. The reply was not acceptable as the new Goods shed created at a cost of ₹ 10 crore remained under utilized.

Goods shed at Chidambaram - SR

During the Gauge Conversion of Villupuram- Mayiladuthurai section (Southern Railway), the work for providing Goods shed at Chidambaram was also taken up. Two Goods spurs with an island rail level platform, a Goods shed office and separate rooms for Freight Operation Information System (FOIS), traders and laborers were constructed at a total cost of ₹2.70 crore. The Goods shed opened for the traffic with effect from 30 June 2010 could not be utilized as the approach road meant for truck movement from shed to FCI godowns had a hair pin bend at

the flyover affecting easy movement of trucks. While taking up the work of providing a clear approach road for the use by the customer, Railway should have anticipated the problem and taken corrective steps. The adverse road conditions were likely to continue to prevent Goods shed facility created at a cost of ₹2.70 crore not being profitably utilized in the near future. Railway Administration in reply (November 2011) stated that efforts were underway to improve the connectivity of road by FCI in association with State Government. The Goods shed opened for traffic in June 2010 was yet to be utilized (November 2011)

Goods shed at Talit - ER

The Talit Goods shed (ER) on the route Howrah – Asansol - Dhanbad and Howrah – Asansol – Patna (constructed at a cost of ₹4.75 crore) was commissioned in January 2008 to ease the traffic load at Barddhaman Goods shed was declared open for traffic in February 2008. However, due to lack of crossover line, the accessibility from main line to direct delivery line was restricted, besides which the merchant community was unwilling to shift operation to Talit due to lack of adequate infrastructure. Thus the traffic of Barddhaman Goods shed could not be diverted to Talit which remained largely inoperative. As a result, Barddhaman Goods shed continued to operate with huge detention of 6551 wagons involving 173 rakes due to operational constraints and the Railway suffered loss of earning capacity of ₹7.75 crore during the period from April 2008 to March 2011. The matter was taken up in Audit with the Railway Administration (November 2010). The Railway Administration stated (January 2011) that all the major infrastructural facilities except one or two were already installed at Talit Shed. It was also stated that the unloading of rakes had already started at the Shed from December 2010. The reply was not acceptable as only one rake was booked to Talit and even this rake could not be taken directly to Talit due to non-completion of the Cross-over lines and had to be moved to Barddhaman and then brought back to Talit for unloading, causing an unnecessary extra haulage of 16 Kms.

Irugur Goods shed - SR

Irugur Goods shed on the route Salem- Podanur was commissioned in August 2010 to shift the activities of Coimbatore North Goods shed (CBF) at a cost of ₹6.12 crore. However, it was noticed that adequate infrastructural facilities were not provided at Irugur. Though two full length lines were planned, only one full length line was created and another line created could handle only 17 wagons.

This resulted in split placement of wagons leading to increased detention of rakes and loss of earning capacity of ₹0.09 crore for the period August 2010 to March 2011. Though Irugur was created to shift the activities of CBF, the CBF continued to handle more traffic. The number of rakes handled between August 2010 and December 2010 by CBF and Irugur was 46 and 44 respectively. Out of the 44 rakes handled at Irugur, only 16 were full rakes whereas out of the 46 rakes handled at CBF, 35 were full rakes. This indicated that no action to shift the activities of Coimbatore North was taken up even after commissioning of Irugur in August 2010.

Dadhapara Goods shed - SECR

Dadhapara Goods shed near Bilaspur on the route Howrah – Mumbai was built at a cost of ₹3.14 crore was commissioned in March 2010. As against the projected handling of 10 rakes per month after commissioning, the average handling of rakes for the period April to May 2010 was only 3.5 rakes per month which marginally increased to 3.66 rakes per month during the period January to March 2011. It was also noticed that the average detention of wagons increased from 1.57 days during April to May 2010 to 1.61 days during the period January to March 2011.

Cherlapalli Goods shed - SCR

The Cherlapalli Goods shed near Secunderabad on the route Secunderabad – Kazipet constructed at a cost of ₹5.20 crore was commissioned in April 2008. As against the projected handling of 20 rakes per month, the Goods shed handled only three rakes per month after commissioning.

2.1.6 Cases despite heavy detention were not taken up for up-gradation

In Central Railway, in the case of two Goods shed i.e. Bhusawal and Badnera, excessive detention of rakes resulted in a total loss of ₹ 8.04 crore during the period of 2008-09 – 2010-11. However, no proposal for up-gradation had been initiated in these cases.

Despite the directives of the Chairman Railway Board (August 2006) to create proper infrastructure immediately at all the Goods Sheds on Central Railway where excessive detention took place, the Zonal Railway had not provided adequate infrastructure to reduce the detention at these Goods Sheds. When the matter of excess detention was taken up by Audit, the Zonal Administration replied that the proposal for up-gradation at Bhusawal had been included in the Works Programme 2011-12. Reply in regard to upgrading proposal of Badnera, if any, was not communicated.

2.1.7 Conclusion

The initiative of the Ministry to adopt a focused approach by upgrading selected Goods Sheds for achieving increase in rake turnover was hampered due to deficient planning and delays in implementation. There were immediate positive gains in terms of reduced detention in a limited number of cases where the Goods Sheds were upgraded, though in some others, these resulted in a decline. It was essential to monitor the performance of the upgraded Goods Sheds on a continuous basis so that deviations from the expected performance were properly analyzed for better planning of outcomes. Audit study revealed that much scope for improved performance was possible with more thorough efforts in initial assessment of the requirements including consultation with main customers, where required, and careful monitoring of the sanctioned projects. These also included proposals for shifting of existing Goods Sheds or for creation of new Goods Sheds.

Recommendations

- *Divisional committees that have yet to be formed may be set up to review the scope of works planned vis-à-vis actual requirements and the norms prescribed as per Board policy and submit recommendations.*
- *The sanctioned projects should be monitored for completion within a time-bound frame and the performance of upgraded Goods Sheds be watched so that causes of decline in expected outcomes are analyzed for better planning.*

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

2.2 MEMU/DEMU Services in Indian Railways

Executive Summary

Since the introduction of Mainline Electrical Multiple Unit (MEMU)/Diesel Electrical Multiple Unit (DEMU) trains as commercial services in the Indian Railway system in 1993-94, there has been a growing demand from the commuting public near metros and other major cities to replace the conventional trains with the more efficient and faster moving Multiple Unit systems. The XI Plan had initially envisaged a requirement of 2200 coaches which was later reduced to 1380 due to production capacity constraints. During 2007-08 to 2010-11, Indian Railways had met 20 per cent of its total requirement of MEMU/DEMU coaches through indigenous coach production units. Given the paucity of coaches, the Committee of Executive Directors constituted by the Ministry (August 2006) had inter alia recommended optimum utilization of the existing facilities.

Audit reviewed the performance of the efficiency of these services in all the Zones for the period 2008-09 to 2010-11 with focus on rake management and their maintenance in the light of the ED's recommendations and other related Board Directives. The study revealed that there were delays in commissioning of 380 coaches on four Zones by 866 days. Improper planning of services resulted in under utilization of rakes consequently resulting in a loss of ₹102.84 crore. Non elimination of stoppages of Mail/Express trains resulted in loss of ₹4.08 crore. There were instances of avoidable empty haulage on account of long lead transportation of the coaches for maintenance due to scattered location of facilities. On SER a MEMU car shed at Kharagpur was created at a cost of ₹14.31 crore, but due to non-creation of adequate facilities, the coaches were being sent to Tikiapara a EMU car shed thus hampering MEMU services. There was excessive detention totaling 41,825 coaching days resulting in loss of revenue to the tune of ₹37.54 crore during 2010-11.

2.2.1 Introduction

Railways are the predominant mode of mass public transportation providing quick commutation from point to point at a reasonable and affordable cost. Growing urbanization of neighborhoods in and around metros and major cities has resulted in year on year increase in short distance inter-city commuter traffic. Railways introduced fast moving Mainline Electrical Multiple Unit (MEMU)/Diesel Electrical Multiple Unit (DEMU) fleet in the system, as commercial services in 1993-94, replacing slow moving conventional passenger trains to relieve traffic congestion and to meet the requirements of a growing commuting public. A MEMU/DEMU train is comparable to a fast mail/express train in speed with the characteristics of a suburban train for frequent stoppages involving less consumption of energy/fuel than a conventional electric/diesel engine. Further, these trains are suitable for covering short distances between cities/districts and easing the short lead passenger influx on important mail/express trains, thereby freeing the line capacity. Typically, a MEMU train consists of two motor coaches

and six trailer coaches that can accommodate twice the number of passengers than a conventional coach on account of provision for travel by standing.

The Ministry of Railways constituted a Committee of Executive Directors (August 2006) to examine, inter alia, the requirements of MEMU & DEMU coaches for the corporate as well as XI Plan 2007-12 in response to a Parliamentary Standing Committee's concern as regards lack of forward planning on future traffic growth. Based on the Committee of ED's Report, the XI Plan assessed a total requirement of 2200 MEMU/DEMU coaches. These projections were subsequently revised downward to 1380 coaches during mid-term appraisal of XI Plan in view the capacity constraints of indigenous coach production units i.e. Integral Coach Factory and Rail Coach Factory that had met about 20 per cent of overall requirement of MEMU/DEMU coaches.

Table. I : Proposed acquisition of MEMU/DEMU as per approved production programme and actual production by PUs

Year	MEMU (Ex RCF)		DEMU (Ex ICF)		Other Source		TOTAL Target
	Target	Actual	Target	Actual	MEMU	DEMU	
2007-08	32	33	33	24	168	160	393
2008-09	80	64	38	42	168	160	446
2009-10	64	55	66	38	156	160	446
2010-11	64	49	64	86	156	160	444
Total	240	201	201	190	648	640	1729
	Target :441, Actuals:391				1288		

During 2007-08 to 2010-11 no procurement of coaches from external sources, though planned, had been undertaken by the Railway Board.

Thus, Railways were constrained to operate 561 slow moving conventional trains on account of non-availability of coaches though a number of 163 sections had been identified for running the services.

Given the paucity of coaches, the Committee of Executive Directors had, among other things, recommended optimum use of services and available resources.

2.2.2 Audit Objective

In the above context, Audit conducted a study covering all Zonal Railways to assess the performance efficiency in rake management with reference to the following main issues:

- Commissioning of new coaches
- Coach utilization
- Maintenance

2.2.3 Audit Methodology and Scope

The guidelines and instructions of the Railway Board, recommendations of the Executive Directors' Committee and relevant records of Railway Board, Zonal Headquarters, Divisional offices, Car Sheds & workshops were reviewed pertaining to allotment and receipt of (BG) MEMU/DEMU coaches on Indian

Railways, their commissioning, utilization, maintenance schedules undertaken and detention of coaches during POH etc. The study covered the period 2008-09 to 2010-11 and all the services introduced in all 15 Zones except WCR were reviewed.



DEMU TRAIN

2.2.4 Operations

2.2.4.1 Commissioning of coaches

Every year, the Zonal Railways project their requirements for rolling stock based on which allotments are made. After allotment and receipt of MEMU/DEMU coaches by zones, the same are sent to shed/maintenance depot for testing of equipment, conducting trial runs. Simultaneously, Operating Department plans and notifies the schedule for introduction of the service. Though no time was prescribed by the Railway Board for pre-testing before induction of trains/coaches, a time limit of 30 days from the date of their receipt was assessed by audit in consultation with the Zonal administration for pre-testing and commissioning of new coaches and formation of rakes. On many occasions, delays were noticed due to reasons such as receipt of coaches with defects requiring rectification.

- In SCR, eight MEMU coaches comprising one rake received in February 2010 were commissioned in October 2010 with a delay of 165 days due to delayed receipt of approval of the Railway Board (October 2010).
- In WR, three DEMU Power Cars and nine trailer coaches received in May 2008 were commissioned after 338 days due to delay in technical commissioning of coaches by the supplier and ICF/PER. Also, one motor coach and four trailer coaches received in October 2010 were commissioned with a delay of 73 days due to use of different specification cables.
- In ER, two EMU rakes supplied by M/s JIL were kept idle for 35 to 100 days as motor coaches were received without traction motors. In SCR, 36 EMU coaches received between January-March 2011, comprising four rakes of nine

car formations, were not commissioned till June 2011 due to lack of clearance from Traffic Department.

- Apart from inadequate monitoring, these cases also reflected ineffective quality assurance resulting in avoidable delay in commissioning of 380 coaches on four Zones by 866 days. (Annexure V)

2.2.4.2 Utilization of coaches

Zonal Railways were further advised by AML/Railway Board (March 2007) to plan the rake link in such a manner that the average utilization of rake was not less than 500 kms per day.

The existing rake links on 10 Zonal Railways (ECR, ER, NR, NER, NFR, SR, SCR, SER, SWR and WR) revealed shortfalls in the average rake utilization in all the Zones thereby, leaving scope for improvement in extending the services to enhance earnings.

- In ECR, one MEMU rake was running for 395 Kms per day leaving shortfall of 105 kms per day. In NR, two rakes were utilized only for 98 Kms and 159 Kms per day with a shortfall of 402 Kms and 341 Kms respectively. In SCR, two rakes were utilized for 330 Kms and 273 Kms per day, with a shortfall of 170 Kms and 227 Kms respectively. In respect of four rake links in SECR and six rake links in SR, the utilization was poor (99 Kms and 173 Kms respectively), not fulfilling the prescribed average of 500 Kms per day. In WR, utilization of one link was only for 148 Kms. and for seven links, the same was 390 Kms per day, leaving a shortfall of 352 Kms and 110 Kms.
- In ER, utilization of one DEMU rake, introduced in October 2010 was only 276 Kms per day leaving a shortfall of 224 Kms. In SWR, in respect of two rakes, utilization was only for 232 Kms and 162 Kms per day with a short fall of 268 Kms and 338 Kms till February 2011 when additional services were introduced and the average rake utilization was achieved. In NER, one rake was utilized for only 238 Kms per day leaving a shortfall of 262 Kms. In SCR, under utilization of two rakes were 260 Kms and 166 Kms per day. The idling of rakes in these two cases was 12 hours and 16 hours respectively indicating potential for further additional link services. Similarly, under utilization was noticed in SR (two rakes for 160 Kms and 320 Kms), SECR (two rakes for 284 Kms and 199 Kms), NR (three rakes for 217 Kms, 245 Kms and 424 Kms) ECR (two rakes for 240 Kms and 253 Kms).
- In SCR, out of seven EMU (MMTS) rake links, one rake link was running for only 391 Kms. per day, leaving a short fall of 109 Kms. In NR, utilization of four EMU rakes was from 74 Kms to 379 Kms per day, leaving a shortfall of 426 Kms to 121 Kms per day.

The widely prevalent shortfall in running the services was due to ineffective link planning as there were no path constraints or lack of public demand. The under utilization of rakes of EMU/MEMU/DEMU highlighted much scope for improvement in planning of rake links for maximum utilization of the available stock for reaping additional revenue. Assuming an average lead of 50 Kms per passenger, the under utilization of coaches resulted in foregoing of approximately ₹102.84 crore. (Annexure VI)

2.2.4.3 Elimination of stoppages and gain in running time

One of the main objectives for introduction of MEMU/DEMU trains was to increase the speed of passenger trains, especially on busy trunk routes, and to improve path utilization. Since these trains stop at all passenger halts en-route, short distance commuter traffic could be absorbed by these trains, thereby reducing influx of these passengers in long distance express trains. The EDs' Committee, therefore, in its Report observed that by introducing MEMU/DEMU train services as pilot trains to important long distance Mail/Express trains, short distance commuters would switch over to these services, thereby facilitating Railways to eliminate unimportant/ un-viable stoppages of Mail/Express trains and improve average speed for better path utilization.

A study of the existing schedule of MEMU/DEMU vis-à-vis important trains on two zones viz., SCR and SECR revealed that as many as 10 stops could have been eliminated in respect of four trains. As per Railway Board's assessment, cost of a stoppage per train was ₹4376 depending on the system of traction and other factors. Even if the lowest cost, ₹4,376/4076 is adopted for these 10 stops, expenditure of ₹4.08 crore per annum could have been avoided by Railways. These instances clearly indicated the need for rationalizing stoppages in mail/express trains vis-à-vis MEMU/DEMU services being run. (Annexure VII)

2.2.5 POH and Maintenance of MEMU/DEMU coaches

2.2.5.1 Maintenance facilities

Availability of Car Sheds/Workshops in close proximity to the operation of services is of vital importance for speedy maintenance and overhaul so as to keep the detention of coaches to the barest minimum. The following cases were noticed by audit involving unnecessary haulage:

- No facilities were created in the NCR for the maintenance of MEMU rakes, though the ED Committee Report identified Jhansi/Bina as the new locations for the construction of the shed. Nine pairs of MEMU rakes were being operated and serviced by NR. In NER, the DEMU coaches were being sent to Charbagh Workshop/Lucknow (451 kms) for regular maintenance. In CR, it was noticed that there were 412 trips for maintenance involving 78,065.8 kms involving empty haulage cost of ₹0.19 crore during 2008-09 to 2010-11.
- In SCR, POH facilities for MEMU coaches were located at different locations viz., Car shed/Rajahmundry (for POH of electrical and pneumatic equipment), Electric Loco Shed/Vijayawada (for traction motors) and Carriage Repair Shop/Tirupati (for mechanical equipment viz., bogie, axle wheels and body). Due to location of POH facilities at different points, transit time and detention of coach in the yard was more than the actual time taken for POH. Similarly, even in the case of EMU (MMTS), facilities for POH were created at two different locations i.e. at Moula Ali for Electrical and Lallaguda for mechanical equipment necessitating haulage of the coaches to two different car-Sheds for maintenance.

Besides the above cases, the following instances of slow progress in completion of facilities were noticed:

- In SER, a MEMU car shed was created at a cost of ₹14.31 crore at Kharagpur in 2008-09, but due to incomplete facilities, half-yearly schedule could not be conducted for which the coaches were being sent to Tikiapara EMU car shed located at a distance of 115 Kms.
- In SR, a contract was entered (June 2008) for creation of facilities at Kollam for inspection and stabling facilities for MEMU at a cost of ₹9.84 crore. Though the construction of the shed was nearing completion, the track linking could not be taken up so far, as a portion of land connecting proposed shed and main line of Kollam station belonging to State Govt. was yet to be acquired.

Thus, creation and augmentation of facilities were not properly planned and monitored efficiently, leading to hampering of smooth running of services.

2.2.5.2 POH and Detention to coaches

As per the Coaching Manual, POH of a coach is to be completed within 18 days and offered for commercial service. However, the review of detention of coaches for POH during one year 2010-11 across the Zonal Railways revealed that:

- In ER, excessive detentions had occurred due to space constraints and non-availability of vital spare parts in the Kancharapara workshop. The total delays for 2010-11 in respect of 27 MEMU coaches was 242 days and 20282 days in the case of 792 EMU coaches.
- In NR, detention of 25 DEMU coaches totaled 1647 days due to non-availability of spare parts and non-completion of infrastructural facilities at Charbagh workshop/Lucknow.
- In WR, total detention of two MEMU motor coaches totaled 686 days.

In all, 353 MEMU coaches, 184 DEMU Coaches and 926 EMU coaches suffered total detention for 41,825 coaching days in excess of prescribed time limit of 18 days resulting in loss of earning to the tune of ₹37.54 crore.

(Annexure VIII)

2.2.6 Occupancy

2.2.6.1 Passenger Patronage

Generally the train services are introduced after studying the demand pattern by passengers for such services. A feed-back on regular basis in the form of patronage to the specific service would help the railways to plan more efficient utilization. It was understood from Zonal Railways that neither the statistics of passenger profile for the ordinary passenger trains was being maintained nor the periodical census was being conducted with the exception of NR & ER. In the absence of reliable data relating to passenger profile, a random physical census in certain zones was conducted independently by audit in all the Zones (October 2010) that revealed poor occupancy in some of the MEMU/DEMU services in some of the Zones as detailed below.

Table-II : Occupancy in trains

Railway	Type	Section	Patronage
SCR	MEMU	Vijayawada-Tenali-Guntur-Vijayawada	50 %
NCR	DEMU	Tr. No. 315,317,319	33 %
NER	DEMU	Tr. No. 1 to 10	28 - 33 %
SCR	DEMU	Vijayawada-Peddapalli-Karimnagar-Sirpur Town (between Lingampet - Jagityal -Karimnagar-Peddapalli)	Less than 10%
NR	MEMU	Matribhoomi – ladies special	25 – 30 %
SCR	EMU	Matribhoomi – ladies special	20 – 25 %

In view of poor occupancy in Matribhoomi Special, NR had proposed (June 2011) to earmark 50 per cent of the accommodation in Matribhoomi special to ladies and the balance to general passengers so as to improve the occupancy ratio but action on the same was yet to be taken (November 2011). However, no such proposal was made by SCR for poor patronage in Matribhoomi Special.

Thus, there was an urgent need to review the patronage offered to different services by periodical collection of data or using Data Warehouse Reports developed for Unreserved Ticketing System (UTS) for better planning of proper utilization of the existing services

2.2.6.2 Other related issues affecting occupancy

Traditionally, MEMU/DEMU trains do not have toilet facilities as they were expected to cater to short lead commuters. As per extant orders of Railway Board, provision of toilet is mandatory when MEMU/DEMU rake is operated for a distance more than 160 kms or duration more than four hours continuously and instructions to Production Units were issued for provision of toilets in new coaches. As of March ending 2011, only 36 MEMU and 82 DEMU coaches had toilets fitted with a large majority (840 MEMU and 435 DEMU coaches respectively) having no toilets while there was an overwhelming demand for provision of toilets from the service users. It was found that other than toilet facilities, punctuality, over-crowding and lack of connectivity to long-distance trains also featured among public grievances.

2.2.7 Conclusion

While there was an urgent need to augment the MEMU/DEMU services on busy congested routes, the audit study revealed that there was much scope for enhancing efficiency in planning of rake links for gaining maximum utilization of the rakes as well as through streamlining of maintenance operations. IR thus needs to focus on improving operational efficiency over short-term even while moving towards the long-term goal of augmentation of coaches for meeting the demands of growing passenger traffic.

Recommendations

- *Railways should stipulate time frame for commissioning of coaches after their receipt by the Zonal Railways taking into consideration pre-commissioning tests and trials and streamline quality control both at user end as well as supplier end.*

- *Zonal Railways should undertake review of the existing link arrangements for maximizing utilization of rakes and streamline procedures for regular assessment of passenger patronage.*
- *Railways should consider issuing of instructions to Zonal Railways to plan the schedule for MEMU/DEMU Services, in synchronization with the timing of important express trains to eliminate identified unviable stops of long distance trains.*
- *Zonal Railways and the Railway Board should undertake comprehensive review of the specific issues which hamper timely completion of POH of coaches and initiate remedial measures for effective redressal.*

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

2.3 Running of freight trains with enhanced loading in wagons up to CC+8+2

Executive Summary

Railway Board had permitted enhanced loading beyond the permissible carrying capacity with the objective to carry more tonnes per wagon to increase the throughput on congested routes reducing the unit cost of operations by saving on locomotives, additional wagons, staff and path to move additional trains. Audit had in its earlier study found that enhanced loading was introduced without complying with the conditional requirements by the Ministry of Railways. The Public Accounts Committee had, therefore, directed the Railway Board to make obligatory for all the Zonal Railways to install and commission all the pending Wheel Impact Load Detectors (WILDs) and weighbridges on priority basis.

The present audit study was focused on the performance of Zonal Railways in providing Wheel Impact Load Detectors (WILD) to monitor the impact on tracks, arrangements made for USFD testing, provision of electronic in-motion weighbridges and to assess the overall impact of enhanced loading on the assets of Railways. Audit observed that Zonal Railways had not complied with the mandatory requirements for the provision of WILD and in-motion electronic weighbridges. Audit also observed that the damages to track and rolling stock were on the increase requiring increased expenditure to keep them in running condition. Though the earnings of the Railways had registered an upward trend, the expenditure on maintenance due to increasing damages to tracks and rolling stock was also on the increase. Moreover, cases of unprecedented blockage of path for unspecified period on account of stalling of overloaded trains were causing interruption to other trains and resultant increase in operational cost.

2.3.1 Introduction

Prior to November 2004, the wagons (20.32 tonne axle tolerance) in Indian Railways were permitted to be loaded only up to two tonne over and above the marked carrying capacity. In November 2004, the loading in wagons was enhanced up to CC+4+2 tonne and from May 2005, as a pilot, Railway Board permitted loading up to CC+6+2 and CC+8+2 tonne on 31 iron ore routes and 41 coal routes. The objective of the policy was to carry more tonnes per wagon thereby increasing the throughput on congested routes and also to reduce the unit cost of operations. The enhanced loading was, however, subject to the condition that gross weight per axle should be restricted to 22.82 tonne i.e. the gross weight of a wagon including tare weight should not exceed 91.28 tonne.

As per Railway Board's instructions, the following provisions were to be ensured before permitting the enhanced loading on the notified routes:

- Installation of adequate number of Wheel Impact Load Detectors (WILD) on the zonal railways.
- Thorough physical examination of bridges, rehabilitation of distressed bridges, and analysis of bridges for expected loading and installation of Bridge Load Monitoring System.

- Instrumentation and evaluation of bridges by specialized agencies for increased longitudinal and higher axle loads.
- Ultra Sonic Flaw Detection testing at appropriate frequencies to detect rolling stock fatigue and also to assess the impact of enhanced loading on track and rolling stock.
- Installation of in motion weigh bridges to have a check on the over loading above the permitted enhanced loading.

The impact of enhanced loading on the track, bridges and rolling stock was to be monitored through quarterly progress reports for ensuring corrective action where required.

At present the enhanced loading of wagons up to CC+8+2 has been extended to 171 routes. Besides, there are routes which have been declared fit for running wagons with 25 T Axle load or with gross weight of wagon up to 100 tonne.

2.3.2 Previous Audit Study

Audit had earlier reviewed the impacts of enhanced loading in wagons on tracks and rolling stock (Chapter 1 - Freight and Wagon Management in Indian Railways included in the C&AG's report No. 6 of 2007). It was observed that Railways had permitted the running of trains with enhanced load without complying with the conditions laid down for protecting track and rolling stock. Even after permitting enhanced loading of wagons, the trend of overloading continued. Increased incidence of rail fractures, weld fractures and defects in wagons and locomotives was seen.

During its oral evidence before the PAC, Railway Board had submitted that decision for permitting enhanced loading was taken as a policy after paradigm shift in the conceptual perception of design of track structures and was based on field experience gained after running wagons with axle load of 22.9 metric tonne after years of research and development work done in house by RDSO. The increase in axle load was permitted with the objective to carry more tonne per wagon to increase the throughput on congested routes and reducing the unit cost of operations by saving on locomotives, additional wagons, staff and path to move additional trains. The Committee was, however, not convinced with the decision of permitting the enhanced loading without the matter being subjected to a thorough scientific and engineering study. The Committee had thus desired that the Railway Board should avoid pursuing a reckless policy of expanding enhanced CC routes until favorable impacts of the existing pilot projects were established. PAC had, therefore, recommended that it should be made obligatory for all the Zonal Railways to install and commission all the pending Wheel Impact Load Detectors (WILDs) and weighbridges on priority basis.

2.3.3 Audit Objectives

The audit was undertaken to review –

- The progress made by Zonal Railways in installation of WILD, weigh bridges and provision of USFD as was contemplated originally.
- To assess the impact of enhanced loading on tracks and rolling stock.

- To assess the increase in earnings and expenditure on account of enhanced loading and ascertain whether the policy is actually beneficial or otherwise.

2.3.4 Audit Methodology and coverage

The relevant records of Civil Engineering, Mechanical and Commercial Departments of all Zonal Railways were reviewed. The quarterly progress reports indicating the impact of enhanced loading on the track, bridges and rolling stock sent by Divisions to Zonal Railways and by Zonal Railways to Railway Board were reviewed.

Besides these reports, the data in respect of provision of WILD, in-motion electronic weighbridges and arrangement of USFD testing was collected in respect of all routes notified for running trains with enhanced loading.

At micro level, the audit of 71 sections (a minimum) of three sections per Zonal Railway was conducted to ascertain the impact of enhanced loading on tracks and rolling stock during the period 2007-08 to 2010-11. For the purpose of assessment of increase in earnings due to enhanced loading the audit covered 124 stations/sidings and checked booking for the period 2009-10 and 2010-11. The extra expenditure incurred in repairing the damages such as rail fractures, weld fractures, premature rail renewal etc. was reviewed for the period 2007-08 to 2010-11.

2.3.5 Audit findings

2.3.5.1 Non-compliance of the conditions for running of trains with enhanced loading

While notifying the routes for running trains with enhanced loading in May 2005, Railway Board had instructed the Zonal Railways to provide Wheel Impact Load detectors (WILD) for recording loading spectrum passing over the tracks and bridges, to put speed restrictions where the sections were laid with 90 R rails and take action for replacement of such rails, provide for USFD testing to detect rolling contact fatigue(RCF) and sufficient weigh bridges at the originating stations as well as en-route for detecting instances of overloading in wagons beyond the enhanced permissible limits. PAC had also recommended that it should be made obligatory for all the Zonal Railways to install and commission all the pending Wheel Impact Load Detectors (WILDs) and weighbridges on priority basis and any laxity in the matter should be dealt with sternly. The progress made by Zonal Railways in this regard as noticed by Audit is discussed in the ensuing paragraphs.

Provision of Wheel Impact Load detectors (WILD)

In terms of Railway Board's instructions (March 2005), Wheel Impact Load Detectors (WILD) were to be provided at least on one location over the routes to monitor the loading spectrum actually passing over the tracks and bridges. The Chief Mechanical Engineers of Zonal Railways in consultation with the Principal Chief Engineers and Chief Operating Managers of Railways were to identify the locations for provision of WILD.

Audit scrutiny of the records of Zonal Railways, however, revealed that though trains with enhanced loading were running over all the 171 routes notified for running of trains with CC+8+2, WILD were provided only at 15 locations on 15 routes (Table below). On six Zonal Railways viz. Northern, North Central, North Eastern, Northeast Frontier, North Western and Western Railway, no WILD had been provided.

Railway	Name of the section	Date of commencement of trains with enhanced loading	Whether provided or not (date if provided)
Central	Ballarshah to Wardha including Rajur Wani Majri and Ghughus Tadali and Umrer Butibori including Chitoda -Sewagram (Bypass)	01.07.07	Butibori -Borkhedi (1)
Eastern	Nimcha-Kalipahari	Jul-05	Yes. Commissioned on 1.11.2008
East Central	BBU&MTGE of MGS	18.6.2008	Yes(08.01.2010)
	BBU&MTGE of MGS	18.06.2008	Yes(08.02.2010)
	Barwadih	06.02.2006	11.07.2010
E Coast	KK Line	15.05.2005	Provided
SR	Renigunta-Vyasarpadi-Chennai (HOM)	18-06-2005	Yes. Commissioned on 30-01-2008
SCR	BAY-GTL-RU	15.05.05	Yes. Commissioned on 16.10.08.
SER	Haldia-Panskura-Kharagpur-Adityapur-Sini-Bondamunda-Jharsuguda-Raigarh	22.07.05	17.10.07
SECR	DUG-DRZ(Durg-Dallirajhara Section)	February, 2006	Commissioned on 16.01.2008
	DGG-PJB(Dongargarh-Paniajob Section)	February, 2006	commissioned on 29.10.2010
SWR	BELLARY -HUBLI-VASCO	May'2005	Provided Sept'2007
WCR	Katni-Bina	15.5.06	April-11
	Bhopal-Itarsi	15.5.06	24.03.11
	Bhopal-Bina	15.5.06	24.05.11

Though on some sections of different Zones, the provision of WILD was sanctioned, no action had been taken to provide the same so far for reasons such as sanction awaited for proposals etc. Audit also noticed that Railway Board (2008-09) had advised Zonal Railways not to initiate individual action as procurement of WILD was being done by Development Cell. However, further progress in this regard could not be ascertained. As a result, the impact of loading on tracks and bridges was not monitored to ensure the safe running of trains.

Replacement of 90 R rails

Railway Board had directed (May 2005) the Zonal Railways to take immediate action for replacement of 90 R rails with rails of suitable dimensions. Audit noticed that while there were no sections laid with 90R rails (out of the section test checked) on Eastern, South Western and Western Railways, only Central South Eastern Railways had replaced all the 90R rails by March 2011. On the remaining Railways, 34 sections viz. East Central (eight), Northern (10), North Central (two), North Eastern (two), Northeast Frontier (four), South Eastern (six) and West Central (one) Railways comprising 465.244 kms track length were still laid with 90 R rails even after six years of the introduction of trains with enhanced loading. Reasons for non-replacement were as under:

- On East Central Railway, while in two sections work was in progress, in six sections replacement of 90R rails was not considered on account of very small length.
- On Northern Railway, works were sanctioned but due to non-availability of 52/60Kg rails, the replacement was not effected.
- CTR/ Through Rail Renewal (TRR) works on five sections over North Eastern Railway were stated to be in progress.
- North Central Railway could not carry out the work over Agra Cantt. – Palwal section for want of traffic block not given by operating department and in Jhansi Agra Cantt. section the turnout was stated of non-standard.
- 90 R rails on Bina- Maksi section of West Central Railway were not replaced due to turnout approaches.

As a result, trains were running under speed restrictions causing blocking of sections for periods longer than required and hampering smooth running of other mail/express trains.

(Annexure IX)

Arrangements for Ultra Sonic Flaw Detector

In order to ascertain rolling contact fatigue (RCF) on the rails, Railway Board had directed the Zonal Railways to make use of existing USFD technology. Audit, however, noticed that -

- Despite running of heavier load trains on Ambala –Chandigarh, Saharanpur-Doraha, Rajpura –Bathinda and Sirhind –Nangaldam sections of Northern Railway, no arrangements for USFD testing were in existence due to non-availability of the requisite instruments.
- Arrangements for USFD testing were also not available over Rampur-Lalkua, Moradabad-Ramnagar and Chhapra-Gorakhpur sections of North Eastern Railway.
- On Thokur-Panambur section of Southern Railway USFD testing equipment was not provided merely because the length of the route was only three kms.

Audit also observed that USFD testing was not foolproof to ensure the safety of trains as it was not able to detect flaw in flange as was revealed in the enquiry of derailment of 6505 UP Gandhidham Express which had occurred due to rail fracture that remained undetected.

USFD testing over ‘B’ and ‘D’ routes over North Western Railway had revealed that due to enhanced loading the Gauge Face Corner (GFC) defects were on the increase and the number of such defects during 2008, 2009 and 2010 were 390, 548 and 826 respectively.

Installation and commissioning of weigh bridges

Railway Board had directed (November 2004) that where in-motion weigh bridges were not in existence, they should be installed and commissioned at the earliest as per action plan. Audit noticed that despite repeated instructions from the Railway Board, in-motion weigh bridges were not available in the following sections for weighing of wagons carrying enhanced loading as indicated below:

Railway	Name of section	Names of stations where trains with enhanced loading originates	Status	Reasons
ECR		Gaya, Seemapur, Sitalpur, Simaria, Sugauli	Sanctioned under process of installation	
E Coast		Sambalpur City	Sanctioned	Shifted to JJKR
		Kendujhar, Daitari and Lapanga	Sanctioned but not received	Indents placed
NR	UMB-CDG SRE-DOA RPJ-BTI SIR-NLDM	Lehramuh, Abbat & Rupnagar	No proposal. Only one installed at BTI on 29.10.2003	
NCR	Jhansi-Agra Cantt, Jhansi –Kanpur, MGS-ALD, ALD- Kanpur, Tundla –GZB and Agra Cantt. -Palwal	DAA, DBA, JHS, MRA, ORAI, DCPG, PIC, Chunar, Mirzapur, NYN, Subedarganj, Fatehpur, Chandari, CNB, CNP, Aligarh, Hathras, Khurja, Kosikalan, Mathura	No proposal for provision of weigh bridges	
SR	Thokur-Panambur	Panambur	Sanctioned	Work in progress
	Arakkonam-Jolarpettai-Magnesite-Mettur Dam	Chennai Harbour Attipattu	No proposal to provide.	
SCR	VSKP-SLO & BZA-KI	Proposed at Ravikampadu but due to location problems shifted to Kakinada port		Being small section the weigh bridge not provided
SER	Anara-Rukni-Bhaga & Lohardaga -Ranchi		No proposal to provide weigh bridges	
WCR	Katni-Bina & Satna - Rewa	Saugor, Damoh, Jaypee Bela Siding, Jaypee Rewa Siding, Turki Road and Sakaria	No proposal sent by Zonal Railway to provide weigh Bridges	

Audit scrutiny also revealed that –

- On Central Railway, weigh bridges were provided only at five locations in three sections. No weigh bridges were available at 13 sections.
- On East Central Railway, out of nine weigh bridges which were under installation prior to March 2006, installation in respect of four was still incomplete. Moreover, out of 49 weigh bridges over the Zone, on an

average 29 remained out of order as a result a number rakes were moving without actual weighment.

- On Northern Railway, in motion weigh bridges were not available in 35 out of 43 sections where enhanced loaded was permitted.
- On South Central Railway, in-motion weigh bridges were provided only in seven sections out of 20. In three sections the work was in progress.
- In South East Central Railway, in-motion weigh bridges were not provided in seven out of 15 sections.
- In Western Railway in-motion weigh bridges were not provided in nine out of 11 sections permitted for enhanced loading. It was also noticed that weigh bridges installed at Chalthan and Udhna station were out of order since their installation in November 2007 and July 2003 respectively. No action has been taken to make them fit and serviceable.

2.3.5.2 Impact of enhanced loading

An attempt was made by audit to assess the damages caused to tracks, bridges and rolling stock due to enhanced loading policy leading to increased maintenance costs. The additional earnings accrued to Railway due to enhanced loading were also considered. The broad audit findings are given below:

Impact on tracks

Audit scrutiny over 38 routes where the trains with enhanced loading up to CC+8+2 tonne were running revealed that–

- The cases of scabbing of rails/excessive wear and tear requiring frequent/premature renewal/replacement of rails had increased considerably as compared to the position prevailing prior to introduction of the enhanced loading. As a result, eleven Zonal Railways (Table below) had taken up works of premature renewal of rails at an estimated cost of ₹381.54 crore and incurred avoidable expenditure of ₹223.70 crore during the period 2006-07 to 2010-11.

Railway	Number of sections/works reviewed		Cases of scabbing /wear and tear of rails		Expenditure incurred on premature replacement of rails (₹ in crore)	
	Sections	Works	2006-07	2010-11	Estimated cost	Expenditure incurred
ER	2	5			57.19	2.50
ECR			25	84		
E Coast					39.37	39.37
NCR	1	6	0	6	19.48	11.25
NER	2	5			113.71	53.20
NWR	21	21	NA	NA	23.95	7.01
SCR			272	929	0.54	0.54
SER	2	5			17.23	17.23
SECR	8	8	19	29	30.70	30.70
SWR	4	4		65	30.25	8.27
WR	3	21	0	21	53.63	53.63
WCR	3	0	0	0	0	0
TOTAL					381.54	223.70

- There were 2222 cases of excessive wear and tear in the Cast Manganese Steel (CMS) crossings requiring premature replacement of 1215 CMS crossings 8918 rubber pads and 44 tongue rails in Thick Web Switches and Zonal Railways had incurred expenditure of ₹35.73 crore for the same. Railway-wise position is given in Table below.

Railway	No of cases of CMS crossing that required replacement	Replacement done for			Expenditure incurred in replacement (₹ in crore)			Total expenditure (₹ in crore)
		CMS x-ing	Rubber pads	Tongue rails in TWS	CMS x-ing	Rubber pads	Tongue rails in TWS	
CR	677	677	3144	0	7.32	0.01	0	7.34
ER	56	46	0	0	0.87	0.07	0	0.93
E Coast	68	40	2843	0	0.25	0.01	0	0.25
NR	131	118	40	44	2.53	480	0.10	2.62
NCR	2	2	0	0				0.04
NWR	40	40	0	0	0.81	0	0	0.81
SR	35	35	148	0	0.08	0.23	0	1.01
SCR	124	124	0	1	11.01		0	11.01
SWR	8	8	2600	0	0.17	0.001	0	0.18
SER	50	36	14	0	0.68	0.001	0	0.69
SECR	107	103	62	0	1.11	0.41	0	2.12
WR	812	648	1019	0	5.63	0.60	0	6.23
WCR	112	110	67	0	2.43	0.07	0	2.50
Total	2222	1987	9937	45	33.60	1.03	0.10	35.73

The cases of rail fractures had increased from 694 per annum (during 2005-06) to 798 per annum during 2010-11. Though in absolute terms, the number of cases of weld fractures in rails had reduced from 1615 in 2006-07 to 1513 in 2010-11, it had shown increasing trend on East Central (from 108 to 231), North Western (74 to 185) and Western (178 to 227) Railways. Across all Zonal Railways also the weld fractures increased from 1403 (2008-09) to 1443 (2009-10) to 1513 (2010-11). Zonal Railways had incurred expenditure of ₹21.35 crore on replacement of fractured rails and repairing weld fractures. **(Annexure X)**

- During the period 2006-07 to 2010-11, there were 783 derailments of trains carrying enhanced loadings over 78 sections on different Zonal Railways causing a total loss of ₹260.47 crore (₹ 16.54 crore to tracks and ₹ 243.93 crore to rolling stock). **(Annexure XI)**

Impact on rolling stock

Railway Board had advised all Zonal Railways to monitor the position of tracks, bridges and rolling stock quarterly through a core Group comprising of PCE/CE (Coord), CME, CEE and COM under General Manager of the Zonal Railways. As per core Group's reports, the cases of arising of unloadable wagons had increased many fold after the introduction of enhanced loading and all such wagons required repair before despatching for operations. Audit scrutiny of the data maintained by Zonal Railways revealed as under:

- The cases of defects/damages to wagon body and under frame had gone up from 45213 in 2006-07 when the enhanced loading was introduced to 80840 in 2010-11 (an increase of around 79 per cent). Zonal Railways had incurred an expenditure of ₹ 311.44 crore for repair of body damage thereby putting an extra financial burden of almost ₹137.25 crore

(Annexure XII)

- Audit observed that there was substantial increase in the cases of premature replacement of CBC and draft gears, roller bearings, wheels and axle assembly, replacement of brake gears, springs and Elastomeric pads due to defects/damages caused by enhanced loading. The number of these components replaced prematurely during 2006-07 to 2010-11 is given below:

Item	Number of items changed prematurely					Total expenditure (₹ in crore)
	06-07	07-08	08-09	09-10	10-11	
CBC	6134	9080	9039	11594	10567	118.74
Draft gears	9981	10544	9899	9601	9965	203.01
Roller bearing	12467	19002	15259	19778	22482	81.03
Wheels and axle assembly	16815	17995	18182	18543	14897	488.08
Brake gears	106797	150064	159194	238355	212996	48.59
Springs	36411	58556	99229	112608	58120	20.09
Elastomeric pads	102417	105760	128846	119922	102929	43.44
Total	291022	371001	439648	530401	431956	1002.98

Zonal Railway had incurred an expenditure of ₹1002.98 crore on premature replacement of these vital components in the rolling stock.

2.3.5.3 Impact on Commercial Operations

Earnings on account of enhanced loading in wagons

The position of enhanced loading of wagons was reviewed at 133 stations and sidings over 16 Zonal Railways to assess the increase in Railways earning on account of weight carried over and above the normal practice of loading wagons up to their marked carrying capacity with tolerance up to two tonnes. Audit observed that a total of 9021677 wagons loaded had carried 96487753 tonne weight over and above the marked carrying capacity that yielded additional earnings of ₹3034 crore on this account.

(Annexure XIII)

Overloading of wagons - impacts thereof

The freight on loaded wagons is charged as per weight declared by sender. In case the weight so declared is less than the permissible enhanced limit the freight is charged on prescribed enhanced limit. The staff responsible for charging freight has no option but to accept the sender's declaration if no weighbridge is available. Thus acceptance of sender's weight for charging of freight increases the risk of damages/excessive wear and tear to rolling stock and track if the wagons are

loaded with weight more than tolerance limits, besides depriving Railways of its legitimate revenue.

Audit had in its earlier reports pointed out numerous cases, where wagons were found overloaded when weighed en-route or at destination. Despite this, a large number of rakes were moved without weighing them as sufficient weighbridges were not provided. Though Railway Board had issued instructions for provision of in-motion weighbridges at all originating loading points for weighing of wagons en-route, Audit had observed that Zonal Railways had not provided sufficient number of weigh bridges and even where the weighbridges were available, all the rakes were not weighed. Test check at 48 stations/sidings nominated for weighing of rakes passing through them revealed that out of 243100 rakes, 120225 rakes comprising 1974099 wagons (49.45 per cent) were not weighed. Out of 7092603 wagons which were weighed, 870054 wagons (12.27 per cent) were found overloaded with average overloading of over one tonne and up to 15 tonne. Zonal Railways had realized penal freight of ₹367.02 crore. Thus, it is concluded that non-weighment of 120225 rakes comprising 1974099 wagons had deprived Zonal Railways additional freight of ₹708.59 crore. The impact of non-weighment would be much higher if the position of all freight traffic that had moved without weighing in the absence of weighbridges was reviewed.

(Annexure XIV)

Cases of stalling of trains causing extra expenditure and detention

For smooth running of trains, the fitness of tracks, gradient of the sections, and capacity of wagons/locomotive to carry/haul specific load needs to be properly assessed. Audit noticed that after commencement of rakes with enhanced loading in wagons, the trains were stalling in mid sections as the capacity of the locomotives used was not commensurate with the trailing load. During the two year period i.e. 2009-10 and 2010-11, there were 2207 occurrences when goods trains stalled in mid section causing not only detention of these trains but also interruption to other trains that were to pass the section. The time taken to clear such trains was between 15 minutes to six hours and additional locomotives were used to pull the trains. This resulted in loss of ₹5.80 crore on account of detention. Most of these occurrences pertained to North Western Railway (1220), Western Railway (680) followed by East Central (172).

It was also observed that Eastern, East Coast, North Eastern, South East Central had not kept records of such stalling.

(Annexure XV)

2.3.6 Conclusion

The enhanced loading norms were adopted by Indian Railways (IR) to increase the throughput in the congested routes for maximizing earnings and reducing per unit cost of operations. Audit observed that while IR had been able to increase their earnings, they also incurred additional maintenance expenditure of ₹1687.27 crore on account of frequent wear and tear to rails and extensive damages to wagons parts such as CBC, draft gears, wheels and Axles assemblies, brake gears, etc. that constituted approximately 56 per cent of the increased earnings of the stations selected.

For continued operation of enhanced loading norms, Railway need to ensure that the maintenance expenditure on additional wear and tear is kept to a minimum to ensure that the revenue earnings assets including the track infrastructure are properly maintained and reviewed.

Recommendations

- *In order to guard against any mishap causing extensive damages to Railways assets or public property, Railway Board needs to review the reports received from Zonal Railways critically and take action to ensure that the equipment such as WILD and electronics weighbridges are provided immediately by the Zones which had not done so till now.*
- *Railway Board should call for reports of sections which are still laid with 90R rails and arrange to upgrade such sections on priority so that the trains are run without speed restriction to realize the actual advantage of enhanced loading.*
- *In order to ensure that trains were not run with weight more than the stipulated limit and Railway recover the freight for actual weight, weighbridges should be provided at each loading point so that all trains are weighed.*

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

2.4 Movement of traffic at ‘Train Load Class Rates’

Executive Summary

Indian Railways introduced train load class rates with effect from 1 January 1982 to encourage consignors to move their consignments in one lot instead of in piecemeal wagon load movements by offering freight rates which were lower by around six to nine per cent. The saving expected to be achieved through train load movement was intended to be passed on to the rail users. It was also to help the Railways to improve their wagon turn round on account of reduced detention of rolling stock.

Audit, however, observed that notification of stations/sidings as capable of handling full rake traffic regardless of the actual facilities available had not served the purpose as placement of wagons for loading/unloading was being done in a piece meal fashion by splitting the rakes according to the capacity of goods lines. This had not only caused Zonal Railways to incur extra operational cost but also huge detention to rolling stock. Thus, while the rail-users were benefited to the extent of ₹315.95 crore on account of lower train load class rates, the Zonal Railways lost ₹353.26 crore on account of detention to wagons over and above the permissible free time for loading/unloading in the stations/sidings reviewed.

2.4.1 Introduction

Prior to January 1982, freight traffic was booked in piece meal fashion comprising small number of wagons collected from various stations in the yard and then moved by forming convenient trains. From 1 January 1982, Indian Railways introduced train load class rates whereby consignors were encouraged to move their consignments in one lot instead of in piecemeal wagon load movements by offering freight rates which were lower by around six to nine per cent (**Table 1**) Movement of consignments in train load leads to saving in operational costs of Railways which was intended to be passed on to the rail users. It also helped the Railways to improve their wagon turn round due to reduced detention.

Table -1

Commodity	Class		Rates per tonne for distance slab of km 791-800		Difference between Train load and wagon load rates	Percentage of difference
	WL	TL	WL	TL		
Salt	120	110	598.80	548.90	49.90	9.09
Food grains	130	120	648.70	598.80	49.90	8.33
Coal & coke	150	140	748.50	698.60	49.90	7.14
Iron & steel	190	180	948.10	898.20	49.90	5.56

2.4.2 Operational aspects

Initially, the benefit of lower rates was given only if the consignor offered a minimum weight of 1400 tonne and 1000 tonne for carriage from one station to one destination over Broad Gauge (BG) and Meter Gauge (MG) respectively. The consignors were required to indent for the number of wagons needed for loading the prescribed weight. In case, full complement of wagons was not supplied by

Railway owing to non-availability of wagons, the benefit of train load rates was to be given only if all the wagons forming part of train load were supplied and loaded within 72 hours from the supply of 1st lot. In September 1982, Zonal Railways were asked to notify the names of stations and sidings which were capable of handling wagons in a train load and the benefit of train load class rates was to be given only if both booking as well as destination stations were notified.

Subsequently, keeping in view various operational and other constraints, the scheme was modified from 1 August 1997 and in order to avail the facility of lower train load class rates –

- The consignors were required to indent and load a minimum number of wagons to form a train load (BOX ‘N’ -56, BOX -30, BCN/BCNA -38, CRT- 64, and tank wagons - 65).
- Train load rates were also extended to full rakes loaded by the consignors partly from the serving station and partly from siding served by same stations or from two or more sidings of a serving station to one single destination or vice versa i.e. from one forwarding station to two or more sidings served by the same destination.
- Train load rates were also given to trains originating or terminating from/at two stations (for this purpose Zonal Railways were to notify combination of stations) notified for handling either full rakes or half rakes.

Keeping these conditions in view Railway Board had, time and again, issued instructions to the Zonal Railways to review the operational capacity of all stations/sidings and notify only those stations/siding which were capable of handling full rake or half rake.

2.4.3 Earlier Audit findings

In the past Audit had pointed out a large number of instances of loss of revenue on account of detention to wagons at stations/sidings notified for handling train load traffic (full rake) without adequate facilities. Audit reviewed the cases in the last five years where in loss of revenue of ₹34.22 crore was pointed out in **Para 2.1.4 of 2003-04, Para 2.2.10, 2.4.1, 2.5.2 & 2.5.4 of 2004-05, 2.4.8 of 2006-07 and Para 2.1.6 of 2007-08**. It was seen that Railway Administration had taken limited action to augment the handling facilities at the stations covered in these paragraphs. Further no action was taken to de-notify stations/sidings not equipped for handling full rakes. As a result, the rakes were continued to be placed in two or more parts i.e. after placing one part in a loading/unloading line the engine along with remaining wagons was moved backward and then the balance wagons were placed either in another line or in the same line after the wagons placed earlier were removed. This apart from increasing requirement of locomotives also caused detention to wagons waiting for placement.

2.4.4 Audit objectives

Audit observed that while the consumers were given the benefit of lower train load class rates, the Railways had to bear higher operational cost and loss of earning capacity due to longer detention of wagons. Thus the objective of

introduction of the concessional train load class rates has not been achieved. Audit was undertaken to examine the following –

- The adequacy of notifications issued by Zonal Railways declaring stations/sidings as capable of handling full rakes and their success in achieving the objective of saving in operational costs vis-à-vis the benefit passed on to the rail users
- Efforts of the Zonal Railways to augment the facilities at stations/sidings declared as capable of handling full rake handling.

2.4.5 Methodology and sample size

Orders issued by Zonal Railways to declare the stations/sidings as capable of handling full rakes were reviewed. Records of five stations and five sidings in each Zonal Railway declared as capable of handling full rake were reviewed at micro level to firm up the audit findings.

2.4.6 Audit Findings

Audit scrutiny of the records of zonal Railways and stations revealed the following:

2.4.6.1 Unjustified declaration of stations/siding as capable of handling full rakes

As per Railway Board's orders (September 1982) Zonal Railways were to notify names of stations and sidings which could accept registration of indents for train load traffic. The list of stations/sidings was to be finalized jointly by Chief Operation Manager (COM) and Chief Commercial Manager (CCM) taking all relevant factors into account. Railway Board's orders of August 1991 stipulated that if a full rake was supplied in one lot against a train load indent then the loading was to be completed within the prescribed free time. If, however, a full empty rake meant for siding could not be placed in one lot on account of capacity of the siding to handle full train load and consequently the placement was done in two or more placements, such rakes were not to qualify for train load rates. It was also stipulated that such sidings were not to be notified as open for handling train loads.

Audit scrutiny of records of 16 Zonal Railways revealed that 1140 stations and 907 sidings were notified as capable of handling full rake traffic. Records of Zonal Railways, however, revealed that out of these, 188 stations and 125 sidings were not actually capable of handling full rakes. Audit test checked the facilities available at 87 stations and 57 sidings and observed the following:

- Full rake could not be placed for loading/unloading in one hook by a locomotive in all sidings/stations test checked. The line capacity was such that only 10 to 30 wagons could be accommodated in one go as against the requirement of between 30 and 58 wagons comprising full rake.
- Due to inadequacy of infrastructural facilities at 53 stations/sidings, Zonal Railways had resorted to multi placements (two to six) causing additional unforced use of locomotives for 12936 extra hours that had resulted in avoidable operational cost of ₹10.45 crore.

(Annexure XVI)

The above position indicated that before issue of notifications, Zonal Railways had not taken adequate care to assess the capacity of stations/sidings for placement of wagons for facilitating their loading/unloading. Thus declaration of stations /sidings as capable of handling full rake without ascertaining the ground realities had not only caused reduced revenue realization but also caused loss of expected earning capacity of wagons detained beyond permissible free time as enumerated in the ensuing paragraphs.

2.4.6.2 Loss of net revenue at sidings/stations

Scrutiny of records of 87 stations and 57 sidings test checked by Audit revealed the following:

- In 39 sidings over 13 Zonal Railways though the placement of rakes was done in two or more lots, the commercial staff had irregularly charged the traffic at train load rates instead of wagon load rates as stipulated in Railway Board's orders of August 1991. This resulted in irregular benefit of ₹120.04 crore to the consignors during the period of April 2009 to March 2011.

(Annexure XVII)

- At 54 stations notified as capable of handling train load rakes, the rakes were placed for loading/unloading in two or more lots. Thus Zonal Railways had realized less revenue of ₹195.96 crore on account of difference between wagon load and train load class rates.

(Annexure XVIII)

2.4.6.3 Loss of expected earning capacity of wagons on account of detention

As per policy of providing lower train load rates, the Zonal Railways were expected to gain through reduction of operational costs on account of reduced detention to wagons. Audit, scrutiny of records of stations/sidings, however, revealed that Zonal Railways were continuously booking traffic at train load class rates even from stations/sidings which were not equipped to handle such traffic and as a result the wagons were continuously detained for an average period of four to 16 hours beyond the permissible time during loading/ unloading. Audit observed the following:

- In 42 sidings, Zonal Railways had suffered a loss of ₹126.37 crore (after excluding the amount of ₹13.13 crore recovered on account of demurrage charges) on account of expected earnings capacity of wagons detained for a total period 3739757 hours (155823 wagon days) over and above the free permissible time allowed for loading/unloading..
- Similarly in 69 stations, Zonal Railways had suffered a loss of ₹226.90 crore on account of expected earning capacity of the wagons (after excluding the amount of ₹36.52 crore recovered on account of demurrage charges) for detention of 211343 wagon days beyond the permissible free time of loading/unloading.

It was also noticed that the Railway Administration had not calculated the demurrage charges leviable for detention beyond free time correctly leading to loss as under

- In the case of sidings, the demurrage charges leviable for the period of detention worked out to ₹30.67 crore. However, the Zonal Railway had calculated the same as ₹17.06 crore leading to short recovery of ₹13.60 crore. Apart from short levy, a sum of ₹5.69 crore (33.35 per cent) was waived by Zonal Railways citing reasons beyond the control of consignor or consignee.
- Similarly at stations, the demurrage charges leviable for the period of detention worked out to ₹67.28 crore. However, the Zonal Railway had calculated the same as ₹36.52 crore leading to short recovery of ₹30.76 crore.

(Annexures XIX & XX)

2.4.6.4 Lack of action by Railways for augmentation of facilities

Prior to August 1997, the benefit of train load rates was allowed on the basis of minimum weight offered by consignors at one station or siding. However, from August 1997, Railway Board prescribed the minimum number of wagons required to be loaded. Thus, it was important that only those stations/sidings which were capable of accommodating full rake were notified for booking of traffic at train load rates. Keeping this in view the Railway Board had directed the Zonal Railways in February and March 2004 to review the handling capacity of all stations/sidings so that full rake points have the capacity for placement of full rake in one placement or in one/two spurs. They had also directed the Zonal Railways to de-notify all those stations/sidings which did not have facilities for placement of rake in one lot and to initiate action to augment the facilities at such stations.

Audit scrutiny of handling facilities at 87 stations and 57 sidings revealed the following:

- Despite Zonal Railways being aware of the fact that adequate facilities to accommodate full rakes comprising the prescribed number of wagons between 30 and 58 were not available, no action was taken to de-notify them for accepting booking of traffic at train load class rates.
- No work for providing full rake handling capacity in 61 stations/sidings was taken up by East Central, East Coast, North Central, North Eastern, North Western South Central, Western and West Central Railways.
- Though works for augmentation of facilities at 23 stations and two sidings viz. Central (five), Eastern (one), Northern (11), Northeast Frontier (three), Southern (one), South Eastern (one), South East Central (one) and South Western (two) were sanctioned belatedly, the same were incomplete as of 31 March 2011 despite incurrence of expenditure of ₹4.32 crore.

(Annexure XXI)

2.4.7 Conclusion

The policy of providing lower train load rates had envisaged that Railways would achieve saving by way of reduction in operational costs due to minimized marshalling and lesser detention to rolling stock. The benefit so accrued was to be passed on to the consumers. Audit, however, observed that notification of stations/sidings as capable of handling full rake traffic regardless of the actual facilities available had not served the purpose as placement of wagons for loading/unloading was being done in a piece meal fashion by splitting the rakes according to the capacity of goods lines. This had not only caused Zonal Railways to incur extra operational cost but also huge detention to rolling stock. Thus, while the rail-users were benefited to the extent of ₹315.95 crore on account of lower train load class rates, the Zonal Railways lost ₹353.26 crore on account of detention to wagons over and above the permissible free time for loading/unloading in the stations/sidings reviewed.

Recommendations

- *Keeping in view the huge detention at stations/sidings, Zonal Railways need to review the existing facilities at stations/siding which have been approved for handling full rake traffic and de-notify those where placement of a rake is done in more than one part on account of non availability of holding capacity in lines.*
- *The waiver of demurrage to siding owners should be done only if they agree to invest the same in creation of adequate infrastructure in their siding.*
- *Zonal Railways should take immediate action to create adequate train handling facilities at those stations where the quantum of traffic is very high*

The matter was brought to the notice of Railway Board (November 2011); their reply had not been received (January 2012).

2.5 East Coast Railway: Undue benefit to consignors in booking of iron ore traffic

Irregular allowance of benefit of concessional tariff by Railway staff without ensuring that all the conditions had been complied with resulted in undue benefit of ₹1795.51 crore to the consignors which included short recovery of ₹51.25 crore on account of delivery of consignment to parties other than the original consignee

In terms of Railway Board's circulars No. 24 and 30 of 2008 transportation of iron ore for domestic consumption and other than domestic consumption was assigned separate classification and charged at class 170 and 200-X respectively from 22 May 2008. In order to avail the tariff rate meant for 'iron ore' for domestic consumption, all iron and steel manufacturing units booking iron ore to their private sidings were to make one time submission of the certified copies of –

- Industrial Entrepreneur Memorandum (IEM)
- The Factory Licence
- Certificate of registration under Contract Labour Act
- Consent for Establishment(CFE)
- Consent for Operation (CFO) from Pollution Control Board
- Central Excise registration certificate; and
- Monthly excise return

Besides, the above documents, the following conditions were also to be complied with:

- (i) Periodic submission of Monthly Excise returns on a quarterly basis. Failure of submission of any of the prescribed excise related documents will result in summary disqualification from eligibility.
- (ii) Consignors were to make an endorsement on the forwarding note that the consignment was meant for domestic consumption.
- (iii) The manufacturing units were to furnish an affidavit on non-judicial stamp paper of ₹100 (in the prescribed format) certifying that only iron ore for domestic consumption would be received in their siding.
- (iv) After arrival of the consignment at the destination, consignees were to furnish an affidavit on non-judicial stamp paper (for each rake) indicating RR No., wagon number, name of goods shed containing a declaration that the consignment was meant for domestic consumption at the manufacturing unit (name) located at (place) with factory registration and Cenvat no. (Number to be indicated). It was also to be certified that the consignment was not meant for export out of India and would not to be exported out of India under any circumstances.
- (v) The consignee was also to furnish a stamped indemnity note to indemnify the railway against mis-declaration or any other misuse.

The consignors other than Steel/Cement Manufacturing units were required to submit all the prescribed documents during each booking of iron ore traffic.

In terms of Para 4 of Rate Circular No. 30 of 2008, Railway Receipts (RRs) were to be issued only in the name of consignee in respect of whom the prescribed documents were submitted by the consignor and delivery of the consignment was to be given only to the consignee mentioned in the RR. In case the delivery of the consignment was made to parties other than the consignee mentioned on RR, the freight was to be realized at the tariff meant for iron ore for export (class 200-X or 180 plus DBC as the case may be) by raising undercharges wherever necessary.

Further in terms of RC No. 36 of 1 June 2009 the rate for iron ore booked for 'other than domestic consumption' was revised from class 200-X to class 180 plus 'distance based charge (DBC)' with effect from 6 June 2009.

Audit scrutiny of records related to the booking of iron ore traffic from three stations over Waltair Division of East Coast Railway viz. Kirandul, Bachel and Jagdalpur revealed that 99 consignors viz. Iron and Steel companies including Sponge Iron Units had booked iron ore to their manufacturing units as well as to other stations not related to their manufacturing activities during 22 May 2008 to 31 March 2011. However they had either not submitted the required documents or the documents were incomplete as indicated (Table Below).

Sl. No.	Name of the document not submitted or was found incomplete	Number of parties involved
1.	Industrial Entrepreneur Memorandum (IEM)	53
2.	Consent for Operation (CFO) from Pollution Control Board	39
3.	The Factory Licence (current)	15
4.	Certificate of registration under Contract Labour Act	36
5.	Central Excise registration certificate	3
6.	Monthly excise return	26
7.	Indemnity note/Affidavit	35

2.5.1 Cases of booking without furnishing all documents or non-furnishing of documents at all-

Despite the fact that the consignors had not complied with the prescribed conditions, the East Coast Railway Administration had allowed them the benefit of concessional rates meant for booking of iron ore for domestic consumption. This had resulted in undue benefit of ₹1795.51 crore to the consignors/consignees as detailed below:

- Thirty-three consignors had booked their consignments during 22 May 2008 to 31 March 2011 without complying with all the conditions i.e. either without furnishing all the requisite documents or the documents furnished were with incomplete information. Only ten parties had submitted all the documents except IEM to Sr. Divisional Commercial Manager, Waltair. However, all the parties were allowed the benefit of domestic rates providing them undue benefit of ₹1124.58 crore. (**Annexure XXII**)
- The benefit of lower rates providing undue benefit of ₹189.06 crore (36 consignors) and ₹30.18 crore (seven consignors) was allowed during the period of 22 May 2008 to 5 June 2009 and 6 June 2009 to 31 March 2011

respectively. These parties had also not complied with the conditions laid down for availing the benefit of domestic rates. **(Annexure XXIII)**

- During the period 6 June 2009 to 31 March 2011, the iron ore traffic of twenty three consignors was booked at domestic rates. However, none of the documents were available at the stations to verify whether the consignments were actually transported for domestic consumption. The total benefit availed by these consignors was of ₹451.69 crore.

(Annexure XXIV)

2.5.2 Cases of delivery of consignments to third parties

During test check of consignment booked to Jagdalpur station of East Coast Railway, Audit noticed that eight consignors had allowed the delivery of their consignment to third party i.e. to an exporter. Despite the fact that delivery was taken by the party other than the original consignee, Station staff had not collected the difference in rates between ‘iron ore for domestic use’ and ‘iron ore for other than domestic use’. This had resulted in loss of ₹51.25 crore. **(Annexure XXV)**

Thus Irregular allowance of benefit of concessional tariff by Railway staff without ensuring that all the conditions had been complied with resulted in undue benefit of ₹1795.51 crore to the consignors which included short recovery of ₹51.25 crore on account of delivery of consignment to parties other than the original consignee.

The matter was brought to the notice of Railway Board (January 2012); their reply had not been received.

2.6 *Central and Western: Loss of revenue on account of moving traffic by longer route and charging by shortest route*

Carriage of traffic via longer routes without bringing such streams of traffic under the purview of Rationalisation Scheme or taking appropriate action to remove the bottlenecks on the shorter routes as well as ambiguity in orders had caused the loss of revenue of ₹70.27 crore

In terms of Rule 125(1) of Indian Railway Conference Association Goods Tariff unless specified by the sender, goods will be dispatched by the route operationally feasible and freight charges recovered by the shortest route. Rule 125(3) ibid empowers Central Government to issue General Order for charging the goods by the actually carried route. In view of these powers Railway Board had been issuing General Orders (since January 1976) specifying streams of traffic which were regularly carried via longer route for operational constraints.

Accordingly Railway Board had advised (February 1976) Zonal Railways to intimate all such definite cases of streams of traffic that were regularly moved via longer route along with reasons thereof. From April 1998, Railway had been asking Zonal Railways to review the General Orders (Rationalization Schemes) critically and suggest additions/deletions with reasons.

During audit inspection of two stations of Central Railway and three stations of Western Railway, audit noticed that though traffic meant for / booked from these stations was regularly carried via longer routes, the charges were always recovered via the shortest routes resulting in loss of revenue despite incurrence of higher operational cost in three instances of traffic involving steel, coal and salt as detailed below:

I. Steel

The traffic booked from Vishakhapatnam Steel Plant Siding (VSPS) to Vishakhapatnam Steel Siding, Kalamboli (Central Railway) was always carried via longer route viz. Duvvada (DVD), Vijayawada (BZA), Dornakal (DKJ), Balharshah (BPQ), Wardha (WR), Bhusaval (BSL), Igatpuri (IGP) and Kalyan (KYN) over a distance of 1707 kms, but freight was charged via the shortest route of Duvvada, Vijayawada, Kazipet, Wadi, Pune and Kalyan (1477 kms) till August 13, 2009 and via DVD, BZA, KZJ, Wadi, Pune (PA) Karjat and Panvel (1427/1433 Kms) after August 14, 2009. Charging of the traffic via the shortest route though regularly carried over the longer route resulted in a loss of ₹11.31 crore during the period January 2007 to February 2011.

When the matter was taken up with Railway Administration (May 2011), they stated that this traffic was carried via longer route because the shorter route was single line non-electrified and thus not convenient. They accepted that since the longer route was operationally convenient, they had taken up the matter with Railway Board for inclusion of the same in the General Order for charging the freight via actual carried route. However, the route had not yet been rationalized resulting in continued incurrence of higher operational cost and less recovery of freight.

II. Coal

As per General Orders (Rationalization Schemes) issued from time to time, all coal traffic originating from CIC Coal fields (subsequently named Korea-Rewa coal fields) to stations on Central Railway was to be booked and charged via Katni. However, the same traffic meant for stations on Mumbai Division of Western Railway, was to be routed and charged via Katni Marwara – Bina – Bhopal – Itarsi – Khandwa and Bhusaval.

During audit inspection of records of Maharashtra State Power Generation Company Siding (MQSG) at Eklahare, Nasik of Central Railway, it was noticed that coal traffic received from Korea-Rewa coal fields of Bilaspur Division of South East Central Railway was regularly carried via Katni Marwara – Bina – Bhopal – Itarsi – Khandwa and Bhusaval without touching Katni as stipulated in the Rationalisation Scheme. However, the freight was charged via Katni – Jabalpur – Itarsi – Khandwa and Bhusaval.

When the matter was taken up with the Railway Administration in June 2011 they stated (December 2011) that the traffic up to Katni Marwara (KMZ) was charged as per provisions of General Orders in force and beyond that point via shortest route because the route from KMZ onward was not covered under rationalization scheme. The reply was not acceptable because the shortest route for coal traffic coming from Korea-Rewa coal fields to stations on Mumbai Division of Western

Railway as well as to MQSG of Central Railway beyond KMZ was Katni-Jabalpur-Itarsi. Audit, however, noticed that while the route beyond KMZ for traffic meant for Mumbai Division of Western Railway was specified, Railway Board failed to take cognizance of this fact and did not specify the exact route via which the traffic to Central Railway was to be carried and charged. Moreover, it was a fact that the trains after reaching KMZ had to be moved via Bina-Bhopal-Itarsi and for moving them by the shorter route viz. Katni-Jabalpur-Itarsi, they had to be brought back to Katni which was not operationally convenient. Thus non rationalization of the route beyond KMZ for traffic meant for Central Railway stations resulted in loss of revenue of ₹43.41 crore from February 2007 to March 2011 despite incurring higher operational cost.

III. Imported Coal and Salt

Traffic of imported coal and salt for human/industrial use from three stations of Rajkot Division of Western Railway to various destinations was regularly carried by the longer route viz. Dahinsara – Wankaner – Viramgam but freight was charged via shorter route of Maliya-Miyana – Viramgam. The carriage of this traffic by the longer route had resulted in loss of revenue of ₹15.55 crore during the period from April 2007 to February 2011.

Since the route used for actual carriage of this traffic was longer by 26 to 38 Kms entailing additional operational cost, the matter for bringing this traffic under the purview of General Order for charging freight via actual route of carriage was earlier taken up by Audit with the Zonal Railway in 2003. In reply (September 2003), Railway Administration had stated that the coal and salt traffic was being carried via longer route on account of operational feasibility. In case this traffic was carried via shorter route, the locomotive and brake van of the trains would require reversal both at Dahinsara and Maliya Miyana and this would result in detention to wagons and locomotives causing more loss. The case was also referred to Railway Board. Railway Board in their reply (February 2004) stated that since the traffic was carried via longer route with the sole objective of achieving economy and mobility, the charging of the same via shorter route was in conformity with rules and post facto sanction for regularization of the action was not required.

The argument of the Railway Board was not acceptable as this traffic was continuously carried via longer route since 2001 and Railway Administration had neither taken any action to remove the bottlenecks on the shorter route nor contemplated to bring this stream of traffic under the purview of Rationalization Scheme to compensate for the additional operational cost being incurred regularly.

Thus the longer routes regularly used for carriage of above streams of traffic were neither rationalized nor the bottlenecks/constraints on the shorter routes overcome that led to loss of revenue of ₹70.27 crore (January 2007 to March 2011).

The matter was brought to the notice of Railway Board (January 2012); their reply had not been received.

2.7 Southern Railway: Loss due to empty haulage of un-utilised/ un-leased parcel vans (SLRs)

Running of unutilized/ un-leased front SLR¹⁰ with the trains resulted in avoidable cost of haulage to the extent of ₹ 29.69 crore per annum to the Railway.

With a view to maximize the utilization of un-utilised / under-utilised parcel space in Brake Vans (SLRs) of various Mail/Express trains, the Ministry of Railways (Railway Board) introduced (November 1991) a scheme for leasing SLRs for parcel traffic that was amended from time to time. Later, a comprehensive Parcel Leasing Policy was introduced from April 2006 under Freight Marketing Circular No.12 of 2006 whereby Zonal Railways were required to monitor parcel earnings vis-à-vis parcel carrying capacity available.

Mail/ Express and ordinary passenger trains run with two SLRs. One SLR attached next to engine is called front SLR and the second SLR at the end rear SLR. Each SLR has two compartments (each compartment having parcel carrying capacity of four tonne) and a passenger compartment to accommodate 40 passengers. As per Railway Board's policy, both the compartments of front SLR (total eight tonne capacity) and one compartment of rear SLR (four tonne capacity) are earmarked for leasing. The remaining four tonne compartment of rear SLR is for departmental use and kept under Guard's charge for loading passenger's luggage / other booked parcels.

During the review of progress of leasing of un-utilised/ under-utilised parcel space in the trains originating from Southern Railway during 2008-09 to 2010-11, it was noticed that there were 158 trains where both the compartments of front SLR and one compartment of rear SLR were neither utilized nor leased. Further, there were 124 trains where both the compartments of front SLRs had not been utilized/ leased for a period more than three years and were hauled empty all along. Since one compartment of rear SLR was available for leasing in these 124 trains, the front SLR could have been utilized profitably. It was, thus, that Railway Administration had not been adequately monitoring the parcel earnings vis-à-vis parcel capacity available. Empty haulage of parcel space of front SLRs (reserved for parcel leasing) thus resulted in avoidable cost of haulage to the extent of ₹ 29.69 crore per annum.

The matter was brought to the notice of Railway Board (November 2011); their reply had not been received (January 2012).

2.8 South Western Railway: Loss in leasing Parcel Cargo Express Trains to private operators

The fixation of reserve price/ leasing charges for leasing Parcel Cargo Express trains to private operators failed to consider actual cost of haulage resulting in a loss of ₹15.40 crore

In order to improve capacity utilization of parcel vans and provide value added assured service with guaranteed transit time for augmenting parcel earnings,

¹⁰ SLR- Second Class cum Luggage Brake van.

Railway Board introduced (February 2007) a new policy of leasing Parcel Cargo Express train to private operators.

South Western Railway (SWR) and Northern Railway (NR) awarded three (SWR-two and NR-one) leasing contracts for Parcel Cargo Express trains to private operators during March 2009 to August 2010. Audit scrutiny of records revealed that these parcel trains made a total number of 184 single outward trips from Bangalore city (SBC) and Satellite Goods White Field Terminal, Bangalore (SGWF) during April 2009 to July 2011 and a total amount of ₹19.83 crore was collected as freight charges.

As per the Railway Board's policy (February 2007), the reserve price for round trip was to be fixed at 1.25 times of single journey freight at Scale 'P'¹¹ under coaching tariff. Since the Parcel Cargo Express trains are exclusive services meant to transport only parcels with guaranteed transit time and handled with importance like any other goods trains without any social obligation attached, the rationale behind fixing reserve price based on coaching tariff was prejudicial to the financial interests of Railways. The reserve price should have been fixed taking into account the cost of hauling a coaching train per km. As per 2009-10 statistics, the All India average cost of hauling a coaching train per km was ₹ 779.76.

The details of parcel trains, lease price, actual cost of hauling for three Parcel Cargo Express trains leased during March 2009 to August 2010 were as follows.

(₹ in crore)

Sl No.	Name of the private Operators & Routes with Distance	Date of Leasing	Lease Amount per trip	Coaching Train Hauling cost (2009-10 statistics)	Loss per trip (5-4)
1	2	3	4	5	6
1	M/s Indo Arya Central Transport Ltd SGWF-HLDD-2432kms	03.03.09	0.10	0.19	0.09
2	M/s Rahul Cargo Private Limited SBC-BHD-2303 kms	26.05.09	0.09	0.18	0.09
3	M/s Transport Corporation of India Ltd SGWF-NGC-2878kms	13.08.10	0.18	0.23	0.05

As against the total freight of ₹ 19.83 crore collected during April 2009 to July 2011 the corresponding haulage cost of trains borne by the Railway was ₹35.23 crore, resulting in a loss of ₹15.40 crore.

The matter was taken up (October 2010) with the South Western Railway Administration. In reply it was stated (February 2011) that the procedure adopted in fixing the reserve price for the leasing of these trains was in order as the reserve price was fixed as per the guidelines issued by the Railway Board. However, the fact remained that due to fixing of reserve price for round trip for leasing as per

¹¹ Freight at Scale P under coaching tariff- this is applicable to Premier Parcel service through notified Mail/Express and Shatabdi Express trains and all types of Special Parcel Trains.

Railway Board's guidelines even the cost of hauling the trains was not being recovered.

When the matter was taken up with the Railway Administration in September 2011, they stated (October 2011) that Railway Board while fixing the rate for reserve price for the Parcel Cargo Express trains had considered all aspects including costs involved in the movement of Parcel Cargo Express train. Further, the logic behind fixing the reserve price depended on various factors like outward direction flow, purchasing capacity of the region, competition from road etc. Their reply was not acceptable, as even the recovery of the cost of hauling a coaching train had not been ensured while fixing the reserve price for a round trip that resulted in unintended benefit to the parties and recurring loss to the Railways.

Thus, fixation of reserve price/ leasing charges of Parcel Cargo Express trains without regard in the actual cost of haulage resulted in a loss of ₹ 15.40 crore.

The matter was brought to the notice of Railway Board (October 2011); their reply had not been received (January 2012).

2.9 Southern Railway: Poor quality service in Linen Management

In departmentally managed trains, cost of linen was very high despite poor quality resulting in additional financial burden assessed at ₹14.87 crore (2009-10 & 2010-11). The quality of linen could also not be ensured due to unworkable rates

Railway Board revised (August 2005) the policy on supply of bedrolls to passengers traveling in IAC, 2AC & 3AC coaches of Mail/express trains. The revised guidelines provided for:

- (i) Procurement and distribution of linen departmentally by Railways;
- (ii) Outsourcing the entire work relating to procurement, cleaning/ washing and supply of linen.

Railway Board also directed that in the event of outsourcing, meaningful savings shall accrue and the quality of service be monitored. A ceiling of ₹20/- per bedroll for outsourced bedroll services had been fixed by Railway Board nearly 15 years earlier.

On Southern Railway, linen management in respect of 52 mail/passenger trains had been outsourced to private parties (January 2010) and the services in respect of 28 trains managed departmentally.

Audit observed that in respect of trains where linen services were provided departmentally, four contractors were handling most of the contracts for washing of linen. Rates for washing alone ranged between ₹12/- to ₹23/- per bedroll. It was observed that there were complaints of poor service against all tenderers operating in various Divisions of Southern Railway. This was due to virtual monopoly of the linen service by a few contractors and limited participation against the tenders.

As per a cost study conducted by the Railway Administration (February 2009) in respect of linen service provided departmentally, the cost of issue of bed roll increased significantly from ₹39.72 per set in 2006 to ₹ 97/- per set in 2009. Despite this, there was no change in the bed roll charges of ₹25/- per set merged in fare structure of AC accommodation in all trains. Thus, the additional financial

burden for two years (2009-10 to 2010-11) for providing linen services departmentally in respect of 27 trains (excluding Durgam Express) is assessed at ₹14.87 crore. Thus, despite incurring additional financial burden, the objective of providing high quality linen service in departmentally served trains was not achieved.

Audit observed that in 52 trains where the linen services were outsourced, most of the bedrolls were managed by three out of the same four contractors handling departmental services at rates ranging from ₹12.90 to ₹20.00 per bedroll. However, the quality of service was poor and the passengers expressed dissatisfaction with the service. The deficiencies in service such as "short supply", "dirty", "torn", "not properly ironed", "old pillow covers", "soiled pillow covers" were brought out by the traveling public/inspecting officials. Although penalties were levied regularly for such deficiencies, there was no improvement.

Audit observed that the cost study indicated that the cost of washing amounted to only about 22 per cent of the cost of issue of bedroll. Thus, the rate prescribed for outsourcing the linen service (i.e. procurement, washing and supply of linen in trains) was not adequate/ workable and the contractors were compromising with the quality of linen service. In this context, the General Manager requested (December 2008) the Railway Board to enhance the maximum limit of bedroll charges from ₹20/- to ₹30/- to ensure quality of bedrolls. The Divisional Railway Manager, Chennai Division had informed the Chief Commercial Manager (CCM) (June 2009) that the rate paid to the contractors was very meager in comparison to market rates and, therefore it was not possible to provide quality service. Thus, the quality of linen service provided remained poor whether departmentally or through outsourcing.

When the matter was taken up with Railway Administration in June 2011, they stated (September 2011) that the fare included all services provided to the passengers. Bedrolls were to be provided to the passengers irrespective of the cost involved. The loss or profit had to be arrived at for the service as a whole and not for individual components of the service. The reply is not acceptable because as per Railway's own estimates the cost of providing rolls had gone up to ₹97/- per set, whereas the cost recovered from passengers was a meager ₹25/- per set.

Thus, besides incurring the huge differential cost Railway could not ensure that the quality of service provided has not compromised.

The matter was brought to the notice of Railway Board (October 2011); their reply had not been received (January 2012).

2.10 East Coast Railway: Non-recovery of wagon hire charges at revised rate

Non implementation of revised rate of wagon hire charges resulted in non-recovery of ₹ 26.81 crore from Port Trust Railways

Ministry of Railways and Visakhapatnam Port Trust (VPT) Railway entered into an agreement (1998) for discharging various activities by the Port Authority on behalf of the Railways.

Clause-11(a) (I) of the agreement provided that the rolling stock of the Railways would be allowed to remain in the Port Trust Railway area for 27 hours for single operation and 45 hours for double operation free of hire charges. After the expiry of free time, hire charges would be levied and realized from Port authorities at the rates in force from time to time as per Rule 210.1 of Chapter II of IRCA rules (Indian Railway Conference Association), Part II. In case of any dispute, decision of the government shall be final.

The agreement (clause-11.c) further provided that where demurrage collected in any one month by the Port Trust Railway from the public on wagons belonging to the Railways exceeds the amount of hire charges paid by the port trust Railways the excess amount would be paid to Railways within three months from the expiry of the month concerned. For this purpose, reconciliation would be done quarterly and amount if any due will be recovered from Visakhapatnam Port Trust (VPT). Railway Board (July 2006) reduced the free time (from 01 August 2006) for Port Trust Railways to 15 hours for single operation and 24 hours for double operation, bills of wagon hire charges were preferred as per revised free time but the same was not accepted by VPT on the ground of non-revision of agreement and consequently reconciliation was discontinued from August 2006. Loss of revenue due to non revision of agreement after issue of Railway Board's order was taken up through Audit Para No. 5.1.3 of 2008-09 to which Railway Administration vide their Action Taken Note agreed to adjust the arrears after revision of the agreement. A fresh agreement was executed on 11th March 2001 for implementation of free time at revised rate etc. However, the agreement is silent on recovery of arrears.

The wagon hire charges in respect of non-railway users were revised from ₹ 384/- to ₹ 424/- per day per (four wheelers unit) wagon from 01 November 2004 by Railway Board (27 October 2004). The revised rate was not implemented. Further, Railway Board in their letter dated 13th June 2008 specified that wagon hire charges were to be calculated in terms of eight wheelers wagon unit by multiplying the existing rates of wagon hire charges by 2.45 for Board Gauge wagons. These orders were also not implemented. Audit scrutiny of the statement prepared for reconciliation for the period April 2006 to December 2010 revealed under assessment of ₹ 18.80 crore as wagon hire and demurrage charges. If the revised rate of wagon hire charges is implemented from November 2004, the outstanding dues would be higher.

Similarly, review of records at Paradeep Port Trust Railway revealed that the wagon hire charges were not assessed at revised rates applicable from 2004/2008 onwards. Further, bills for wagon hire charges were not preferred from March 2009 against the Port Trust Authorities as per provision of the agreement. The above resulted in under assessment of wagon hire charges to the tune of ₹ 8.01 crore by March 2010. Non-raising of bills indicates a lack of internal control in Railway Administration.

Thus, non-implementation of revised rate of wagon hire charges from 2004/2008 resulted in under assessment of ₹ 26.81 crore from Port Trust Railways.

The matter was brought to the notice of Railway Board (October 2011); their reply had not been received (January 2012).

2.11 East Coast Railway: Loss due to heavy detention of wagons

Prolonged detention of Railway wagons resulted in loss of earning capacity of ₹25.77 crore

The operational effectiveness of Railways depends on the optimal use of its rolling stock. It is therefore, imperative to ensure that the wagons are placed for loading/unloading immediately on receipt at a station and removed/dispatched to their destination as soon as the loading/unloading is completed.

Audit scrutiny of terminal detention register of siding of M/s Bhusan Power and Steel Limited (BPSL)/ Lapanga under Sambalpur division revealed that the loco powers were detached from the rakes after placement of the wagons in the siding and released to other places as per control orders. In most of the cases, engines were not available to draw the rakes from the siding after completion of loading. This resulted in detention of the loaded rakes at the siding for a considerable period on Railway account as mentioned in the table below:-

Detention Range (in (in hours)	Total No. of wagons	Total wagon hours lost	Loss in terms of earning capacity (₹ in crore)
0-10	14113	92578.76	Not assessed
10-20	12411	174319.26	7.40
20-30	4710	111207.37	4.72
30-40	1186	40498.94	1.72
40-50	341	14584.38	0.62
50-60	497	27053.83	1.15
60-70	143	9292.28	0.39
70-80	118	9100.75	0.39
Total	33519	478635.56	16.39

Since the Railway Administration has not fixed any norm for free time of loading for arranging loco and crew etc, Audit considered allowance upto 10 hours for arranging loco and crew etc (BPSL siding Lapanga having mechanized loading/unloading). Hence, excluding the detention cases of upto 10 hours the total loss was assessed to the tune of ₹ 16.38 crore in terms of earning capacity for the period from April 2009 to March 2011. The matter was taken up with Railway Administration in March 2011 to which no reply has been received (July 2011).

On Kirandul – Visakhapatnam section of Waltair Division during the period August 2010 to 5th April 2011, sixty one (26 loaded and 35 empty) different types of 8 wheeler wagons were detached from various freight trains for running repairs. These 61 wagons after repairs were detained in the Kirandul station yard for periods ranging from 76 days to 222 days before they were attached to mainstream traffic. No reasons were available for not putting the wagons back to mainstream traffic. Thus, due to avoidable detention of wagons, 9216 wagon days were lost. Despite heavy demand of wagons on this section, the fit available wagons were not put to use resulting in revenue loss of ₹ 9.39 crore.

Thus, prolonged detention to rolling stocks at different sidings and yards resulted in loss of ₹ 25.77 crore in terms of potential earning capacity of wagons.

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

Chapter 3 – Engineering – Open Line and Construction

The Engineering department of Indian Railways has two distinct organizations namely Open Line and Construction. While the Open Line is responsible for maintenance of all fixed assets of Indian Railways, i.e. Tracks, Bridges, Buildings, Roads, Water supply etc. the Construction Organization is responsible for construction of new assets such as New lines, Gauge conversion, doubling and other expansion and developmental works in Railways.

Major policy decisions of the engineering department are taken at Railway Board headed by Member Engineering who is assisted by Additional Member (civil engineering) and Additional Member (works).

At Zonal level the department is headed by Principal Chief Engineer (PCE) who is assisted by various chief engineers for track, bridge, planning, track machines, general matters etc. In addition, each Zonal Railway has a construction unit headed by a Chief Administrative Officer who is responsible for major construction works such as new lines, doubling, gauge conversions etc., and is assisted by various chief engineers (construction).

Each Zone is divided into 4-7 Divisions each with an average track length of about 1000 km and staff strength of about 15000 headed overall by Divisional Railway Manager. The Divisions are basic units for execution of works. At this Level, the Engineering department is headed by Senior Divisional Engineer.

The total expenditure of the Civil Engineering Department during the year 2010-11 was ₹20182 crore. During the year, apart from regular audit of vouchers and tenders etc., 1156 offices of Civil Engineering including Construction Organization of the Railway were inspected by Audit.

This chapter includes the following three thematic studies conducted across all Zonal Railways :-

- **Commercial Utilization of Surplus Railway Land’ in Indian Railways -** Despite the concerns expressed by the PAC, the performance of the Indian Railways in safeguarding its title to land and ensuring proper maintenance of land records continued to remain unsatisfactory. Though in a number of cases Railway land was allowed to be occupied by the PSUs/other Government Department and private parties, Zonal Railways had failed to take effective action to execute license agreements and recover the license fee from the licensees.
- **Civil Engineering Workshops in Indian Railways-** Audit observed that the objectives of setting up Civil Engineering Workshops to help Railways in meeting their demand of essential components required for day to day

maintenance of tracks and manufacture of girders for bridges etc. had not been fully met due to lack of clear strategic direction.

- **Safety works – Level Crossings, Road Over Bridges and Road Under Bridges** - The objective of improving safety in IR by elimination of level crossings had met with limited success largely due to inadequate commitment to implementation of policy that resulted in constant gross under-utilisation of funds both in level crossings and ROB/RUBs. Railways' efforts in co-ordinating with state government for successful completion of ROB/RUBs were inadequate.

Besides the thematic studies, cases of irregularities have been highlighted:-

- Avoidable loss of ₹284.20 crore due to delay in completion of bridge
- Avoidable expenditure of ₹13.64 crore in strengthening of old bridge in lieu of rebuilding

3.1 Commercial Utilization of Surplus Railway Land in Indian Railways

Executive Summary

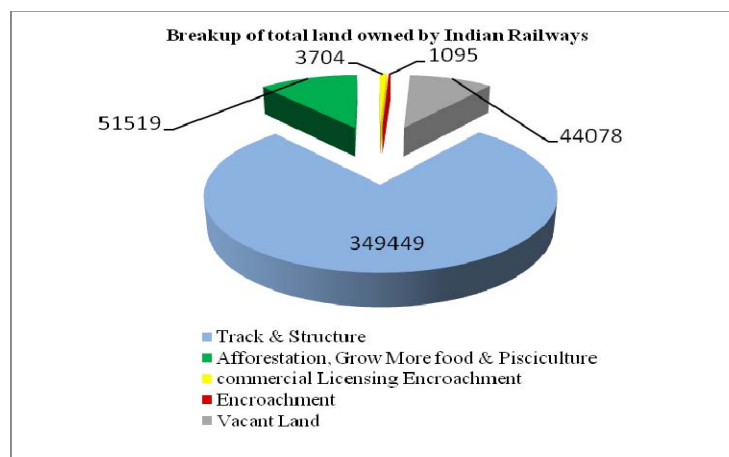
Public Accounts Committee (PAC) had in the recent past deliberated on the issues raised in the performance audit on ‘Land Management in Indian Railways’ (Report No. 8 of 2008) and observed that mere reiteration of instructions to the Zonal Railways for maintenance of proper records of land and processing of the licensing/ leasing only after the parties had signed the draft lease/ license agreements was not sufficient. The Committee had, therefore, recommended that Railways should set a time frame for executing/ renewal of agreements and ensure that the license fee in respect of land licensed to private parties, departments and Public Sector Undertakings (PSUs) should be calculated on the market value of land and recovered accordingly.

The present study was, therefore, undertaken across the Indian Railway to evaluate the implementation of policy framed by the Railway Board in commercial exploitation of its surplus land as well as recommendations of the PAC.

Audit found that the compliance by the Zonal Authorities in proper maintenance of land records, safeguarding the title of its land and execution of agreements with the licensees continued to be unsatisfactory. As a result an amount of ₹823 crore was outstanding for recovery on account of license fee. Further, the progress of identification of vacant land for commercial exploitation by the Railways and developing the same for commercial use was also tardy as only approximately three percent of the total vacant land had so far been handed over to Rail Land Development Authority (RLDA) set up in 2006.

3.1.1 Introduction

Indian Railways (IR) requires land for laying of tracks, construction of yards, station buildings, platforms, setting of workshops, repair and maintenance facilities and housing colonies for its staff. As on March 2011, Indian Railway’s total holding of land was 449827 hectares. The break-up of usage of this land was as follows:



Out of the total land of 449,827 hectare, only 3,704 hectare (0.82 per cent) was licensed for commercial purposes including sidings and 44,078 hectare (9.80 per cent) was lying vacant. Though a major portion of the vacant land was meant for Railway's own development works such as doubling, gauge conversion, yard remodeling and traffic facility works, freight corridors as well as for setting up infrastructural works etc., there was surplus land available for commercial development. The Ninth five year Plan envisaged commercial utilization of vacant Railway land to tap additional revenue from non-tariff measures.

(Annexure XXVI)

3.1.2 Organizational Structure

The responsibility of laying down the policy and framing the rules and regulations with regard to licensing/ leasing of Railway land for commercial purpose, rests with the 'Land Management and Amenities Directorate' of the Railway Board functioning under the overall supervision of the Member Engineering. At the Zonal Railways level, the Principal Chief Engineer functioning under the General Manager is the implementing and coordinating authority for various policies/ orders issued by the Railway Board from time to time. The actual execution of instructions/ directives at Divisional level is ensured by the Senior Divisional Engineer who functions under Divisional Railway Manager.

3.1.3 Audit Objectives

Public Accounts Committee (PAC) had in the recent past deliberated on the issues raised in the performance audit on 'Land Management in Indian Railways' (Report No. 8 of 2008) and observed that mere reiteration of instructions to the Zonal Railways for maintenance of proper records of land and processing of the licensing/ leasing only after the parties had signed the draft lease/ license agreements was not sufficient. The Committee had, therefore, recommended that Railways should set a time frame for executing/ renewal of agreements and ensure that the license fee in respect of land licensed to private parties, departments and Public Sector Undertakings (PSUs) should be calculated on the market value of land and recovered accordingly. They also recommended that all cases of leasing/ licensing, fixation and recovery of license fee be monitored

regularly at Board's level and all other charges be levied wherever applicable on uniform basis.

Audit conducted the review to evaluate the quality of compliance of the policies and regulations issued from time to time in regard to the following:

- Progress on commercial utilization of surplus Railway land
- Execution of agreements in respect of land licensed to PSUs, other Government Departments and private parties.
- Recovery of license/lease charges.
- Safeguard of land records and titles.

3.1.4 Audit scope and methodology

This study was conducted covering the cases of licensing/leasing of Railway land to PSUs, Government departments and other private parties including the cases finalized by Rail Land Development Authority (RLDA) for developing Railway land for commercial use and for development of Multi Functional Complexes (MFCs). The study also included the examination of all the relevant records/documents/information available with the Zonal Railways Headquarters as well as with their Divisional offices. The study covered the period from 2006-07 to 2010-11. Besides, the old disputed cases of licensing involving non-payment/under payment of license fee were also examined.

3.1.5 Audit findings

3.1.5.1 Commercial exploitation of surplus Railway land

Railway Reforms Committee in their report issued in (1982), had recommended that to prevent encroachment on Railway land and to augment Railway's resources, the existing land management organization be strengthened and a separate Railway Land Development Authority (RLDA) should be set up for exploitation and management of valuable Railway land in metropolitan cities/major towns for commercial utilization and other revenue earning activities. Railway Board while accepting the recommendation (1984) had stated that till a suitable organization of management of land was set up, all temporary licensing of land to private individuals not connected with Railway working may be stopped. These instructions were modified in March 1989 to the extent that temporary licensing of land may be permitted for providing shops in areas where adequate shopping facilities nearby Railway colonies were not available. In such cases licensing was to be done by adopting the method of auction or tendering.

In March 2001, Railway Board had issued comprehensive guidelines for identification of surplus Railway land for setting up shopping complex in Railway colonies or at Railway stations. Subsequently Rail Land Development Authority was set up in October 2006 with the objective of undertaking the commercial development of vacant land to generate revenue. In 2009, RLDA was also given the responsibility of developing Multi Functional Complexes (MFCs) through Public Private Partnership (PPP) mode.

Audit noticed that out of total available vacant land of 44078 hectare, Zonal Railways had identified 1549.07 hectare of land for commercial development till

March 2011. This land comprising 138 sites measuring 1526.58 hectare and 137 sites measuring 22.49 hectare were progressively entrusted to RLDA for commercial development and setting up MFCs, respectively. (Table Below)

Detail of plots identified as surplus and handed over to RLDA				
Railway	Number/area of plots handed over to RLDA for commercial and other purposes		Number/area of plots handed over to RLDA for developing MFC	
	No.	Area (in hectare)	No.	Area (in M²)
CR	1	0.8	7	13882.95
ECR	2	1.77	4	8225.00
E. Coast	2	1.75	7	9757.10
ER	6	20.71	19	25535.00
METRO	18	4.4455	0	0.00
NCR	3	36.55	4	6979.00
NER	4	72.47	4	7210.00
NFR	27	185.81	10	12239.00
NWR	3	0.93	5	6124.00
NR	14	70.2299	13	28333.30
SCR	18	37.3138	10	11550.00
SECR	5	424.087	4	6231.26
SER	3	2.67	10	32186.00
SR	9	9.0387	18	23397.00
SWR	2	2.72	7	2200.00
WR	21	655.2883	9	13214.00
WCR	0	0	6	17836.75
Total	138	1526.5832	137	224900.36 or 22.49 ha

Further status of these sites was as under:

- In respect of 133 plots, action for inviting bids, conducting survey of sites and submission of reports was being initiated.
- Out of five remaining sites, RLDA had already entered into lease with three developers and signed development agreements in respect of three plots of land over East Central (1), North Central (1) and South Western (1) with the developers who were found successful in bidding. An amount of ₹37.04 crore on account of lease charges was realized (March 2011); and
- In respect of two plots one each on Northern and South Central Railways, though the letters of acceptance were issued in November 2010 and April 2007 respectively, the developer agreements were yet to be signed. Lease charges of ₹317.63 crore there of had been realized.

As regards handing over the 137 plots for developing Multi Functional Complexes, so far (March 2011) only three developers had been identified in

respect of Northern, North Central and East Coast Railways and an amount of ₹3.33 crore was realized in respect of two sites of Northern and North Central Railways. In regard to remaining 134 sites (Table below) a majority were under evaluation by RLDA.

S.No.	Proposed Action/Status	No. of sites
1	Letter of Acceptance issued	2
2.	Bids being invited	2
3.	Land handed over to RITES by RLDA for taking up development	20
4.	Land handed over to IRCON by RLDA for development of MFC	24
5.	MFC being developed by RVNL	2
6.	To be developed by RLDA – evaluation and inspection of sites under process	84
	TOTAL	134

3.1.5.2 Irregularities in licensing/leasing of railway land

As of March 2011, approximately 3704 hectare of land i.e. less than one percent of total holding of Indian Railways was covered under commercial licensing. This land was in use by various Oil companies, PSUs (CONCOR, IRCTC, CWC, etc.) and private parties for steel yards, private railway sidings etc. As per the existing instructions, Railway land should be licensed after execution of proper agreements and recovery of license fee. Railway Board had also issued directions from time to time for the regulation of fixation of license fee. The Public Accounts Committee of Parliament (November 1982) had also stressed the need for strict compliance of rules regarding licensing of land.

Audit examination of the records available with the Zonal Railway Administrations revealed a general state of weak compliance of the instructions issued by the Railway Board and as a result an amount of ₹823.13 crore was outstanding for recovery on various grounds as discussed in the following paragraphs:

(Annexure XXVII)

Status of execution of agreements

Audit noticed that as on 31 March 2011, out of 30,884 cases of licensing of Railway land, agreements were available only in 9654 (31 per cent) cases. In 21237 cases (69 per cent) Zonal Railways had either not executed the agreements or the same were not available with them. While in Northeast Frontier Railway, agreements were not available/executed in 98 per cent cases, the other major defaulter Railways where agreements were not available/executed in more than 50 per cent cases were South Eastern (87 per cent), East Central (84 per cent), East Coast (64 per cent), Western (66 per cent), South Western (62 per cent), Northern (60 per cent), South Central (60 per cent), North Eastern (57 per cent) and North Central (54 per cent). Audit also observed that though in 73 cases out of a total of 4816, the agreements had become overdue for renewal for more than a year, Zonal Railways had not renewed them (Table below).

Railway	No of cases become due for renewal	No of cases out of Col.2 which were due for more than one year up to two years	No of cases out of Col.2 which were due for more than two year upto three years	No of cases out of Col.2 which were due for more than three year up to 60 years
CR	4	-	-	4
NFR	11	6	-	2
NR	114	2	-	44
SCR	68	-	1	-
SECR	1047	2	-	5
SWR	1	1	-	-
RPU (DLW-BSB)	696	1	-	5
TOTAL		12	1	60

In 743 cases date of expiry of agreements was not available.

(Annexure XXVIII)

Non-recovery/short-recovery of license fee

Railway Board had rationalized the guidelines for commercial licensing of Railway land. As per directives issued in (September 1985), the license fee was to be fixed on fixed percentage of the market value of Railway land as on 1 April 1985 as mentioned in the records of revenue authority. The market value so obtained was to be enhanced by ten per cent every year for subsequent revisions that were to take place after every five years. These orders were to be made effective from 1 April 1986. As these instructions were not implemented partly owing to inordinate delay in obtaining market value of land from revenue authorities and partly due to steep increase in the license fee on account of unrealistic land value adopted, Railway Board revised these instructions (August 1995) and directed the Zonal Railways to implement the same from a retrospective date (1 April 1986). After a gap of ten years (June 2005), Railway Board again clarified that license fee for the period prior to April 1995 would be recovered on the basis of orders of September 1985 and for the period from April 1995 to March 2004 on the basis of orders of August 1995. Thereafter the license fee was to be recovered at the rates notified in March 2004.

The repeated revision and clarifications by Railway Board thus indicated a weak and inconsistent approach that resulted in ineffective implementation across the Zonal Railways. Further analysis of the outstanding license fee revealed as under:

- Out of 30,884 cases of licensees across Indian Railways only 2919 (9.45 per cent) licensees had fully paid their dues.
- None of the 6988 licensees over North Eastern Railway had paid their dues ₹17.57 crore.
- While in Eastern, South Central, South Western and West Central Railways, more than 60 per cent licensees had fully paid their dues, the number of licensees who had paid partial dues was more than 90 per cent in East Coast (97.92 per cent), East Central (97.06 per cent), South Eastern (95.29 per cent) and Railway Production Units (DLW-BSB) (93.90 per cent).

- In Northern Railway, 98 out of 302 licensees had paid their dues only partially and the amount outstanding from them was ₹508.82 crore which constituted 68.82 per cent of total outstanding of the Indian Railways on this account.

The reasons for non-payment of license fees by the licensees were attributed to disputed areas dues recoverable, pending court cases, non-availability of records, non-execution of agreements, delay in preferring license fee bills and in their effective pursuance.

The above factors also contributed to non-raising of bills in respect of another 356 licensees.

Under billing of license fee

As per Railway Board's instructions of April 2004, the minimum license fee in respect of commercial plots should be ₹1000 per annum per 100 sqm or part thereof. Test check of records, however, revealed that these instructions were not followed which led to under billing and consequent short recovery of license fees of ₹2.95 crore. (Table below)

Sl. No.	Name of Railway	Period	No. of licensee	Amount of short recovery (₹in crore)
1.	CR	2004-05 to	10	0.64
2.	ECoR	2009-10	210	0.30
3.	WR		67	2.05
Total			287	2.95

Non-depositing of earnings received from renting of vacant grounds, community hall and sports grounds etc. in Railways account

Indian Railway provides club houses for the exclusive use of its officers, other structures for the benefit of other Railway staff and where convenient, Railway premises are also provided to Consumer Co-operative Societies, Staff Welfare Organizations payment of nominal rent.

In terms of Railway Board's order(March 1987), temporary licensing of Railway land for conducting exhibitions, melas, carnivals, circus shows and such other cultural activities including temporary shops on festive occasions was permitted for three months with the specific approval of General Managers of Zonal Railways. The recovery of license fee was to be fixed at 20 per cent of the market value of the land. In April 2004, Divisional Railway Managers were also permitted to grant permission for temporary licensing of Railway land to hold non-commercial functions up to a maximum of three days. As per instructions of the Railway Board (October 2006), Club/Institute were permitted to grant permission for use of Railway premises to private individuals for private purposes and not for commercial interests/gains.

Audit scrutiny revealed that Zonal Railways had entrusted the management of vacant grounds, community halls, sports ground etc. to the Railway Club Management, Railway Women's Welfare Organizations and Railway Sports Institutes. Though these clubs/institutes/welfare organizations were renting these premises to private bodies for holding functions such as marriages, carnivals,

commercial shows and sports events, the earnings from such events were retained by the organizers. Audit observed that out of total of ₹ 8.95 crore earned by the institutes during 2006-07 to 2010-11, only an amount of earnings (₹0.45 crore) were deposited by the club/institutes of Central, East Central, North Eastern, Northeast Frontier, South Central, and West Central Railways.

(Annexure XXIX)

Use of land by the licensees for the purpose other than that for which it was licensed

As per extant instructions, Railway land should neither be used for the purpose other than that for which it was licensed nor sub leased to any other party without prior permission of the Railways. Scrutiny of the records relating to licensing of land revealed that on North Western, Northeast Frontier and Southern Railways Railway land was sub-leased to third parties by the licensees as given below:

- Land measuring 11241M² was made over (1990) to Oil and Natural Gas Commission for laying of pipeline without execution of proper agreement. Audit noticed that after the transportation of the crude oil was stopped, ONGC had handed over this land (March 1996) to Bharat Petroleum Corporation Ltd without the knowledge of the Zonal Railway. When the matter was reported (Para 4.3.3 of Report No.6 of 2006), Railway Board had stated that fresh instructions had been issued in January 2005 to ensure that no land be handed over without execution of proper agreement. Railway had neither recovered the licence fee (₹4.30 crore) nor taken any action to retrieve their land.
- Railway land measuring 57996.6 square feet (5388.06 M²) was leased to Railwaymen's Consumer Cooperative Association Limited (RCCAL), Ajmer on payment of nominal licence fee of ₹182 per annum. Railway Administration noticed (1989) that the RCCAL had subleased part of this land to private parties. Though the matter was brought to the notice of Railway Board, they merely directed the Zonal Railway to enter into fresh agreement. Audit noticed that Zonal Railway continued to prefer bills at the rates agreed in 1925 without compliance of the instructions issued by Railway Board in 1985 and further revised in 1995. Though Zonal Railway had terminated the lease agreement in August 2006 and asked the Association to vacate the land, the party instead of vacating the land had sought intervention from court. Thus the indifferent approach of the Railway to safeguard its valuable assets, not only resulted in non-recovery of legitimate license fee but the retrieval of own land was also in doubt.
- A piece of land measuring 2 Acre (8097 M²) was leased to a private individual under Grow More Food scheme in 1971-72. Though the party concerned had opened a restaurant since February 2011, Railway Administration had neither taken action to take back the land nor revised the lease agreement for fixation of license fee as per actual use of the land.

(Annexure XXX)

Targets for earnings from commercial exploitation of Railways vacant land

Railway Board fixes the targets for 'sundry earnings' every year for each Zonal Railway. These also include the targets for earnings from commercial exploitation of Railway land. Audit examined the performance in terms of average of actual earning realized via-a-vis average target fixed for the 5 year period (2006-07 to 2010-11) (Table below).

Railway	Target fixed for earnings (₹ in crore) (average of five years 2006-07 to 2010-11)	Actual earnings (₹ in crore)	Percentage achieved
NR	112.00	145.19	129.63
WR	41.95	43.56	103.84
E Coast	21.00	24.78	118.00
SECR	10.30	11.48	111.46
CR	49.20	25.95	52.74
ECR	0.21	0.18	85.71
ER	24.20	15.83	65.41
NER	21.60	21.16	97.96
NWR	42.50	38.58	91.75
NFR	24.60	25.74	104.63
SCR	0.34	0.33	97.06
SER	24.33	23.57	97.62
RPU (DLW)	0.39	0.23	58.97
SWR	Not Fixed	192.06	
SR	Not Fixed	7.30	
NCR	Not Fixed	21.24	
WCR	Not Fixed	69.36	

While Northern, Western, East Coast and South East Central Railways had exceeded their targets, the five Zonal Railways had fallen short by more than 15 percent. In four Zonal Railway viz. South Western, Southern, North Central and West Central targets for earnings from commercial licensing were not fixed and as such their performance could not be assessed. The reasons for shortfall were not made available to audit.

3.1.5.3 Custody of Railway land

As per para 1004 of the Indian Railway Code for Engineering Department, Railway Administration is responsible for preserving unimpaired title of its land and keep the same free from encroachments. Audit noticed that Zonal Railways and field offices responsible for upkeep of safe custody of its land free from encroachments by maintaining proper records had not performed their duties diligently as discussed in the ensuing paragraphs.

Maintenance of Land Records

Rules provide that basic land records such as Land Record register, Land Boundary Verification register and Encroachment Inspection registers should be maintained in the office of the Chief Engineers, Divisional/Executive Engineers etc of Zonal Railways. Railway Board had directed all Zonal Railway (December 1982) to ensure that up-to-date land plans were available in the Divisional Offices and copies of the same should also be made available to the

field inspectors. Moreover, field inspectors were required to inspect their land regularly to guard against encroachment. Where necessary, boundary walls were to be constructed.

Audit noticed that while basic land records were not being maintained in East Coast and Eastern Railways, in, East Central, North Eastern, North Western, Northeast Frontier, Northern, South Central, South East Central, South Western, Southern, West Central (Except for Bhopal Division) and Western Railway records were maintained only at the sub-divisional level. In Central Railway, 13 Land Record Registers were maintained at Headquarters and 124 Land Boundary Verification Register were maintained at divisional level. The position regarding maintenance of records could not be ascertained in respect of North Central, South Eastern and Railway Production Units and Metro Railways as the same were not produced before audit.

The lack of care and diligence towards maintenance of basis records of title was injurious to Railway's interests resulting in disputed claims, encroachments, non/short recovery of license fee, non-preferment of bills, non-up-gradation of license agreements, etc.

Further, Zonal Railways should have Land Plans of all the lands in their possession duly authenticated by the respective State Revenue Authorities. Audit Scrutiny of records revealed that no proper action had been taken by the Zonal Railways to get the land plans authenticated from State Revenue Authorities. However, in NR alone, out of 5232 land plans, 4013 land plans (76 per cent) had been got authenticated. Failure to verify the land title resulted in disputed claims with third parties on encroached land in a number of cases.

3.1.6 Conclusion

Despite the concerns expressed by the PAC, the performance of the Indian Railways in safeguarding its title to land and ensuring proper maintenance of land records continued to remain unsatisfactory. Though in a number of cases Railway land was allowed to be occupied by the PSUs/other Government Department and private parties, Zonal Railways had failed to take effective action to execute license agreements and recover the license fee from the licensees. In addition, the surplus land identified for commercial exploitation and vested with RLDA by and large remained vacant due to slow progress in planning.

Recommendations

- *PAC's recommendation (Report No. 16 of 2009-10) to evolve a staggered time frame for execution of agreements with licensees, maintenance of proper and accurate records of land needs to be acted upon on priority. The Zonal authorities also need to initiate a special drive to recover outstanding license fees as per the Railway Board's directives.*

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

3.2 Civil Engineering Workshops in Indian Railways

Executive Summary

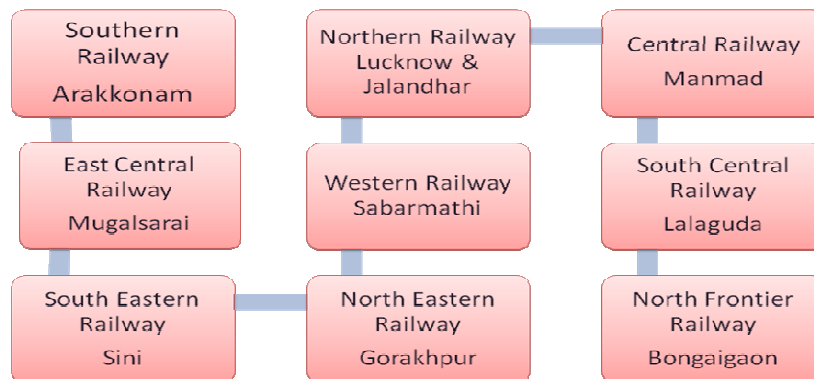
Civil Engineering Workshops (CEWs) manufacture bridge girders, track components, Platform shelters, foot over bridges and various components to meet the internal demands of Indian Railways. There are ten CEWs on Indian Railways functioning since long. The XI Five year Plan had envisaged a critical role for the workshops considering the anticipated increased demand for fabricated steel structures for strengthening existing bridges to make them fit for running of heavier axle load trains and construction of new bridges on the proposed Dedicated Freight Corridors.

Audit reviewed the performance of all the ten CEWs to assess whether these were equipped to meet the challenge. Audit observed that modernization efforts were meagre and CEWs were being run with old machines and were in need of technological up-gradation. Production planning of the workshops was generally deficient resulting in underutilization of capacity and uneconomical operations. The unit costs of manufacture of Girders, Glued Joints etc were on the higher side when compared to the cost of the same from trade. Inter-workshop cost comparisons revealed large inter-se variations, however, lack of data/records on costing and effective cost control measures hampered the analysis of performance efficiency.

3.2.1 Introduction

The Civil Engineering Workshops (CEWs) manufacture and supply track components, bridge girders and various other items such as Platform Shelters, Push/Motor Trolleys, Lifting Barrier Gates, Gate Locks, etc. There are ten Civil Engineering Workshops on Indian Railways.

Engineering workshops in Indian Railways



The report of the Working Group on Railway Programmes for eleventh five year plan (2007-2012), envisaged a major increase in the requirement of fabricated steel structures on account of rebuilding/ re-girding of many existing bridges to make them fit for running of heavier axle load trains and construction of new bridges on the proposed Dedicated Freight Corridors. As a result, the magnitude

of the steel fabrication works to be undertaken by the CEWs was to increase substantially.

3.2.2 General profile of the workshops

Most of the CEWs on Indian Railways are very old and require technology and equipment up-gradation, as no major modernization efforts were implemented during the last 30- 40 years.

Workshop	Year of setting up
Arakkonam (SR)	1900
Manmad (CR)	1906
Sini (SER)	1923
Mughalsarai (ECR)	1929
Gorakhpur (NER)	1947
Jalandhar (NR)	1949
Bongaigaon (NFR)	1950
Lucknow (NR)	1955
Sabarmati (WR)	1958
Lallaguda (SCR)	1964

3.2.2.1 Average out turn

As the product mix of each Workshop varies, the outturn of each Workshop is evaluated based on equated unit (EU) with reference to the labour cost of production of one metric tonne of standard riveted plate girder. The EU thus arrived at is adopted for all the items fabricated in the Workshop for assessing the out turn.



Open web girder



Shallow type girder

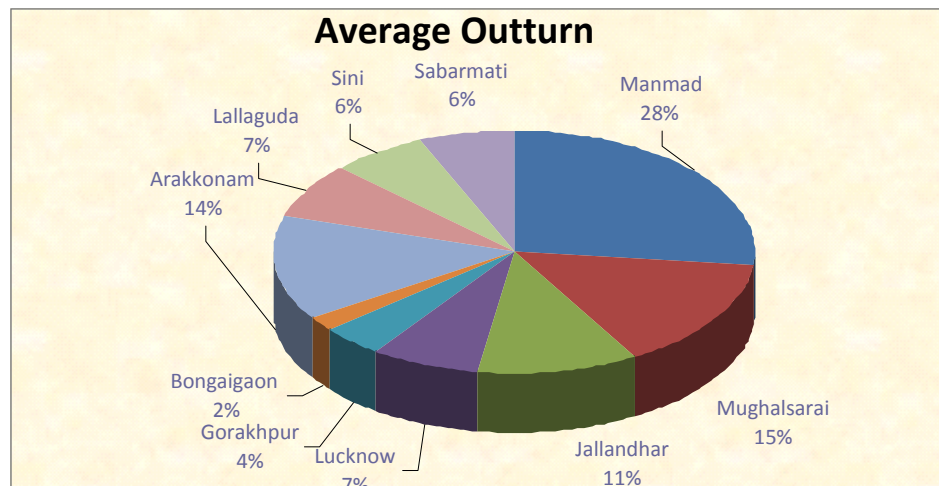


Switch Expansion Joint



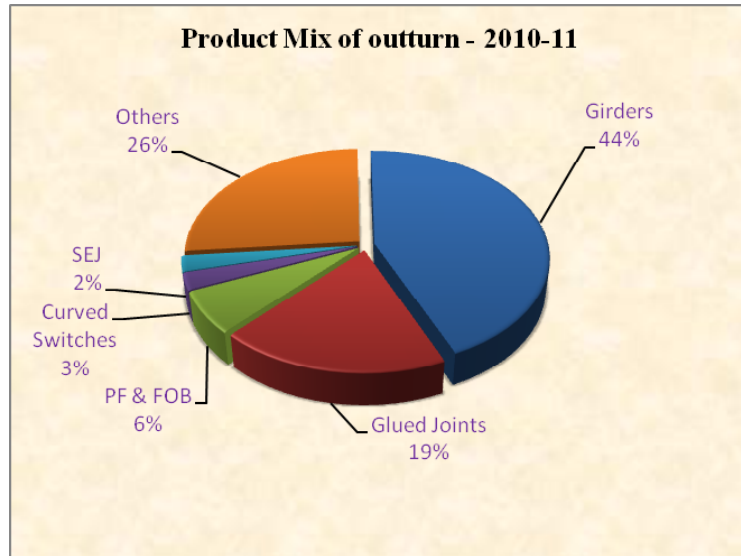
Glued Joint

The average outturn in terms of EUs of all the CEWs during 2007-08 to 2010-11 revealed significant variations, with Manmad workshop registering the maximum outturn (28 per cent) and Bongaigaon at the minimum of the scale (two per cent).



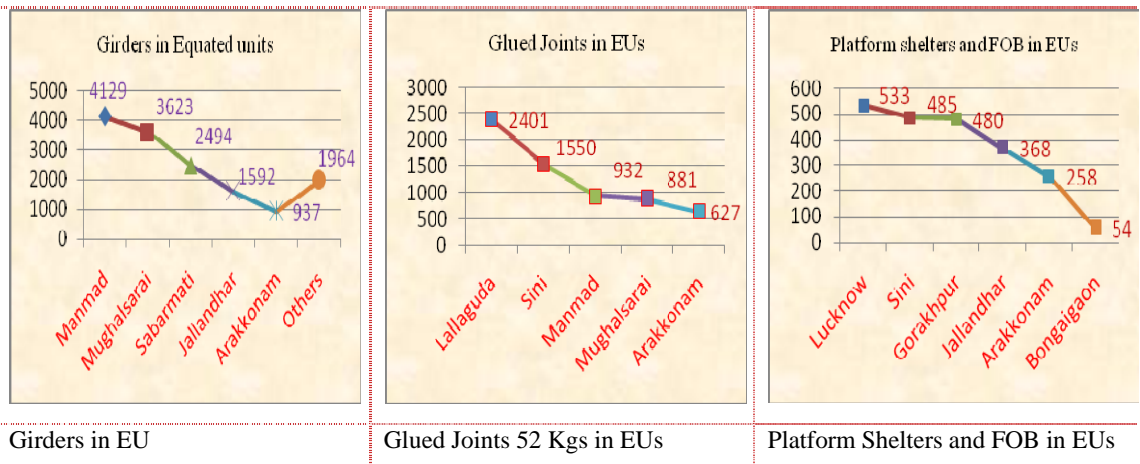
3.2.2.2 Product mix

The major products fabricated by the workshops were accounted for by girders (44 per cent) and glued joints (19 per cent). In addition, all the workshops manufactured Platform shelters, and foot over bridges.



(* S E J – Switch Expansion Joints)

The outturn of major items viz. Girders, Glued Joints, Platform Shelters and Foot Over Bridges in all the Workshops is shown in the graph given below. It was observed that while Manmad and Mughalsarai accounted for higher production of Girders, the Lallaguda and Lucknow produced the highest quantity of Glued Joints and Platform Shelters respectively.



3.2.3 Audit Objectives

Audit conducted a study of the working of CEWs with a view to

- Derive a reasonable assurance that CEWs are suitably equipped to meet the growing challenges/ increasing demands as envisaged by the Working Group on Railway Programmes for the eleventh Five Year Plan (2007-12).
- Assess the overall efficiency in manpower and machinery use in manufacture.
- Cost efficiencies of workshops in selected items manufactured inter se and vis-à-vis trade.

3.2.4 Audit Coverage

Audit covered the manufacturing activities of all the ten CEWs. The records available at Zonal /Divisional Headquarters /Workshops were examined for 2007-08 to 2010-11. Physical inspections of Workshops were also carried out.

3.2.5 Audit findings

3.2.5.1 Modernization of Civil Engineering Workshops

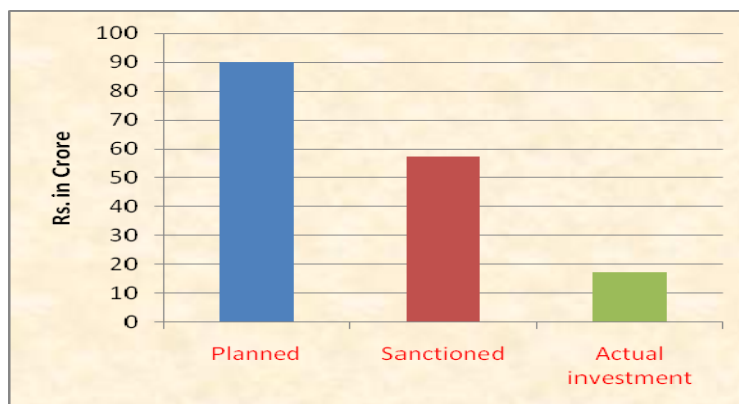
The Civil Engineering Workshops set up over more than 5 decades ago, were functioning with very old machines and required technology up-gradation. Audit observed that in all workshops, the average age profile of machines in stock ranged from 22 to 47 years (Table below) against the expected average codal life of 15 years.

Railway	Workshops	No. of machines	Average age	Range
CR	Manmad	198	25	2 months to 82 years
ECR	Mughalsarai	187	19.4	1 to 55 years
NR	Jalandhar	292	20	3 to 75 years
NR	Lucknow	55	29	4 to 51 years
NER	Gorakhpur	35	24	1 year to 56 years
NFR	Bongaigaon	19	47	2 to 87 years
SR	Arakkonam	292	33	5 to 90 years
SCR	Lallaguda	32	22	1 year to 47 years
SER	Sini	261	39	1 to 87 years
WR	Sabarmati	247	24	2 to 63 years

Almost all workshops had machines aged more than 50 years. It was estimated in 1993 itself that each CEW would be required to invest funds to the tune of ₹40 to ₹50 crore towards modernization during the next five years. Although the IXth Five Year Plan had anticipated substantial requirement for steel fabrication, a modest allocation of ₹.90 crore was earmarked for executing up-gradation works in the XI Plan. Subsequently, a seminar of CWM/CWE held in Pune in 2009 had recommended a comprehensive modernization plan to meet the anticipated demand for steel fabrication assessed at 30,000 MT as against current production level of 10,000 MT per annum. However, as of June 2011, no plan for modernization of the workshops had been prepared as envisaged.

Efforts for Modernization

A study of the efforts made by the Indian Railways (IR) to modernize the CEWs revealed that as against the Plan allocation of ₹90 crore, works worth ₹57.16 crore were sanctioned for carrying out augmentation works and procurement of machinery. However, only a sum of. ₹17.32 crore had been incurred for acquiring the new machines and augmentation of existing capacity during the period 2007-08 to 2011-12 (up to September 2011).



Procurement of Machines for Modernisation

Further, as against the sanctioned amount of ₹36.32 crore for the procurement of new machinery, only ₹10.87 crore were actually spent. Out of the bulk of the sanctioned amount for Arakkonam and Manmad Workshops i.e. ₹ 23.55 crore, only ₹9.00 crore were incurred by these two Workshops (Table below).

Summary position of Plant and Machinery procured in Engineering Workshops during 11th plan period								
₹ in crore								
Railway	Workshop	Latest sanctioned cost	Expenditure sanctioned during					Total
			2007-08	2008-09	2009-10	2010-11	2011-12	
CR	Manmad	0	0	0	0.73	3.26	0	3.99
ECR	Mughalsarai	0	0	0	0	0	0	0
NR	Jalandhar	0.84	0.02	0	0	0.30	0.52	0.84
	Lucknow							
NER	Gorakhpur	0.46	0.05	0.13	0.15	0.13	0	0.46
NFR	Bongaigaon	0	0	0	0	0	0	0
SR	Arakkonam	12.87	0	1.89	0.20	2.91	0	5.00
SCR	Lallaguda	0.19	0	0	0	0	0	0
SER	Sini	0.77	0	0	0.05	0.07	0	0.12
WR	Sabarmati	10.68	0	0.11	0.02	0.32	0	0.45
TOTAL		36.32	0.07	2.13	1.15	6.99	0.52	10.86

No new machinery was procured in Mughalsarai, Bongaigaon and Lallaguda Workshops. Jalandhar, Lucknow, Sini & Gorakhpur workshops spent less than ₹one crore during the period 2007-08 to 2011-12 for procurement of new machinery. Moreover, 31 machines sanctioned (Table below) on out of turn basis in four Workshops during 2006-07 to 2009-10 had not been procured owing to lapse of funds, delay in placing indents and finalizing indents/placing purchase orders. As a result, the up-gradation of equipments as envisaged in eleventh plan had been delayed.

Railway	Workshop	No. of machines
Central	Manmad	6
Southern	Arakkonam	19
South Eastern	Sini	1
Western	Sabarmati	5
Total		31

Execution of Augmentation works

As against the total sum of ₹20.84 crore sanctioned for the execution of augmentation works, only an amount of ₹6.45 crore was actually spent (Table below). No augmentation work was undertaken in Mughalsarai, Sini and Sabarmati Workshops. Investment on augmentation work was less than ₹ one crore in Jalandhar, Lucknow, Gorakhpur and Lalaguda Workshops.

₹ in crore									
S. No.	Railway	Workshop	Latest sanctioned cost	Expenditure sanctioned during					Total
				2007-08	2008-09	2009-10	2010-11	2011-12	
1	CR	Manmad	6.30	0	0.10	1.59	0.13	0	1.82
2	ECR	Mughalsarai	0	0	0	0	0	0	0
3	NR	Jalandhar	0.91	0	0	0.20	0.10	0	0.30
4		Lucknow							
5	NER	Gorakhpur	0.48	0	0	0	0.41	0	0.41
6	NFR	Bongaigaon	6.36	0	0.22	0.50	0.43	0	1.15
7	SR	Arakkonam	4.81	0	0.34	1.13	0.80	0	2.27
8	SCR	Lallaguda	1.07	0	0	0.50	0	0	0.50
9	SER	Sini	0.91	0	0	0	0	0	0
10	WR	Sabarmati	0	0	0	0	0	0	0
Total			20.84	0	0.66	3.92	1.87	0	6.45

It was further noticed that:

- A work for augmentation/improvement of engineering workshop, Arakkonam was included in the works programme of 2007-08 at an estimated cost of ₹4.81 crore. Audit noticed that out of total outlay, ₹4.78 crore were meant for works such as laying of CC road, provisions of toilets, meeting room, ladies rest room, re-roofing, drains, canteen, visitor hall, hostel accommodation, lawn and provision for entrance architectural arrangements which in no way, were relevant to augmentation of capacity of the workshop. Workshop authorities had already spent ₹2.27 crore on these works.
- Augmentation work for steel bridge girder fabrication capacity of Manmad Workshop was included in pink book (2008-09) at a cost of ₹4.97 crore. However, the pace of the work was not satisfactory as only ₹ 0.59 crore was spent (Up to March 2011).

Audit also noticed that a proposal for the modernization of Arakkonam Workshop at a cost of ₹23 crore was made in December 2009 to enhance the

production capacity of the Workshop in respect of bridge girders from 50 tonne to 100 tonne per month. The proposal had not yet been sanctioned.

It was evident that the efforts to augment the production capacity of CEWs had been patchy thus far and the challenge to meet the increased demand for steel fabrication had not been effectively addressed.

3.2.5.2 Installed capacity and Production planning

Capacity of a Production Workshop determines the optimum level of production. The installed capacity of the Workshop is determined after taking into account the imbalances in different machines/ equipment in various departments/ shops/ production cost centre in the Unit/ Plant, man power and number of shifts. Determination of installed capacity is essential to help the management:

- to identify production bottleneck, imbalances, idle capacity and prepare measures for efficient use of resources
- to assess the optimum level of operations
- to allocate, apportion and absorb the costs of operations.

A key factor of production plan of a workshop is, therefore, its installed capacity that determines the optimum production levels.

Determination of installed capacity

Audit scrutiny revealed that data on installed capacity was either not available or had not been reassessed at regular intervals. It was found that in respect of four Workshops viz. Lallaguda, Sabarmati, Sini and Bongaigaon, installed capacity had never been determined. Based on Audit observations, the installed capacity of the Lallaguda Workshop was, however, fixed with effect from August 2011. In respect of five Workshops, the installed capacity had not been reassessed for a long time viz. Manmad (assessed in 1992), Gorakhpur (assessed in 1952), Lucknow, Jalandhar (assessed a decade back) and Mughalsarai (not known).

Injudicious reduction of installed capacity

Audit noticed that the installed capacity of Arakkonam workshop was injudiciously reduced from 594 MT per tonne per month to 518 MT per tonne per month in 2003, citing reduced manpower and change in the demand as reasons. Though Railway Board had directed (November 2009) the workshop authorities to increase the installed capacity to meet the additional demand of steel structures, the Workshop authorities had not complied with the orders of the Board stating that the installed capacity could not be increased in the absence of additional infrastructural facilities. Audit also observed that instead of taking action for providing the required facilities, the installed capacity was further reduced to 360 MT per month without assigning any reasons and without the concurrence of the Associate Finance. The injudicious reduction of installed capacity resulted in loss of production capacity to the extent of ₹ 25.67 crore during the period 2007-08 to 2010-11.

Under-utilization of capacity

Although the Manmad Workshop of the Central Railway is the biggest CEW on Indian Railways with the estimated capacity of 13783.92 EUs per annum, there

was under-utilization of capacity during the last two years. In the year 2010-11, capacity utilization was below 50 per cent. The average utilization during the period 2007-08 to 2010-11 was 72 per cent. The reason cited for the reduced utilization was delay in augmentation of steel bridge girder fabrication capacity to suit change in design from riveted to welded structural fabrication during 2007-08. This change in design required relocation of man power to structural yard and design and development of machines to suit the new technology.

While the average utilization in two workshops over Northern Railway during the review period was over hundred per cent, the same was between 56 cent and 93 per cent in other four workshops viz. Gorakhpur (93 per cent), Mughalsarai (89 per cent), Arakkonam (80 per cent) and Bongaigaon (56 per cent). The total loss of production on account of idle capacity was estimated at ₹134 crore.

In respect of remaining three Workshops, data on installed capacity was not available and the extent of utilization of capacity could not be assessed.

(Annexures XXXI & XXXII)

The common reasons for under utilization of installed capacity attributed by the management were power failure, breakdown of machines and non-availability of raw materials etc.

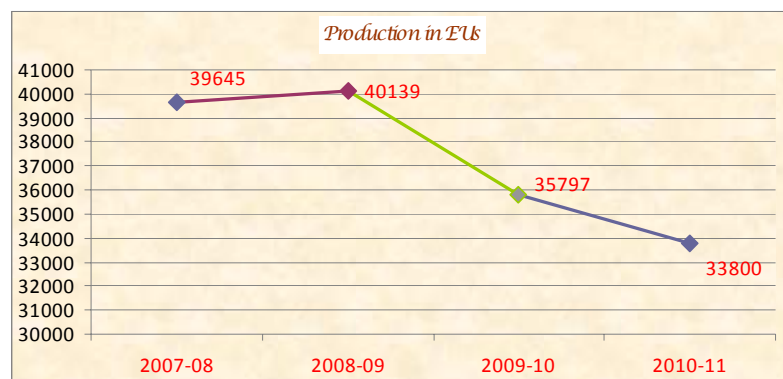
Production Planning

As mentioned above, the lack of proper assessment of installed capacity also impacted on demand assessment as evident from analysis of targets fixed and actual achievements during 2007-08 to 2010-11.

Year	Target	Achievement	Shortfall/ excess
2007-08	42597	39645	-2951
2008-09	43984	40139	-3845
2009-10	38818	35797	-3021
2010-11	41003	33800	-7204

- the total target set was not achieved in any of the years during the review period
- overall production was on declining trend

Production in Equated Units



- Outturn in Gorakhpur Workshop alone was on the increasing trend.
- The outturn was uneven in Sini, Lallaguda and Mughalsarai.
- The out turn of major contributors i.e. Manmad, Mughalsarai, and Arakkonam had reflected consistent decline, with the steepest trend occurring in respect of Manmad- from a production level of 13,582 EUs to 6486 EUs during the period. The targets were also scaled down year on year except in the case of Manmad whereby it was scaled up to 10,000 EUs in 2010-11 as compared to the previous year but the actual achievement fell below the level of the previous year (2009-10).
- During 2010-11, most of the workshops performed below the target levels with the exception of Lallaguda and Sabarmati.

(Annexure XXXIII)

The issue of production constraints was discussed during the Chief Works Managers/ Chief Works Engineers Seminar (2009) wherein it was observed that work orders were not being given by Railways to the Workshops due to time reliability problems. The Workshops could deliver finished products only 15 to 20 months after receipt of order due to long lead for procurement of raw materials and manufacture of finished products by the shops. As a remedy, it was proposed to hold production schedule meeting every half year to assess the demand and decide the production schedule for that half year. However, production schedule meetings were not held and effective follow-up steps were not taken.

It was thus evident that the shortfall in requirements was being made good through sourcing from trade in the absence of a well-planned production strategy for the workshops. The succeeding paragraphs bring out that the lack of production planning affected the performance of the workshops adversely in terms of persisting backlog of work orders and weak inventory management of both finished products as well as raw materials.

Pending Work Orders

Audit noticed that 815 work orders valuing ₹418.60 crore were not complied with for over six months as on 31st March 2011. Out of these, 328, 190, and 77 work orders were pending at Manmad, Arakkonam and Gorakhpur Workshops.

Range of pendency	Number of work orders pending
Six months to one year	102
One year to two years	134
Two years to three years	130
Three years to four years	156
Over four years	293

The oldest work order (1997) was shown as pending in Manmad Workshop. It was observed that the accumulation was mainly due to absence of a system of revalidation of work orders pending for long periods and reassessment of pending demand with reference to actual requirement. As a result, it was not ascertainable whether the pending demands were still persisting with the consignees.

Analysis of a sample of 90 pending work-orders by audit revealed that the inability of the workshops to meet the demand had not affected the production plans of the manufacturing units and therefore in all probability the work orders were outdated and needed to be reassessed. **(Annexure XXXIV)**

Non- despatch of finished products.

An analysis of the pattern of production and dispatch of finished products by Engineering Workshops indicated that finished products worth ₹52.95 crore, ₹71.36 crore, ₹132.05 crore and ₹159.18 crore were lying at Shop floors awaiting despatches at the end of March 2008, 2009, 2010 and 2011 respectively (Table below).

Railway	Workshops	Value of finished products not dispatched (₹ in crore)			
		2007-08	2008-09	2009-10	2010-11
CR	Manmad	7.17	11.14	34.33	39.93
ECR	Mughalsarai	11.85	13.04	31.41	55.75
NR	Jalandhar	19.5	17.32	18.54	13.22
NR	Lucknow	2.75	8.5	15.69	12.5
NER	Gorakhpur	3.6	9.24	15.62	16.93
NFR	Bongaigaon	3.05	6.69	7.98	11.14
SR	Arakkonam	1.1	1.62	2.46	2.45
SCR	Lallaguda	3.93	3.81	6.02	7.26
Total		52.95	71.36	132.05	159.18

The analysis further revealed that:

- The finished products valuing ₹125.83 crore were pending for despatch in four Workshops as on 31 March 2011 (Mughalsarai-₹55.75 crore, Manmad- ₹39.93 crore, Gorakhpur- ₹16.93 crore and Jalandhar-₹13.22 crore)
- Fabricated products such as Platform shelters, Foot over bridge, Foundry items etc. worth ₹2.46 crore had been lying in Arakkonam Workshop premises for over two years.
- In Gorakhpur Workshop, the finished products worth ₹1.02 crore were lying in the shop premises due to cancellation of the demand by the consignees and of this, Foot Over bridge costing Rs ₹0.63 crore had been lying since February 2006.
- In Sabarmati Workshop, semi- finished open web girder worth ₹0.34 crore manufactured for Mumbai Rail Vikas Corporation Limited (MRVCL) was lying as the work order had been cancelled subsequently.
- In Manmad Workshop, girders valuing ₹0.85 crore manufactured for use by Northern Railway had been lying since 2006.

It was observed that the consignees did not lift the finished materials despite reminders. This indicated that failure to revalidate the work order duly reassessing the demand had in all probability led to manufacture of products for which there was actually no current demand.

3.2.5.3 Inventory management

Proper inventory management is an essential aspect of production planning that involves timely planning of procurement of raw material required for manufacture. Proper inventory forecasting based on anticipated requirements reduces costs and increases efficiency in delivery. A review of inventory management practices prevailing in the CEWs of Indian Railways revealed the following:-

Inadequate inventory management

In four workshops (Gorakhpur, Lallaguda, Bongaigaon and Sini) materials were procured only on receipt of work orders. The system of assessing annual consumption requirement of items, re-order levels and economic order quantity was found to be non-existent. The out-turn of the workshops was hampered (with the exception of Lallaguda and Sabarmati workshops) due to deficient supply of silicon, pig-iron, limestone and cast iron. In Gorakhpur workshop, production in concrete shop was held up due to non-availability of special grade cement. Loss on account of idling of labour amounted to ₹3.75 crore.

Inter-workshop cost comparisons

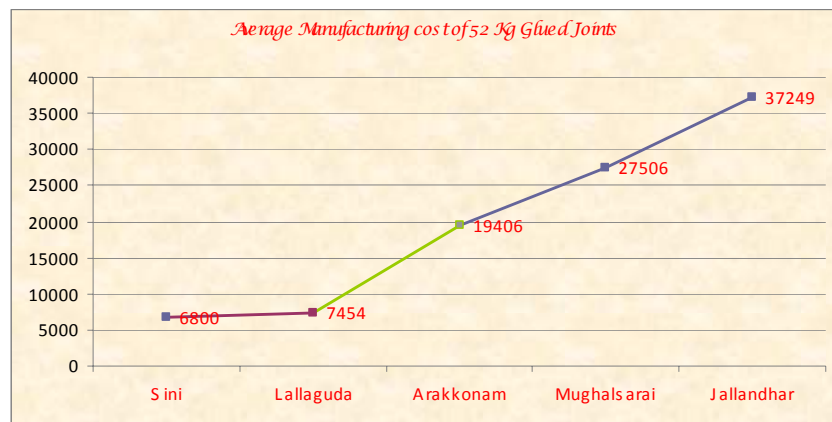
The workshops did not maintain cost sheets in respect of each job/activity as prescribed in the Railway Manual and it was found that there was no system of cost-control with pre-determined rates. No analysis had been conducted on product costs as between different workshops or efforts made to identify core competencies of each workshop.

On the basis of production out-turn and expenses booked, audit encountered wide variations in production costs of selected items studied. For instance-

- A comparison of the average manufacturing cost of glued joints among various Workshops revealed that the cost of manufacture of 52 kg glued joint was the lowest in Sini Workshop (₹6,800) and highest in Jalandhar Workshop (₹37,249).

(Annexure XXXV)

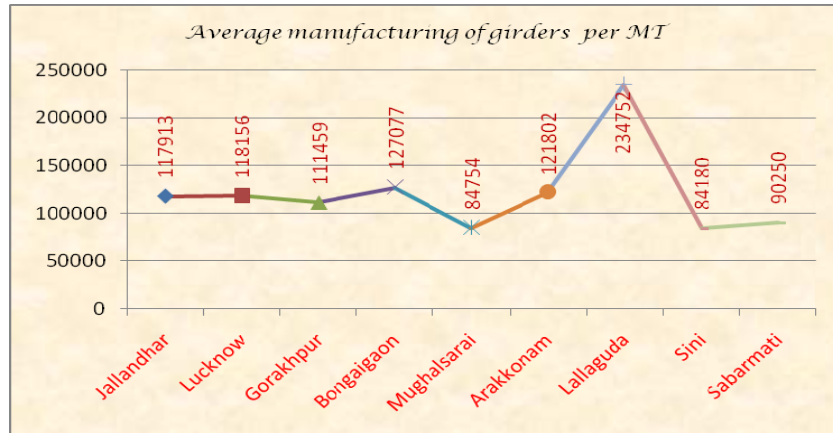
Average manufacturing cost of 52 Kg Glued Joints



- Another comparison of the average manufacturing cost of girders in nine Workshops (excluding Manmad Workshop) revealed that the average cost of manufacturing per MT of girder was lowest in Sini workshop (₹84180 per MT) and was highest in Lallaguda workshop (₹ 234752 per MT).

(Annexure XXXVI)

Average manufacturing cost of girders per MT



The major reason for high manufacturing cost, in general, was attributable to the very high direct cost of labour and on cost allocations. These on costs represented general on-costs inclusive of charges shared by more than one establishment, shop on costs denoting expenditure not attributable to a specific product and proforma on costs mainly comprising supervisory establishment expenditure.

Though none of the workshops had kept the costing data for each item produced, Audit made an attempt to identify the broad reasons for huge variation in costs of similar items among the workshops. The following table depicts the comparative analysis of average production cost of girders and glued joints as between Lallaguda, Jallandhar and Mughalsarai:

Variation in cost of same product among the workshops(2010-11)								
Name of workshop	Unit	Direct Cost		On cost		Percentage of oncost		Total cost of product
		Labour	Stores	Labour	Stores	Labour	Stores	
Welded Girders								
Lallaguda	MT	117205	27599	83455	6933	71.20	25.12	235192
Jallandhar	MT	52239	38436	22596	4642	43.26	12.08	117913
Glued Joints								
Jallandhar	No	15179	22070	7321	2221	48.23	10.06	46791
Mughalsarai	No	3805	23765	7990	266	209.99	1.12	35826

The analysis revealed that –

- While the direct labour cost for manufacture of girders at Jallandhar was ₹52239 PMT, the same was ₹117205 at Lallaguda, more than 2.24 times higher.

- Similarly there was large variation in direct cost of material and the percentage of on costs levied to arrive at the end product cost. While the total on cost at Jallandhar was 55 per cent, the same at Lallaguda was 96 per cent.

As a result while the cost per MT of girders produced at Jallandhar was ₹ 117913/- the same at Lallaguda was ₹235192 i.e. almost double.

In respect of Glued joints also there was a huge cost variation at Jallandhar as compared to Mughalsarai as under:

- While the direct labour cost at Mughalsarai was only ₹3805 per unit, the same at Jallandhar was ₹15179 i.e. almost four times higher.
- Despite the fact that Mughalsarai had levied 211 per cent on cost as compared to 58 per cent by Jallandhar, the end product cost at Jallandhar was higher by almost 25 per cent.

Manufacturing cost versus trade cost

Disproportionate direct labour costs and higher indirect cost levied as on costs coupled with outdated machines reflected in uneconomical costs as was evident from the comparative analysis of trade costs in respect of selected items as discussed below:

- Comparison of the manufacturing cost of glued joints and switches with those of cost of procurement from trade revealed that the cost of manufacturing in Railway owned workshop was three to five times more than the cost of same items when procured from trade. The extra cost of manufacturing glued joints and switches vis-à-vis the trade cost was assessed as ₹45.60 crore.

(Annexure XXXVII)

- The comparison of manufacturing cost of girders in Railway workshops at Jallandhar, Lucknow, Bongaigaon & Gorakhpur with that of prevailing trade cost also revealed that manufacturing cost in Railway owned workshops was higher by seven per cent in Sini (2009-10) and by three times in Lallaguda (2010-11). In other workshops also, the manufacturing cost of girders was more by 20 – 92 per cent when compared with the trade cost. The extra cost of manufacturing girders vis-à-vis the cost was assessed as ₹25.77 crore.
- By adopting the trade cost of Gorakhpur workshop for Mughalsarai, Arakkonam, Lallaguda, Sini & Sabarmati, the extra manufacturing cost for girders was assessed as ₹50.37 crore.

(Annexure XXXVIII)

- Audit observed that manufacture of foot over bridge was costlier than the trade cost in Gorakhpur Workshop. Extra expenditure on this account worked out to ₹3.10 crore.

3.2.5.4 Manpower productivity & Staff utilization

Man power productivity in Workshop is measured by a productivity index called average equated unit per man per month. The bench mark for productivity as fixed by the Railway Board is one equated unit (EU) per man per month. As on

31st March 2011, there were 5256 men in position in ten CEWs. A study of manpower productivity trends and incentive payments (Table below) etc revealed significant cost inefficiencies across workshops.

Railway	Workshop	Manpower as on 31st March 2011	Man power productivity			
			2007-08	2008-09	2009-10	2010-11
CR	Manmad	952	1.22	1.14	0.75	0.65
ECR	Mughalsarai	589	1.16	1.19	1.065	1.08
NR	Jalandhar	464	1.2	1.4	1.3	1
NR	Lucknow	462	1.01	1.13	1.14	1
NER	Gorakhpur	366		0.49	0.536	0.603
NFR	Bongaigaon	231	0.54	0.53	0.59	0.52
SR	Arakkonam	893	0.799	0.871	0.851	0.774
SCR	Lallaguda	218	1.03	1.37	1.1	1.33
SER	Sini	453	0.58	0.39	0.84	0.97
WR	Sabarmati	628	0.87	0.92	0.74	0.68
		5256				
Note : Bench mark for productivity as fixed by Railway Board is one equated unit per man per month						

Audit analyzed the productivity index of individual Workshops during the review period and observed that:-

- man power productivity was above the bench mark level in four Workshops (Mughalsarai, Lallaguda, Jalandhar and Lucknow)
- man power productivity was below the bench mark level in five Workshops (Bongaigaon, Sabarmati, Gorakhpur, Sini and Arakkonam)
- man power productivity in Manmad Workshop declined from 1.22 (2007-08) to 0.65 (2010-11). The reason for the decline was attributed to changes in design of girder and lack of upgraded technology and machines.
- average equated unit per man per month in Sabarmati Workshop also came down to 0.68 in 2010-11 from 0.92 in 2008-09.

Though Planning Efficiency Branch (PEB) of respective Zonal Railways had conducted work studies(a tool used to assess the manpower requirements) in respect of Arakkonam, Bongaigaon, Lallaguda and Sabarmati workshops with the object of enhancing labour efficiency through establishment of independent norms, no such efforts were made in respect of Manmad, Sini, Mughalsarai and Gorakhpur Workshops.

Audit reviewed the action taken on the reports of work studies and noticed that the recommendations made by PEB were not implemented and excess posts (Table below)were operated with added financial implications.

Workshop	Particulars	2007-08	2008-09	2009-10	2010-11
Arakkonam (SR)	No. direct workers as on 31st March	837	692	664	641
	No. of EIWs	144	142	250	252
	% of EIWs to DWs	17.2	20.52	37.65	39.31
	Excess % over the norm of 15%	2.2	5.52	22.65	24.31
	No. of excess posts	18	38	150	156
(Source: PCDO , Half yearly Review of Incentive Performance by Accounts Office & Para 431 of Mechanical Code)					
Cost of excess operation of Essential Indirect Workers =		Average hours per month*hourly rate*no of posts* no of months			
		78192000	Say ₹ 7.82 crore		

- Excess posts numbering 241, 218,161 and 124 were operated in Arakkonam Workshop during 2007-08 to 2010-11 respectively. In addition, audit found that there was operation of 18, 38,150 and 156 indirect workers in excess of the prescribed norm of 15 per cent or less of the actual strength of direct workers during 2007-08 to 2010-11 respectively resulting in extra expenditure of ₹7.82 crore during the review period.
- In Jalandhar and Lucknow Workshops, two and 12 posts respectively were operated in excess of the requirement. Operation of excess posts had resulted in incurrence of avoidable extra expenditure of ₹15.56 crore during the review period,
- The work study Report (2005-06) of Sabarmati Workshop had identified 258 surplus posts. Cost of operation of the excess posts was assessed as ₹5.24 crore. Another work study Report (2007-08) carried out for assessing the work load of ministerial staff in Sabarmati Workshop recommended surrender of 17 vacant posts. The posts were yet to be surrendered.
- Based on the yard-stick prescribed in a work study (2004), the requirement of staff in Bongaigaon Workshop was reassessed in Audit and it was observed that 97 posts of skilled workers had been operated in excess of the requirement since 2003. Excess operation of posts had resulted in incurrence of extra expenditure to the tune of ₹10.23 crore during the review period
- In Lallaguda Workshop, a work study was conducted during 2009-10 and 35 vacant posts were identified as surplus with monetary value of ₹ 0.87 crore per annum.
- While there was under-utilisation of labour potential, it was also observed that OTA amounting to ₹21.73 crore was paid during the review period for all the Workshops and Sabarmati Workshop had accounted for 37 per cent of total OTA paid. Further, OTA paid in Sabarmati Workshop increased from ₹1.64 crore in 2007-08 to ₹2.15 crore in 2010-11 and payment of ₹2.58 crore during 2009-10 was the highest among all the CEWs during the review period that contrasted with the paradoxical situation of excess operation of posts as already mentioned above.

It was also observed that in Manmad workshop, the OTA payment had decreased from ₹0.71 crore in 2007-08 to ₹0.17 crore in 2010-11, but outturn also decreased from 13582 MT to 6486 MT.

In Mughalsarai Workshop, though the out-turn had not shown appreciable increase except during 2008-09, the payment of OTA increased from ₹0.80 crore in 2007-08 to ₹2.37 crore in 2009-10 and ₹1.98 crore in 2010-11.

It was noticed that system of payment of incentive bonus was prevalent only in Arakkonam Workshop. The incentive paid increased from ₹0.07 crore in 2008-09 to ₹1.27 crore in 2010-11, even though the outturn declined to 4993 equated units during 2010-11 from 5917 during 2007-08. (Annexure XXXVII)

3.2.5.5 Idling of Machinery and Stores

Audit observed that none of the workshops had prepared the load charts as required in terms of Para 827 of Indian Railway Code for Mechanical Department. As a result, they were not in a position to ascertain the actual requirement of Machinery and plants.

Thirty one machines costing ₹0.62 crore (Table below) had been idling in four Workshops (Mughalsarai, Lucknow, Arakkonam and Lallaguda) for over five years owing to obsolescence, want of load, want of spare parts, non erection and being in a state of repair.

Railway	Workshop	No. of machines idling	Value in crore	Reasons
ECR	Mughalsarai	13	0.19	Under process of condemnation
NR	Lucknow	9	0.12	Load not available
SR	Arakkonam	6	0.12	Load not available
SCR	Lallaguda	3	0.19	Under process of condemnation
Total		31	0.62	

As many as 125 worn out and condemned machines were lying in seven Workshops due to delay in completion of survey/auction (Table below).

Railway	Workshop	No. of machines	Reasons
CR	Manmad	7	Delay in handing over of condemned machines to Stores Department for further disposal
ECR	Mughalsarai	2	Survey completed but final disposal yet to be done
NR	Lucknow	2	Surveyed but not auctioned
NFR	Bongaigaon	6	Surveyed but not auctioned
SR	Arakkonam	16	Included in auction catalogue but not yet disposed off
SER	Sini	61	Surveyed but not auctioned
WR	Sabarmati	31	Survey completed but final disposal yet to be done. A condemned Rail re-profiling plant costing ₹5.84 crore is idling for over twenty years.
Total		125	

- In Sini workshop alone, 61 machines were idling for years in ‘dismantled and beyond repair’ condition. In Sabarmati workshop, 31 condemned machines and at Arakkonam Workshop 16 worn out machines were awaiting disposal. A condemned Rail re-profiling plant costing ₹5.84 crore had been idling for over 20 years in Sabarmati Workshop.
- It was observed that inactive items of stores valuing ₹1.83 crore had been lying idle for a period ranging from one year to twelve years and the value of over stock as on 31st March 2011 was ₹0.37 crore in five Workshops.

(Annexures XXXVIII & XXXIX)

- In Sabarmati Workshop, raw material worth ₹2.24 crore was lying on the shop floors for over two years as custody stores. Scrap material worth ₹0.40 crore had also been lying since February 2008

3.2.5.6 Weak internal controls

Effective internal controls are key to ensuing efficiency in the management of resources to achieve organizational objectives by controlling performance with pre-determined goals/ standards/norms. Assessment of compliance of internal controls, procedures and practices followed by CEWs revealed a very unsatisfactory level of performance. It was noticed that-

- None of the Workshops maintained idle time card of labour showing the time lost due to power failure, machine breakdown, lack of material etc as prescribed (paragraph 429 of Indian Railway code for Mechanical Department). Frequent power cuts affected production in Manmad, Sabarmati, Arakkonam and Lucknow Workshops. Loss on account of idling of manpower due to power failure was assessed as ₹10.54 crore.
- Reconciliation between Gate Attendance Cards and Time Sheets was not done as required (paragraph 505 and 519 of Indian Railway Code for Mechanical Department) in Gorakhpur, Manmad and Arakkonam Workshops
- No system was in place to record labour allocation utilization, idle hours on account of machine break down, power failure, lack of materials etc.
- There was no control over defective casting and wastage of materials due to non-maintenance of records.
- Work order register and statement of completed work orders was also not being prepared in all the Workshops except Mughalsarai, Lallaguda, Lucknow & Jalandhar Workshops.
- Managerial control statements as laid down in Para 1346 of Indian railway code for Mechanical department were not being generated in all the CEWs except Lallaguda and Mughalsarai Workshops.
- Audit reviewed the WMS balances of all the CEWs for the years 2009-10 and 2010-11. These are suspense balances representing the cost of products in process and finished products awaiting acceptance from consignees and have implications in terms of dividend payments to General Revenues. As per the prescribed norm, these should be maintained within six per cent of the WMS credits.

- Audit observed that while in four CEWs (Jalandhar, Lucknow, Manmad and Sabarmati), the WMS balances were within the prescribed limit, in other Workshops, they were in excess of the prescribed limit. The total excess WMS balance was ₹37.35 crore during 2009-10 (Bongaigaon- ₹2.04 crore, Lallaguda- ₹2.78 crore, Sini- ₹13.96 crore, Arakkonam- ₹5.70 crore, Gorakhpur- ₹6.74 crore and Mughalsarai- ₹6.13 crore) and ₹47.39 crore in 2010-11 (Mughalsarai- ₹6.47 crore, Gorakhpur- ₹8.87 crore, Lallaguda- ₹6.25 crore, Sini- ₹17.99 crore, Arakkonam- ₹ 2.71 crore and Bongaigaon- ₹ 5.09 crore). The excess maintenance of WMS balances over and above the Railway Board's norms led to avoidable payment of dividend to the tune of ₹2.24 crore and ₹2.85 crore during the years 2009-10 and 2010-11 respectively.

It was also observed that no review of balances as envisaged in Para 1224 of Mechanical code was conducted in Sabarmati, Gorakhpur, Mughalsarai, Lallaguda, Bongaigaon, Manmad and Arakkonam Workshops for submission to FA&CAO. In Sini Workshop, balance in WMS Account was revised monthly and put up to FA&CAO yearly. The system of maintenance of year-wise and cause-wise balances was not in place to expedite their clearance.

(Annexure XL)

3.2.6 Conclusion

Audit observed that the objectives of setting up Civil Engineering Workshops to help Railways in meeting their demand of essential components required for day to day maintenance of tracks and manufacture of girders for bridges etc. had not been fully met due to lack of clear strategic direction. Efforts to upgrade the bridge workshop infrastructure were tardy and had not kept pace with the demands of expanding requirements of IR for building up capacity. The workshops, functioning with outdated Machinery and Plants need to be revitalized by appropriate up-gradation of technology and skills for achieving cost effectiveness. More importantly, the workshops need a clear roadmap for attaining desirable level of excellence through careful exploitation of core competencies.

Recommendations

- *IR needs to undertake, on priority, capacity planning assessment of each workshop to facilitate desired production as per demand. A comprehensive modernization Plan to upgrade machines and technology needs to be implemented within a fixed time-frame.*
- *As there are significant cost differences for the same product among the workshops, IR needs to institute proper costing mechanism and cost control measures to ensure their compliance across workshops. Attempts may be made to explore product specialization keeping the core competencies of individual workshop to achieve cost effectiveness.*

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

3.3 Safety works – Level Crossings, Road Over Bridges and Road Under Bridges

Executive Summary

Level crossings at railroad intersections present a significant risk of accidents. In Indian Railways, 992 lives were lost in level crossing accidents during the period from 2006-07 to 2010-11. There were 33,957 level crossings out of which 16,463 were unmanned over Indian Railways as on 1st April 2010. LCs are being manned based on various criteria such as TVU exceeding 6000 units per day, restricted visibility, frequent occurrence of accidents, etc. Railways adopt a general criterion of 1 lakh TVUs per day for provision of ROB/ RUB on cost sharing basis with State Governments (50:50). For enhancement of safety standards at manned LCs various instructions were issued by Railway Board from time to time for interlocking of LCs, Provision of Lifting Barriers (LB) and Telephones, etc. Instructions were also issued by Railway Board (RB) for elimination of LCs by construction of ROB/RUBs/Limited Use Subways/Limited Height Subways (LUS/LHS) and closure of one of the LCs where two or more LCs exist in close proximity. For financing the up gradations of LCs and execution of ROB/RUB works, a dedicated fund namely “Railway Safety Fund (RSF)” was created in April 2001 with allocation from Central Road Fund.

Audit studied the implementation of policy in respect of these safety works covering the period from 2006-07 to 2010-11. The earlier Audit findings (Audit Report No.9 of 2005) and the recommendations of Standing Committee on Railways from time to time were also kept in view.

The study revealed gross under utilisation of funds from Railway Safety Fund since inception in April 2002. During 2006-07 to 2010-11, Budget allotments were less than 45 per cent of available fund while in 60 per cent of works, 80 per cent funds allotted were surrendered. There were 1490 Level Crossings (630 LCs having more than 6000 TVUs and 860 LCs in Rajdhani routes) remaining unmanned. Safety enhancement devices in eligible cases were not provided, in 1880 LCs (lifting barriers), 815 LCs (interlocking) and 555 LCs (telephones). ROB/RUB were yet to be sanctioned in cases of 1076 eligible LCs. Out of 665 sanctioned ROB/RUB works, in 375 ROB/RUBs, works were yet to be commenced though 108 of them were sanctioned prior to 2005-06 that included sanctions accorded more than two decades earlier. There was a cost-over-run of ₹885.56 crore in revision of estimates in 171 case. Zonal Railways had taken up 298 works valued ₹4886.16 crore without completion of preliminary works such as finalisation of General Arrangement of Drawings, detailed estimate, etc, that also required concurrence from the state government concerned and the works remained in a state of incompleteness. The Zonal Railways in a majority of cases had not complied with the requirement of annual prioritisation of works jointly with the state government. Due to continued manning of LCs in respect of 338 works belatedly completed and in progress, there was avoidable expenditure of ₹68.95 crore jeopardising safety. Though ROB/RUBs were opened for traffic, 60 LCs were also being simultaneously maintained compromising safety with avoidable

expenditure of ₹27.76 crore on operation. Besides Railways' share of cost to be recovered in such cases (₹124.33 crore in 25 cases alone for which information is available) was not claimed. The overall implementation of safety works at level crossings was hampered by inadequate commitment leading to poor planning, deficiencies in internal co-ordination and in particular weak liaison with state government.

3.3.1 Introduction

A level crossing occurs where a railway line is intersected by a road or path on one level, without recourse to a bridge or tunnel. Level crossing presents a significant risk of collision between trains and road vehicles. Accidents at level crossing constitute more than 40 per cent of all major (Consequential) accidents on Indian Railways and the death toll is the highest in this category. There were 33,957 level crossings over Indian Railways as on 1st April 2010 out of which nearly 17,000 were unmanned.

As per the existing policy, provision of Level Crossing (LC) is made in consultation with the State Government at the time of laying a new line or within 10 years from the date of its commissioning to traffic. Thereafter, any accommodation work such as LC can be provided at a suitable location on 'Deposit Terms' basis, if such a proposal is sponsored by the State Government/Local Bodies duly agreeing to bear the initial cost of construction of the LC and one time capitalized cost of recurring maintenance and operational charges. Further, as per the current policy of Railways, no new unmanned LC is permitted on existing lines.

After this 10 year period, the Railways share the cost (50 per cent excluding the cost of the land and structures thereon) of construction of Road Over Bridges (ROBs)/Road Under Bridges (RUBs) in replacement of busy LCs to ensure safety of the public travelling by road and rail and also to improve the efficiency of the Railway operations. The Railways adopt a general criterion of minimum traffic density of one lakh Train Vehicle Units (TVU) per day (the product of the number of trains and number of road vehicles passing the level crossings per day) for provision of ROBs/ RUBs. The traffic density condition is relaxed in cases of suburban sections with high frequency of train services and near stations where detentions to road traffic are high due to Railway operations.

The Railway Board have issued instructions from time to time for elimination of LCs by construction of sub-ways, closure of LCs and for enhancing safety through provisioning of interlocking, lifting barriers and telephones, etc.

3.3.2 Audit objective and scope

Audit had carried out a previous study on the subject- "Construction and maintenance of ROB/RUB on Southern and South Western Railway" and had made certain recommendations on slow pace of execution of works (Audit Report No.9 of 2005).

The issue of safety enhancement works at LCs had also been a matter of debate by the Standing Committees in the recent past which had made certain

recommendations as regards funding and accelerating the progress of the construction of ROB/RUBs.

Audit had noted that the Budget Speech of MOR (2009-10) had underscored the importance of safety concern and indicated approval of manning of around 3000 LCs during the year.

Given the above context, it was decided to revisit the subject covering all Zonal Railways to evaluate and follow-up in regard to

- Efficiency in funds utilization including financing
- Efficiency in terms of works planning and execution
- Impact on safety

For this purpose, allocations and expenditure under Plan Heads 29 and 30 dealing with Road Safety Works for LCs and ROB/RUBs were dealt with. The period of study covered 2006-07 to 2010-11.

3.3.3 Audit Criteria and Sampling

The rules and provisions contained in the Indian Railway Code for Engineering Department, Indian Railway Permanent Way Manual and the guidelines & instructions issued by the RB from time to time governing LC works and the works in respect of the construction and maintenance of ROB/ RUBs/LUSs, Reports on the LC accidents formed the basis of audit assessments. The Reports of Standing Committee on Railways related to the subject and action taken on Audit Report on the subject were also kept in view.

The records relating to construction of ROB/RUBs available with Zonal Railway Administration and Construction Organisation were reviewed with reference to the policy circulars issued by Railway Board. In respect of LC works and LUS works, the relevant records with Zonal Railway Administration and Open line (Divisions)/Construction organisation were examined.

3.3.4 Audit Methodology

The records relating to construction of all the 665 ROB/RUBs which were in progress as on 31st March 2011, 196 works which were completed during 2006-07 to 2010-11 and works pertaining to 1228 LCs identified for provision of LUS/LHS were reviewed across all the Zones with reference to policy circulars issued by Railway Board.

3.3.5 Audit findings

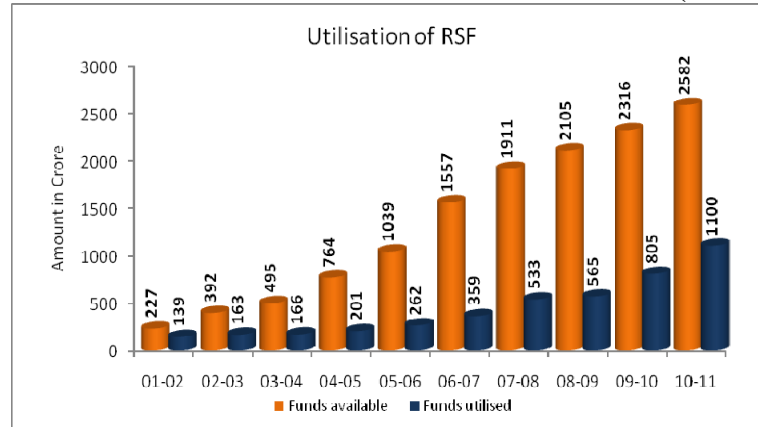
3.3.5.1 Financial Management

(i) Gross under utilization of Railway Safety Fund

The LC works and ROB/RUB works are being financed mainly from Railway Safety Fund (RSF) and Capital. RSF was created on 1.4.2001 for financing works related to manning of unmanned LCs and for construction of ROB/RUBs at busy LCs. This fund is financed through receipts from Central Road Fund collected from levy of cess of ₹1 per litre on Diesel and Petrol. The Railways get

12.5 per cent of the entire petrol cess and 6.25 per cent of the entire diesel cess and the entire amount is allocated under Road Safety Works. During the period from 2001-02 (year of inception) to 2010-11, an amount of ₹6711.95 Crore was made available under RSF. Out of this, only ₹4294.58 Crore (64 per cent) was utilized, leaving ₹2417.37 crore (36 per cent) unutilized as on 31st March 2011. *Audit also observed that the utilization with reference to the funds available (accretion plus cumulative balances) was in the range of 23 to 43 per cent barring the first year 2001-02 (61 per cent).*

(Annexure XLI)



[Source: Indian Railways Appropriation Accounts 2008-09 Part-II]

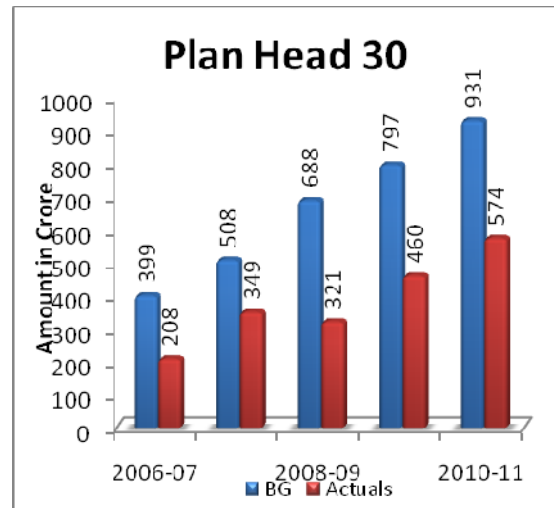
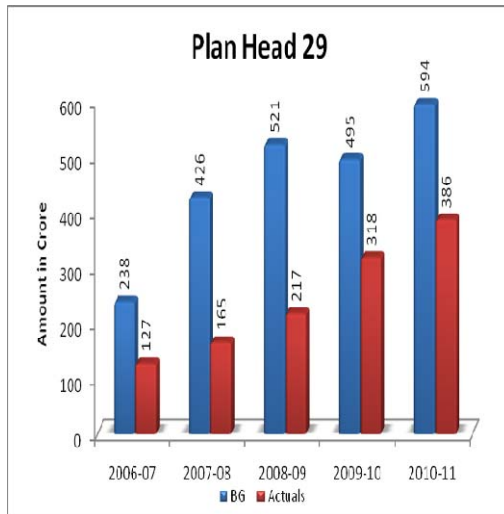
(ii) Budget allotments

A review of pattern of Budget allotments made from 2006-07 to 2010-11 for the LC up gradation works and ROB/RUBs revealed that these were less than 45 per cent of the fund available under RSF. *Though sufficient funds were available and there were large number of ROB/RUB works pending (665) as on 31 Mar 2011, the actual budget allocations reflected low priority due to inadequate commitment by the Railways.*

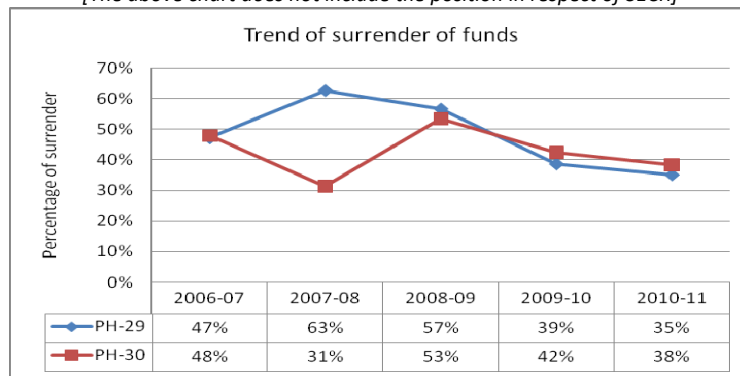
(iii) Utilization of funds allotted

Audit reviewed the Budget allotment of funds under Road Safety Fund against PHs 29 and 30 (of all zones except SECR) and their utilisation and observed the following:

During the review period, the funds allotted were grossly underutilised. The surrender of funds was 48 per cent on an average under PH 29 and 43 per cent under PH 30. The surrender under PH 29 was as high as 57 per cent and 63 per cent in the years 2007-08 and 2008-09. The surrender under PH 30 was as high as 53 per cent and 48 per cent in 2008-09 and 2006-07. The last two years viz., 2009-10 & 2010-11 reflected slightly lower level of surrenders (39 per cent and 35 per cent under PH 29 and 42 per cent and 38 per cent under PH 30 respectively).



[The above chart does not include the position in respect of SECR]



Detailed analysis of the utilisation of funds by the various Zonal Railways during the review period revealed the following:

The total surrender of funds ranged from 13 (SCR) to 71 (SWR) per cent under PH-29 and 29 (SR) to 73 (ECoR) per cent under PH-30.

- Under PH 29, only ER had utilised the entire amount allotted during 2006-07 to 2010-11. In 10 Zones, more than 50 per cent of the funds allotted were surrendered.

Only NR had utilized the entire funds
NFR, NWR, SCR, SR, WR surrendered less than 50 per cent
CR, ECOR, ECR, ER, NCR, NER, SER, SWR, WCR surrendered more than 50 per cent

Only ER had utilized the entire funds
NFR, NR, SCR, WR surrendered less than 50 per cent
CR, ECOR, ECR, NCR, NER, NWR, SER, SR, SWR, WCR surrendered more than 50 per cent

- Under PH 30, only NR had utilised the entire amount allotted during 2006-07 to 2010-11. In 9 Zones, more than 50 per cent of the funds allotted were surrendered

- Audit observed that in 60 per cent of works of ROB/RUB, 80 per cent of the funds provided were surrendered, as shown below:

Year	No. of ROB/ RUBs for which funds were allotted	No. of cases where more than 80 Per cent funds were surrendered
2006-07	399	291 (73 per cent)
2007-08	535	317 (59 per cent)
2008-09	598	385 (64 per cent)
2009-10	740	477 (64 per cent)
2010-11	870	519 (60 per cent)

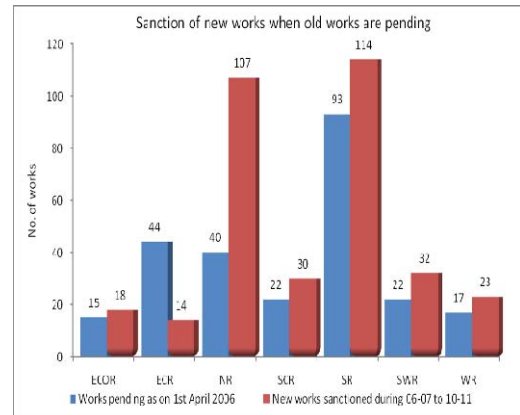
[The above figures does not include the position in respect of NER and SER]

- In 11 Zones (CR, ER, ECR, ECoR, NCR, NR, SCR, SR, SWR, WCR, WR), in more than 50 per cent of the cases, there was huge surrender (more than 80 per cent) of funds for various reasons. Non-completion of pre-requisites and consequent surrender of considerable funds were reflected poor work management

Major reasons for surrender of funds

- Non-finalization of GAD
- Problems in land acquisition
- Delay in finalisation of tender
- Poor progress of work by contractor
- Delay attributable to State Govt.

- Audit compared the status of ROB/RUBs sanctioned during the review period (2006-07 to 2010-11) with that pending as on 1st April 2006. In 7 Zones, though 253 ROB/RUBs remained incomplete as on 1st April 2006, 338 new ROB/RUBs were sanctioned during the review period and funds were provided each year by



the Railways. Major portion of these provisions were also surrendered, which clearly indicated lack of commitment on the part of the Railway administration in undertaking completion of these works.

The persisting disturbing trend of gross under-utilization of funds since the RSF was created indicated that systemic deficiencies and co-ordination issues had not been effectively addressed. Railways had contended in their reply to the Standing Committee in their reports (5th Report December 2004, 7th Report February 2005, etc) and Audit in their Report (9 of 2005) that under-utilization of funds was due to State Governments not fulfilling their commitment for construction of approach works. While this may be partially valid, it was also a fact that the Railways had been tardy in executing works of up gradation of level crossings despite full availability of funds due to delays in planning, finalization of tenders, etc as highlighted in the Boxes.

As regards cost-sharing of ROB/RUB works with the state Governments, Audit noticed that Railways were not effective in pursuing a case with the Planning Commission for increased budgetary support from the Planning Commission, given the unsatisfactory record of utilization of existing funds. The Standing Committee had recommended in their 5TH Report (presented to 14th Lok Sabha) in December 2004 that Railways should consider utilizing the entire diesel cess for construction of approach works. The Railways had however not acted upon the recommendation that was again reiterated in 2009 by the Standing Committee (4th Report to 15th Lok Sabha).

Unlike other Railway projects, funds were not a constraint for execution of Road safety works. With better co-ordination with State Government, the ROB/RUB works already sanctioned and taken up could have been expedited and funds effectively utilized. Huge surrender of funds, thus, indicated low priority being accorded to safety works.

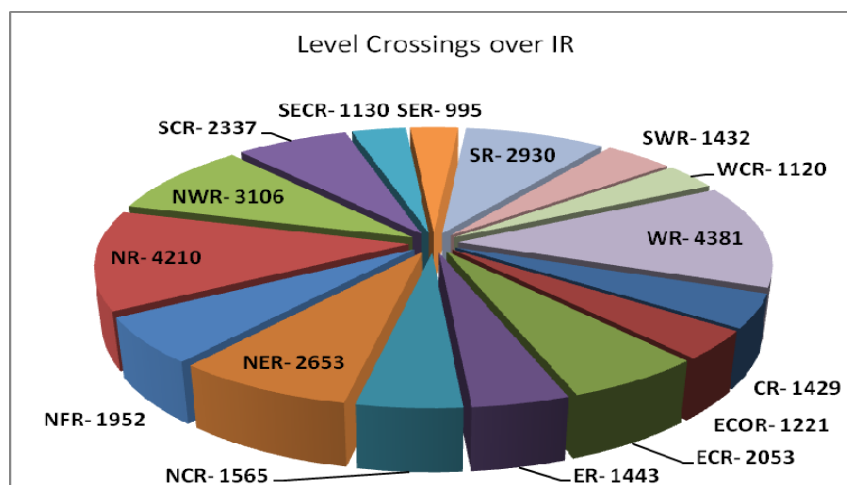
3.3.5.2 Planning of safety works

(i) Level Crossing works

The following are the criteria and priority for manning of unmanned LCs:

- Category I – Clear visibility LCs with TVUs > 6000 and road vehicles > 180
- Category II – Restricted visibility LCs with TVUs > 6000 and road vehicles >120
- Category III – Restricted visibility LCs with TVUs between 3000-6000
- No manning of unmanned LCs if motor vehicles do not ply regularly.
- If any unmanned LC was involved in more than three accidents in the last three years, it should be manned immediately irrespective of its Category.

There were 33,957 LCs over IR as on 1st April 2010.



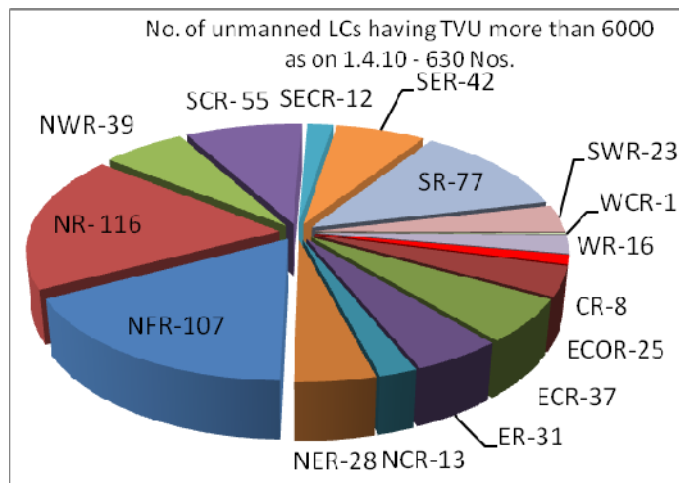
Out of these, 17,494 LCs (52 per cent) were manned and 16,463 LCs (48 per cent) unmanned. Audit analysed the zone wise position of unmanned LCs and observed that in 9 Zones, the percentage of unmanned LCs to total LCs was more than 50 per cent.

Out of 33,957 LCs, 21,096 LCs (62 per cent) had less than 6000 TVUs out of which 5263 LCs were manned on various other criteria such as restricted visibility, involved in accidents. Another 12,861 LCs had more than 6000 TVUs.

Less than 50 per cent of the LCs were unmanned in SCR(48), SR(39), CR(37), NR(37), ER(35), NCR(34), WCR(23)

More than 50 per cent of the LCs were unmanned in SER(70), NER(60), SECR(55.3), NFR(59), WR(58), ECoR(57), NWR(54), SWR(53), ECR(50)

Another 12,861 LCs had more than 6000 TVUs and were required to be manned as per the laid down criteria. Out of these, 12231 LCs were manned as on 1st April 2010 and 630 remained unmanned. In SR, SCR, NWR, NR and NFR, the LCs could not be manned due to shortage of manpower, want of CRS sanction, delay in sanction of estimate, want of infrastructure (Telephone, electricity).



(ii) Master Plan for elimination of unmananed LC gates

As per instructions (May 2010) of RB, each Zonal Railway has to prepare a Master Plan for elimination of unmanned LCs within a period of five years. Further, all unmanned LCs, which qualify for manning but cannot be eliminated through construction of LUS/LHS/ROB/RUB, shall be manned during the year 2010-11.

Audit observed that, though Zonal Railways had prepared Master Plan for elimination of unmanned LCs by manning or through construction of LUS/LHS/ROB/RUB, a test check in 15 Zonal Railways (CR, ECOR, ECR, ER, NCR, NER, NFR, NR, NWR, SCR, SECR, SR, SWR, WCR, WR) revealed that except CR and WR, none of the Zonal Railways had achieved the target set for the year 2010-11.

(iii) Priority in manning

As per Indian Railway Permanent Way Manual (Advance Correction Slip No.100 dated 21.06.2006), train route wise priority is to be followed for manning of unmanned LCs i.e. ‘A’ route followed by ‘B’, ‘C’, ‘D’ ‘D Spl.’, E and ‘E Spl.’. Further all unmanned LCs on Rajdhani & Shatabdi routes should be manned on priority. Audit observed the following:

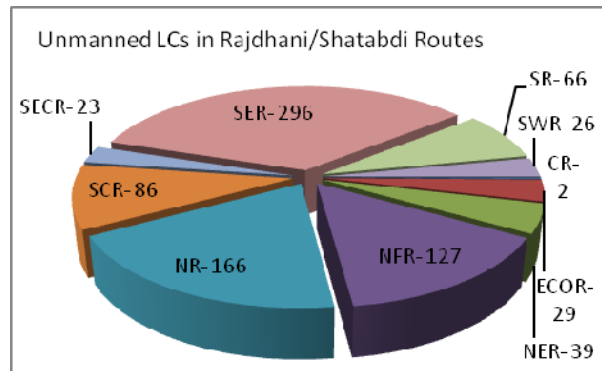
- All LCs qualified for manning under “A”, “B” and “C” categories had been manned in CR, WCR and WR.
- Out of a total of 7,845 LCs for all Zones in Routes A, B and C, 1,521 LCs were unmanned. Of these, 353 LCs qualified for manning but were yet to be manned.(Table below)

Details of level crossings in 'A', 'B' and 'C' routes as on 1st April 2010					
Railway	Route	Total LCs	Manned LCs	Unmanned LCs	No. of Unmanned LCs qualified for Manning but yet to be Manned
All Zones	A	2406	2232	174	47
	B	4861	3639	1222	291
	C	578	453	125	15
	Total	7845	6324	1521	353

- Forty seven LCs out of 353 falling under ‘A’ category route (4 Zones), where a number of important trains like Rajdhani, Shatabdi, Superfast/Mail/ Express trains were run, were yet to be manned.

- All LCs in ‘A’ Route manned in CR, ER, NCR, NR, WCR, WR
- All LCs in ‘B’ Route manned in CR, WR
- All LCs in ‘C’ Route manned in , ECR, NR, SR
- LCs due for manning in ‘A’ Route – SCR(26), SER(10), SECR(8), ECR(3)
- LCs due for manning in ‘C’ (Suburban) Route – ER(15)

- In 10 Zonal Railways, 860 LCs in Rajdhani/ Shatabdi routes remained unmanned. From the above, it was clear that prioritisation in manning in some Railways was not carried out as per the order prescribed (as ‘B’ & ‘C’ routes had been manned without completing ‘A’ routes). Besides, the level of compliance in regard to the Rajdhani/ Shatabdi routes over 10 Zonal Railways indicated need for better control over prioritisation of manning.



The Standing Committee in their 27th Report (2006-07) & 14th Report submitted to Lok Sabha in October 2008 recommended expeditious action for provision of man power for manning LCs. While the overall manning of unmanned level crossings with more than 6000 TVUs was 95 per cent, given the sizable number of LCs (15833) yet to be manned, better prioritization keeping in view the prescribed criteria, manpower constraints and lead time required for filling in the posts of gatekeepers, would help enhance safety.

(iv) Safety improvement works at LCs

Railway Board had issued various instructions to improve the safety standards at manned Level Crossings. RB had stipulated that LCs with more than 25000 TVUs (revised to 20000 vide RB's letter dated 11.10.2010) and in suburban sections have to be interlocked with the station signals. Audit observed

- That out of 7,399 requiring interlocking, 6,141 LCs were interlocked and work was in progress at 456 LCs. In respect of 815 LCs, the work of interlocking was yet to be sanctioned/taken up. **(Annexure XLII)**

SWR(2) and WCR(2) have the least no. of non-interlocked LCs.

In CR, ECoR, ECR, NCR, NER, NFR, SCR, SECR, SR, WR the no. of non-interlocked LCs is in the range of 18 to 69.

NR(304) and NWR(103) have the highest no. of non-interlocked LCs.

- In addition to the above, manned LCs are required to be provided with Lifting Barriers (LB) in a phased manner. Out of 15,635 manned LCs identified, LB had been provided in all the manned LCs in 8 Zones. In the remaining 8 Zones, 1880 LCs were being provided with LB in a phased manner.

LB provided at all manned LCs in CR, ECoR, NCR, NFR, SCR, SER, SWR, WCR

LCs yet to be provided with LB - WR(737), NR(380), ECR(119), SR(117), ER(104), NER(102), NWR(5), SECR(316)

(Annexure XLIII)

- All manned LCs are to be provided with Telephone communication from the gate lodge and to be linked with the Asst. Station Master of the serving station. Audit observed that in 9 Zones, telephones had been provided in all the manned LCs. Telephones were to be provided at 555 manned LCs in 7 Zones.

Telephone has been provided at all manned LCs in CR, ECoR, NCR, NER, NFR, SECR, SR, WCR, WR

Telephone is yet to be provided at 555 LCs – NWR(204), NR(125), SCR(69), SWR(57), ER(49), ECR(46), SER(5)

(Annexure XLIII)

- Seventeen LCs were identified for provision of Foot Over Bridges (NR-14, SR-2, WCR-1) during the review period out of which only one LC (NR) had been provided with FOB. In SR, agency had been engaged for provision of FOB and in NR, no action had been taken for providing FOB in remaining 13 LCs.

(Annexure XLIII)

(v) Planning of ROB/RUB

Railways adopt a general criterion of one lakh TVU per day for provision of ROB/ RUB on cost sharing basis. The traffic density is relaxed in respect of (i) suburban sections with high frequency of train services and (ii) LCs near stations where detentions to road traffic are high due to shunting operations, etc. However, in view of the pressing demands from Public and requests from elected representatives, RB (May 2008) issued instructions for prioritising the sanction of new ROB/RUB stipulating LCs with TVUs of more than three lakh on Main

Trunk and important category A, B, C, D Railway routes and important National/State/District Roads shall be given preference. Every year, a list shall be drawn up between the Railways and the State Governments of all sanctioned ROB/RUB works in lieu of LCs and the locations with highest TVU shall be taken up first and in the order of preference. This yearly exercise of drawing up of priority list shall also enable the State Government and the Railways to jointly focus on the works to be taken up.

Audit examined the position over IR and observed that in 2,195 LCs, the TVU per day had exceeded one lakh as on 1st April 2010 and thus qualified for provision of ROB/RUB. Out of these, two LCs in NR were still unmanned.

TVU in 95 LCs (10 Zones) had exceeded 10 Lakh but not provided with ROB/RUB

Audit test checked the position prevailing at 1,674 LCs in 14 Zones (except NR, SECR) and found that construction of ROB/RUB was in progress at 196 locations. At 313 locations, ROB/RUB works had been sanctioned but not yet taken up till 31st March 2011. Another 1,076 LCs, though qualified were yet to be identified for provision of ROB/RUB. In the remaining 89 locations, ROB/RUBs had been provided. (Table Below)

Level Crossings having TVU more than one lakh as on 31st March 2011					
Railway	TVU	No. of manned LCs	No. of ROB/RUBs in progress	No. of LCs where ROB/RUBs sanctioned but not taken up	No. of LCs where ROB/RUB is yet to be sanctioned
All Railways	1 to 3 lakhs	1270	127	224	867
	3 to 10 lakhs	327	49	70	185
	More than 10 lakhs	74	20	19	24
	Total	1671	196	313	1076
	<u>Note:</u>				
	Out of 1674 manned LCs, ROB/RUB work had been completed in 89 LCs {1674-(196+313+1076)}				

On the matter of coordination with State Government and prioritisation of ROB/RUB work based on TVU, Audit observed the following:

- In SR, ER and NFR, the yearly exercise of drawing up priority list was being done regularly with the co-ordination of State Governments. Similar exercise was not being done in NR, SCR, NCR, NWR and NER,WR &ECOR.
- In WCR, test check of records revealed that proposals were submitted to State Government (48 works). However, as of March 2011, only one proposal was considered by the State Government for construction.

Thus, in spite of availability of sufficient funds for construction of ROB/RUBs, due to lack of proper commitment and effective coordination between Railways and the State Governments, Road Safety works were not given due importance

and 133 LCs with even more than 3 lakh TVU, for which priority had to be given were yet to be identified for provision of ROB/RUB.

Railway	No. of manned LCs (TVU > 3 lakhs)	No. of LCs where ROB/RUB is yet to be sanctioned
SR	61	7
SCR	14	5
SWR	12	7
NCR	53	25
ER	54	23
CR	54	43
NFR	16	12
NWR	23	16

The above analysis highlighted the need for a stronger and effective co-ordination mechanism between Railways and State Governments for ensuring common prioritization of works for faster completion of ROB/RUB works.

(vi) Unjustified ROB/RUBs

In SR, three LCs were identified for replacement with ROB/RUB on the grounds that these LCs had crossed the TVU limit of one lakh. However, as per records, the TVU in respect of these LCs range from 30,624 to 62,473 only. The total estimated cost of these three ROB/RUBs was ₹44.79 crore. Out of these, two works were yet to be taken up and one work was in progress.

The decision of the Railway Administration in sanctioning ROB/RUB at these locations was not justified in as much as 86 LCs which had already crossed one lakh TVU were yet to be identified for ROB/RUB.

3.3.5.3 Execution of works

In most of the cases, the Bridge portion over Railway Track is executed by Railways and the approach road by State Government. Ideally both these works should be completed simultaneously so that ROB could be opened for traffic and the LC closed at the earliest with minimum cost of idling of investment. The status of works sanctioned during 1986-87 to 2010-11 is given in Table below:

Number of Road over bridges/Road under bridges (Works sanction 1986-87 to 2010-11)									
Railway	Railway portion completed state portion in progress	Railway portion completed state portion not taken up	Railway portion in progress state portion not taken up	Railway portion in progress state portion completed	Railway portion not taken up, state portion completed	Railway portion not taken up, state portion in progress	Work in progress both by Railway and State	Works not taken up both by Railway and State Govt.	Total
CR	1						5	12	18
ECOR	2		1				6	15	24
ECR	2						11	32	45
NCR	1		16				21	14	52
NWR	6		1				6	1	14
SCR	9	1	6				18	35	69
SR	5	1	9				33	122	170
WR	5	1	2					21	29
ER		1	3				1	22	27
NR		2		11	1	1	27	60	102
SER		1	1				5	9	16
SWR		1					42	11	54
NER						1	5	12	18
SECR							7	7	14
WCR							11	2	13
Total	31	8	39	11	1	2	198	375	665

(i) Delay in commencement and execution of works.

- During the review period of 2006-07 to 2010-11, 196 works were completed by both Railways and State Governments. As on 31-03-2011, there were 665 sanctioned ROB/RUB works. Out of which 108 works were sanctioned during the period 1991-92 to 2005-06
- Works at 375 locations had not been taken up by both Railways and State Government. The maximum number of cases pending commencement was in Tamil Nadu (78) followed by Uttar Pradesh (49).
- Bridge and approach works had not been taken up in TN-76 (SR), UP-49 (NCR-14, NER-9, NR-26), AP-38 (SCR-33, ECoR-5), Bihar-31 (ECR-28, NER-3), WB-30 (ER-22, SER-8)
- In 198 locations, works were in progress by both Railways and State Government. Out of which 65 works were sanctioned during 1993-94 to 2005-06 Large number of works were still in progress in Karnataka-42 (SWR), UP-31 (NCR-19, NER-5, NR-7), TN-30 (SR), AP-18 (SCR)



ROB work at LC.No.57-B (Rewari) sanctioned in 2003-04, still in progress (NWR)

(ii) Non co-ordinated progress of works

Audit analyzed the physical progress of bridge portion and approach road portion of these ROB/RUBs executed by Railways and State Government respectively and observed the following:

- In 8 works, Railway portions were completed but State Government portions had not been taken up. Out of above, five works were sanctioned during the period 1999-00 to 2005-06
- In 31 works, Railway portions were completed. However, the works of approach road by State Government were still in progress. Out of which 10 works were sanctioned during the period 1986-87 to 2005-06.
- In respect of 39 works, Railway portion was in progress but approach road work had not been taken up by the State Government concerned. Out of which eight of these works were sanctioned during the period 1995-96 to 2005-06. Approach work had not been taken up by UP-15(NCR), AP-6(SCR), TN-6(SR).
- In respect of 11 works, State Government had completed the approach road work but Railway portion (NR) was yet to be completed.
- In respect of one ROB sanctioned in 1997-98 (NR), approach road work had been completed by Punjab Government. But the Railway portion had not yet been taken up.
- At two locations (UP), approach road work by State Government was in progress but execution of bridge proper by Railways (NER, NR) was not yet taken up.



Damoria Bridge, Jalandhar (NR) – Sanctioned in 1997-98, approach portion completed, bridge portion not taken up.

The above analysis indicated that there was abnormal delay in commencement of sanctioned works and completion of works that were commenced. Further, in quite a number of cases, there was lack of co-ordinated progress of work by Railways and State Government resulting in unnecessary blockage of funds invested by either Railways or State Governments, as the case may be and non realization of objective of closure of level crossings. Some of the causes of the delays in commencement of works and execution of works and their financial implications are discussed in subsequent paragraphs.

(iii) Delay in execution (Bridge portion)

ROB/RUB works are to be completed within a period of 18 to 24 months of their administrative sanction. Audit reviewed the works in progress as on 31st March 2011 (665) and those completed (196) during the review period to assess whether the works were completed within the stipulated time of 24 months from the date of sanction. Audit found that 338 works were either completed belatedly or yet to be completed (two years after sanction) as indicated in the Table below.

Delay range	No. of cases
Less than 2 years	166
2 to 5 years	62
5 to 8 years	91
8 to 12 years	15
More than 12 years	4

In respect of 4 works - one each in NFR, SER, SCR and WR, the delay in execution of works was 156, 180, 216 and 264 months respectively. The causes of delays were as follows:

- Delay in finalization of GAD.
- Delay in approval and issue of drawings and designs
- Delay in sanction of estimate/material modification
- Delay in making available the site
- Delay in the execution of approach road works by State Govt.
- Delay in diversion of road traffic
- Delay in shifting Water pipe line, signal cables, telephone cables etc.
- Operation of additional/new items during execution of work
- Delay in finalization and award of contracts
- Delay by the contractor in completion of work

(Annexure XLIV)

Poor planning and internal co-ordination within the Zonal Railways and ineffective co-ordination with State Governments resulted in considerable delays in execution/completion jeopardizing safety. This had resulted in avoidable expenditure of ₹68.95 crore approximately (Annexure XL) towards

continued cost of manning these LCs. In particular, non-completion of preliminaries before taking up the works for execution was a chief factor contributing to avoidable delays.

(iv) Non-completion of preliminaries before taking up the works for execution:

As per instructions contained in Para 703 of the Indian Railway code for the Engineering department and RB's orders on the subject, preliminary works such as sanction of detailed estimate, finalization of plans and drawings, finalization of initial and recurring costs, acquisition of land, commitment to close the LCs from State Government etc. have to be completed before taking up the works for execution. Further, RB (October 1991) issued instructions that prior to inclusion of bridge works in Annual Works Programme, Railway should ensure that all preliminary and associated works should be completed.

Audit examined the position and observed that 298 works (Table below) estimated to cost ₹4912.04 crore were taken up without completion of preliminary works and an amount of ₹602.06 crore had already been incurred on these works till 31st March 2011.

ROB/RUB works undertaken without completion of Preliminaries				
Railway	Total no. of works	Estimated Cost (₹ in crore)	Expenditure booked till 31/03/2011 (₹ in crore)	Details of Preliminary works not completed
1	2	3	4	5
ECR	12	410.83	202.23	Land not made available by State Govt. Alignment not fixed by State Govt. GAD not approved by State Govt. GAD not approved by Railway, Diversion or shifting of LC gate, Non-approval of structural drawing, Non-receipt of approach estimate from State Govt. Combined estimate not prepared by Railway, Detailed estimate not vetted by Finance. Acceptance of detailed estimate by State Govt. pending, Detailed estimate not sanctioned by Railway, Shifting of underground utilities (cables, telephone lines, etc.) OHE lines, etc.
ER	2	27.69	6.47	
NCR	2	47.97	0.05	
NFR	3	114.88	16.25	
NR	49	1098.48	274.38	
SCR	35	765.64	4.22	
SECR	6	34.96	2.01	
SR	157	2031.86	60.90	
SWR	19	213.80	0.04	
WCR	11	146.62	29.77	
WR	2	19.31	5.74	
Total	298	4912.04	602.06	

The inadequacies in a majority of cases pertained to non-finalisation of General Arrangement Drawings (GAD), non-preparation of Original/Detailed Estimate etc.

Delay on the part of the Railway administration in finalising the preliminary works was a clear indication of ineffective internal control. This had not only delayed the execution of safety projects but also resulted in delay in achievement of the Railway's main objective of elimination of LCs and caused significant increase in the cost of works as can be seen from the subsequent para. Besides, though the issue was highlighted in the earlier Audit Report (2004-05), there was little improvement in works planning.

(v) Upward revision of estimated cost of the project due to delay in preparation of Detailed estimate

RB (June 2008) issued detailed guidelines for preparation of estimates and stressed on the need for realistic planning for works taking due care stated that planning for works had to be done with due care to avoid expensive modifications in scope of works and cost estimates. Further, instructions were also issued in December 2010 for fixing accountability to control wide variations between abstract estimates and detailed estimates on account of lapses in planning and execution of construction of ROB/RUBs.

Audit reviewed the position of Detailed Estimate in respect of 286 ROB/RUBs sanctioned during 2006-07 to 2010-11(14 Zonal Railways) and found that only in respect of 179 cases, Detailed Estimates were prepared. In all the 179 cases, there was time over run in preparation of Detailed Estimate. Out of these, in 147 cases, there was cost revision as detailed below:

Range of time over run	No. of cases
Less than 12 months	35
12 to 24 months	50
25 to 36 months	24
37 to 48 months	30
More than 48 months	8

Further analysis of cost revision in respect of cases where time over run was more than 36 months revealed that in 3 cases, the cost revision was more than ₹10 Crore (SR-2, WCR-1) and in 8 (SR-7, SCR-1) cases, the same was between ₹5 to ₹10 Crore. The highest cost revision happened in a work in SCR (from ₹20 crore to ₹57.51 crore) and the delay in preparation of detailed estimate in this case was 36 months. The upward revision of cost in 147 cases amounted to ₹2494.81 crore - an increase of ₹712.89 crore from ₹1781.92 crore.

The main reasons attributed to the delay in the sanction of detailed estimate were the delay in obtaining concurrence for the plan from the State Government authorities and the internal delays within the Railways.

Similarly, in 71 works sanctioned prior to 2006-07, Detailed Estimates were prepared only in respect of 36 cases and all of them belatedly. Out of these, there was cost revision in 25 cases as detailed below:

Range of time over run	No. of cases
Less than 3 years	10
3 to 7 years	12
More than 7 years	3

There was no cost revision in the remaining 11 cases.

Zone-wise analysis of cost revision in respect of cases where time over run was more than seven years revealed that in two cases, the cost revision was more than ₹10 crore (ER-1, SER-1). In respect of one work pertaining to SER, the time over run was 220 months involving increase in cost from ₹0.99 crore to ₹1.99 (over 100 per cent). The total cost revision in these 25 cases was from ₹239.71 crore to

₹ 413.04 crore. The highest cost revision happened in SCR, involving cost of ₹21.77 crore with delay of 72 months in preparation of detailed estimate.

(Annexure XLV)

Improper planning, lack of prioritization, ineffective co-ordination with State Governments resulted in delay in commencement of work and in its completion with consequential cost escalation by ₹ 885.56 core.

(vi) Non-recovery of the cost of Extra road width

As Road authorities desired that the cost of construction of entire 12.0 meters width of the Bridge proper should be shared on 50:50 basis, RB had issued instructions (March 2010) revising the admissibility of road width for 2 lane and 4 lane bridges on cost sharing basis.

Audit observed that the cost of additional width in respect of 14 ROB's (ER-2, SECR-5, SCR-7) was borne by the State Government. However, in NR, the cost of additional width (ranging between 4.5 m to 7.5 m) of the bridge portion of 4 ROB's (constructed one each at Malout, Narela and two at Bathinda) amounting to ₹12.81 crore (after adjusting ₹2.04 crore payable to State Government) was yet to be realized from the Government of Punjab.

(Annexure XLVI)

(vii) Non-closure of LC even after commissioning of ROB/RUB

There should be an agreement between the Railways and the sponsoring authorities to the effect that if the existing LC is required to be kept open after the ROB/ RUB is opened to traffic, the entire expenditure incurred by the Railway Administration for the construction of ROB/RUB and its approaches shall be borne by the road authorities and reimbursed to the Railways. The Ministry had assured (May 2009) that all out efforts would be made to follow the Rules where ever feasible in response to A.R.(Report No.9 2005).

Audit examined the cases of non-closure of LCs and observed that there had been insignificant progress as brought out below:



ROB in lieu of LC No. 1B at Nagda (WR)
commissioned in April '99



LC No.1B at Nagda (WR) not closed even after
commissioning of ROB

- 60 LCs were not closed even after commissioning of ROB/RUB (NR-12, SECR-11, SCR-8, NER-7) for reasons such as public agitation, dispute on

cost sharing, want of FOB and non-receipt of permission from local authorities.

- Out of the above, 24 ROB/RUBs (SCR-6, NER-4, WCR-4, ECoR-3, SECR-3, ER-1, NFR-1, NR-1, WR-1) were commissioned prior to the year 2000.
- In respect of 33 works, MOUs were in place (SECR-8, NER-7, WCR-5, SCR-3, SR-3, WR-3, WR-2, NFR-1, SWR-1)
- In respect of 22 ROB/RUBs, agreement did not exist (NR-12, ECoR-3, ECR-2, ER-1, NFR-1, SCR-3).
- Details of MOU in respect of 5 ROB/RUBs were not available (SCR-2, SECR-3)

Non-closure of LCs had not only defeated the very purpose of provision of ROB some of which were completed more than two decades ago but also resulted in avoidable and continued manning of LCs at a cost of ₹27.76 crore. Further, Railways had not made any claim for reimbursement of Railways' share of cost amounting to ₹124.33 crore (in respect of 25 ROB/RUBs alone) so far.

(Annexure XLVII)

(viii) Non-drawal of Completion Report (CR)

In terms of Para 1701 of the Railway Code for Engineering Department, a maximum period of three years is provided for the drawal of completion report after the date of completion of the ROB/RUB. During 2006-07 to 2010-11, 196 ROB/RUBs were completed. Audit analyzed 21 ROB/RUBs completed during 2006-07 for which Completion Certificates were due. It was found that, completion report had been drawn only for 1 ROB/RUB. Audit noticed cost over run in seven out of 21 works. It was ₹5.06 Crore & ₹3.85cr in respect of one work each in ECR and ER respectively and less than ₹ one crore in the remaining five works.

Though this matter was taken up earlier (Audit Report 2004-05) with Ministry of Railways, reply had yet not been received (January 2012).

Non-drawal of completion reports further hampered the settlement of accounts and recovery of Railway dues from the State Government/parties concerned.

(Annexure XLVIII)

(ix) ROB/RUB works entrusted to Single agency

In terms of Para 1816 of IR Code for Engineering Department, the portion of the work within Railway limits (Bridge proper) is required to be constructed by the Railways and road approaches are required to be constructed by road authorities. With a view to expediting construction of ROB/RUBs already sanctioned, RB decided (October 2009) to assign the work of construction of the entire ROB/RUB (approaches and bridge portion) falling in the States of Tamilnadu, West Bengal, Karnataka, Gujarat and Uttar Pradesh to a single agency.

Over SR, no work was so far handed over to a single agency in respect of works executed in Tamil Nadu. In Kerala, 20 ROB/RUB works were handed over to a single agency viz., Roads and Bridges Development Corporation of Kerala

Limited (RBDCK) without obtaining prior sanction of the RB. The anticipated advantages of handing over the work to a single agency were stated as:

- early completion, i.e., the works were expected to be completed by 12 months; and
- economy in overheads and construction costs.

RB, while according post facto conditional ratification to the above proposal, had taken a serious note of the action of SR in approaching the RB after handing over the works to a single agency (RBDCK).

Out of 20 works handed over, four ROB/RUB works sanctioned during 2000-01 and 2001-02 were still pending as on 31st March 2011. Out of these, two works were yet to be taken up due to non-finalisation of estimate and land acquisition process.

The issue of execution of 20 ROB/RUB works by Road and Bridges Development Corporation (RBDCK) was included in the Audit Report Construction and Maintenance of ROB/RUBs in Southern and South Western Railways”. Railway administration, in their reply, attributed the delay in completion of works to general reasons like want of clearance from many agencies/departments, delay in imposition of speed restrictions, etc. The reply provided no indication of remedial action for ensuring better co-ordination for early completion of work.

Similarly, in ER, the entire work of construction of two ROB was awarded to two different agencies. ROB work at Kalubathan was awarded to Konkan Railway Company Limited (KRCL) in April 2003 at a cost of ₹11.44 crore and the work was completed on 31.03.2008. The other ROB at Barriyarpur was awarded to IRCON during September, 2005 at a cost of ₹38.64 crore which was approximately 214 per cent above the sanctioned cost of ₹12.32 crore. *Although these works were awarded to single agencies at a higher cost for speedy execution of the work, yet the objective of entrusting the entire work of construction of ROB/RUB to single agency for speedy completion remained unfulfilled.*

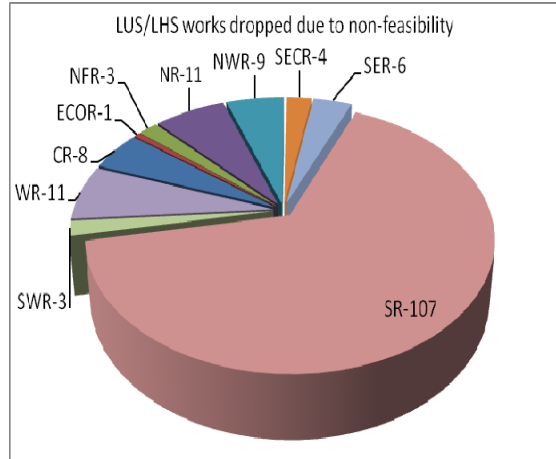
(x) Construction of “Limited Use/Limited Height Subways” (LUS/LHS) in replacement of LCs

Some of the Zonal Railways had proposed elimination of unmanned/manned LCs by construction of ‘LUS’ at locations where the traffic consists of light vehicles, two wheelers, etc. Based on this, RB (November 2006) issued instructions to Zonal Railways to identify such unmanned/manned LCs, which could be eliminated by construction of LUS/LHS.

Audit reviewed the position prevailing in Zonal Railways with regard to the provision of LUS/LHS on the basis of the RB’s instructions referred to above and observed as under:

- At 1228 locations, provision of LHS/LUS (NR-127, NWR-138, SCR-142, SECR-113, SR-218, SWR-135) had been identified.

- At 195 locations (SCR-60, SWR-41, WCR-34), LUS/LHS had been provided and LCs closed
- At 20 locations (SWR-12, ECor-4, NER- 3, NR-1)), works were completed but LCs were not closed due to various reasons such as Public agitation, State Government not giving permission, etc.
- At 163 locations (SR-107, NR-11, WR-11, NWR-9, CR-8), works were dropped due to non-feasibility on account of one or more of the following reasons:
 - Height of embankment not adequate to provide subway
 - Water stagnation
 - Seepage prone locations
 - Flood threat during monsoon



Cast RCC boxes for LUS lying idle at unmanned LC No.4 in CGL-AJJ Sn.(SR)



Water stagnation at an incomplete LUS site near LC No.189 in VM-TPJ Sn.(SR)

When the matter of dropping of work due to incorrect identification of LUS was taken up with Southern Railway by Audit in January 2010, Railway Administration, in (October and November 2010), had stated that:

- The LUS/LHS works were taken up for the first time
- Based on the experience gained at few locations, wherever provision of LUS/LHS was not feasible, the same was dropped.
- Public objected to the provision of LUS/LHS due to their limited utility

Railway Administration's remarks were found unsatisfactory for the following reasons:

- The selection of the site should have been done after satisfying the conditions prescribed.

- Contract should have been awarded after conducting the soil test and site investigations
- Being a safety work, the Railway Administration should have vigorously pursued the matter with the State Government for execution of LUS/LHS works.

Non-provision of LUS/LHS at identified locations/incorrect identification of sites for provision of LUS/LHS and consequential dropping of these works also kept away Railway’s objective of elimination of as many LCs as possible.

(Annexure XLIX)

Railway	LCs identified	LCs closed
SECR	17	17
SWR	24	24
WCR	13	13
SCR	39	29
SER	8	4
NWR	16	3
CR	12	4
NFR	27	8
ECR	7	2
NER	16	2
SR	8	1
ECOR	4	0
NR	250	0

(xi) Closure of LCs in close proximity

RB stipulated (2009) closure of one LC where two or more LCs exist in close proximity (within one kilometer) even though proper approach road connecting the LCs is not available. Link roads can be provided on Railways’ expense within Railway boundary, if warranted.

Audit observed that over IR, only 441 LCs were identified during 2009-10 and 2010-11 for closure by providing parallel link road to the nearest LC. Out of these, 111 LCs were closed and works in respect of other LCs were at various stages.

Even though there were 16,463 unmanned LCs over IRs (Mar 2011), only 441 LCs were identified for closure. We test checked the position in SR and found that apart from 8 pairs of LCs identified, 42 pairs of LCs situated in close proximity were not identified.

Thus, Railway administration had not put in sufficient efforts to improve safety by identifying and eliminating LCs in close proximity in co-operation with local civil authorities.

(xii) Maintenance of ROB/RUB

In terms of Para 117 to be read with Para 1107 (14) of the Indian Railway Bridge Manual, Senior Section Engineer should inspect every bridge including ROB/RUBs in his section once a year. Audit examined the details of inspection carried out in 12 Zonal Railways and found that in 8 Zonal Railways {SR, SCR, SWR, WR, ECoR, NR, NCR, NWR (Bikaner and Jaipur Division only)}, there were no arrears in inspection of ROB/RUBs. In 4 Zonal Railways [CR-207 (excluding Nagpur division), NER -1, SEC -8, WCR-93], the inspections were not carried out as per schedule. In NFR, regular inspection was done only in 2 out of 5 divisions.

Non-adherence to the schedule of inspections reflects ineffective monitoring of the safety of the bridges.

3.3.5.4 Impact on Safety

LC accidents not only dominate in terms of frequency, but also can have severe consequences involving injuries and fatalities to railway passengers and road users.

Gradual manning of LCs, construction of ROB/RUBs (ROBs/RUBs) and intensive public awareness campaigns has reduced the incidence of accidents at manned level crossings: however, the number of incidences continued to be of a high order involving negligence on the part of mainly road users (Table below). For its part, the IR has an obligation to take effective measures under its control to contain the accidents.



Accident at unmanned LC No.7 in TVC – NCJ Sn. (SR) on 11.10.08

During the period from 2006-07 to 2010-11, 62 accidents had occurred at manned LCs and 427 at unmanned LCs claiming 992 lives. Audit conducted an analysis of the causes of the accidents and the progress in implementation of policy in regard to the subject LCs.

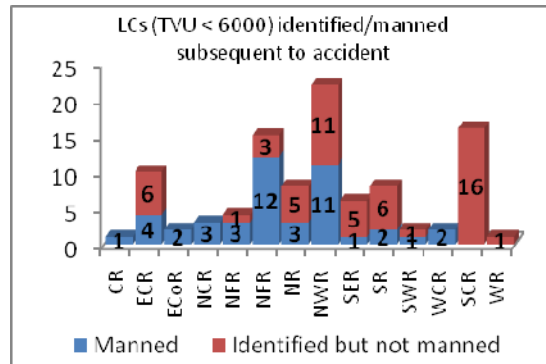
Year	No. of accidents		Fatalities			
	Manned LCs	Unmanned LCs	Manned LCs		Unmanned LCs	
			Rail Passengers	Road Users	Rail Passengers	Road Users
2006-07	12	83	0	13	38	150
2007-08	17	81	1	29	17	163
2008-09	11	87	0	26	1	148
2009-10	13	100	0	16	53	164
2010-11	9	76	0	21	0	152
Total	62	427	1	105	109	777

- Out of 62 accidents, 33 occurred at Manned LCs in NR alone as the gateman operated signal without permission or Asstt. Station Master failed to inform gateman or due to overshooting of signal by driver of the train. Out of these, at two LCs, accidents occurred three times and at one LC, accidents occurred twice. Four manned LCs in NR were identified for provision of ROB/RUB after accidents during 2006-11. However, the proposals were still under consideration.
- Out of 427 accidents at unmanned LCs, 271 accidents occurred at five Zones (NER – 46, NF – 31, NR – 119, NWR – 39 and WR -36) claiming 106 Rail passengers and 490 Road users.

- In respect of 85 unmanned LCs which already qualified for Manning as per the TVU criterion (exceeded 6000 TVU) audit observed that -
 - Out of 85 LCs, 33 were manned subsequent to accident,
 - The balance 52 LCs was yet to be manned. Out of these, TVUs of three LCs in NR had exceeded one lakh.
 - In NR, the TVU of the 10 LCs, where accidents had occurred, had exceeded one lakh. Though these LCs qualified for provision of ROB/RUB, manning had been done only subsequent to occurrence of accidents.
 - Accidents occurred twice at four LCs in four Zonal Railways (NFR, NWR, SCR, SR)

These facts clearly indicated that greater degree of compliance of preventive approach was required to reduce and avoid mishaps. **[Annexure L (a)]**

- Audit also observed that 100 UMLCs with less than 6000 TVUs were identified for manning subsequent to accident. Out of these, manning had been completed only in respect of 45 LCs.



- As per RB's instructions, if any unmanned LC got involved in more than three accidents in the last three years, it should be manned immediately irrespective of its category. In NR, at three UMLCs, accidents occurred thrice during the review period claiming four lives. However, these three LCs had not yet been identified for manning.
- Accidents occurred twice in 18 UMLCs (NR-10, NFR-2, WR-1, WCR-1, SWR-1, SR-1, NCR-1, ECR-1) with less than 6000 TVUs (not qualified for manning). Out of these, 3 LCs (NFR-2, WCR-1) had been manned and work was in progress at one LC (SR). Though RB had issued instructions (November 2006) for elimination of LCs by provision of LUS/LHS in accident vulnerable locations for increasing safety, no action had been initiated by the Railway administration in this regard.

[Annexure L (b)]

3.3.6 Conclusion

The objective of improving safety in IR by elimination of level crossings had met with limited success largely due to inadequate commitment to implementation of policy that resulted in constant gross under-utilisation of funds both in level crossings and ROB/RUBs. Railways' efforts in co-ordinating with state government for successful completion of ROB/RUBs have been inadequate. Railways thus need to adopt and ensure a pro-completion approach by rigorous prioritisation in planning and monitoring of all LC/ROB/RUBs works per se and

work towards a common agreed plan with the concerned State Governments so that closure of level crossings is achieved within an agreed time-frame.

Recommendation

- *Taking into account the large number of accidents involving loss of human lives and the detention to trains and road vehicles at level crossings, Railways should chalk out a common programme to maximize the completion of ROBs in close co-ordination with State Government and fully avail the fund made available for the purpose.*
- *As the continued operation of LC even after provision and commissioning of ROB/RUB infringes safety, stringent rules which should be binding on the State Governments should be framed.*
- *Internal controls may be streamlined to ensure proper identification of location and assessment of scope of works for timely preparation of estimates and finalisation of tenders with greater accountability in cases of lapses.*
- *Unmanned LCs where accident had occurred and already qualified for manning should be given priority in provision of Manning.*

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

3.4 East Central Railway: Delay in building the new rail bridge over River Sone

Delay in sanctioning and completing the new rail bridge work over River Sone resulted in heavy detention of Goods trains leading to avoidable revenue loss of ₹284.20 crore

Sonenagar (SEB)-Mughalsarai (MGS) section (124 KM) is a vital corridor for movement of coal, other minerals and goods from Bengal - Bihar -Jharkhand fields to North India and is a part of the Grand Chord (Mughalsarai –Asansol) on the Delhi- Howrah route. This is a Broad Gauge double line section. In between station Dehri-on-Sone (DOS) – Sonenagar there is a major Rail Bridge over River Sone. Railway Board in January 1990 decided to replace this Bridge built in 1898 with a new Bridge with provision for four lines substructure and 2 line super structures on age-cum-condition basis. Meanwhile, to cater to the increasing traffic load it was planned to lay an additional line between SEB-MGS which necessitated a 3 line Bridge over River Sone.

Then Eastern Railway requested Railway Board to sanction the new Sone bridge at an estimated cost of ₹125.63 crore in 1991-92 based on techno-economic survey carried out by them in January 1990 and further investigation carried out by M/s Stup Consultance thereafter. Railway Board in November, 1992 directed that the work of construction of new Sone Bridge with three lines should progress simultaneously and synchronize with the work of third line. This was imperative because absence of the third line between DOS and SEB would result in erosion of line capacity of the section from the envisaged 83 paths to 72 paths. It was expected that if both works were not completed by 1995-96, the peak demand on the section would outstrip the capacity and create congestion with consequential adverse effects.

Meanwhile Railway Board sanctioned the construction of 3rd line between DOS and MGS(excluding the bridge work) in 1990-91 and the work was progressively completed and opened for traffic between 1997-2002 at a cost of ₹262.24 crore. However, the Bridge work was neither sanctioned nor progressed simultaneously. The administrative sanction for the bridge-work was accorded only in 1997-98 and sanction for detailed estimates of ₹248.64 crore in December 1999. The contract was awarded to M/s AFCONS infrastructure Ltd. in April 2003 with scheduled date of completion as April, 2007.

The progress of work was inordinately delayed as the approved design & drawings were supplied to the contractor in piecemeal during execution of work, the last being in February, 2006 i.e. 35 months after the award of contract. The contractor, however, failed to complete the work within the extended period of contract (December 2009) on account of sharp increase in price of raw materials. As such, the contract was ultimately foreclosed in July 2009 without any financial liability. After a lapse of 18 months, Railway Administration awarded (May 2011) the left over work to the same contractor for ₹26.78 crore with scheduled date of completion as November 2011. The work was expected to be completed in December 2011 and opening of the section expected in April 2012 after completion of related miscellaneous work. As such the Bridge work which

ought to have been completed by 2002 along with the 3rd line was commenced in 2003 and was yet to be completed (September 2011).

Though an expenditure of ₹ 528.10 crore was incurred on third line and Bridge works together till April 2011, full benefit expected from the project could not be realized due to the abnormal delay in sanctioning and completing the work of the new Bridge. A sample study carried out by Audit on detention of Goods trains at SEB in the months of January and April 2011 revealed that the average detention of each train (34 trains per day) towards MGS was 66 minutes. The revenue loss on this account alone for the period from January 2003 to April 2011 was about ₹284.20 crore. If the detention in reverse direction was taken into account, the loss would be double. The loss will further mount till the opening of the third line between DOS and SEB.

When the matter was taken up with East Central Railway (May 2011), in reply (September 2011) they admitted the facts partially and attributed some of the detention of Goods train at SEB to OHE failure, S&T failure etc. This was unacceptable as the principal cause of detention was the non availability of path and other causes were sporadic and negligible. The delay in construction work of the Bridge was attributed to time taken to finalize the design through consultant M/s. Stup and its approval by RDSO. As M/s Stup was involved in the project from the year 1990, the long delay (nearly three years) in finalization of the design was unwarranted.

Thus the delay in sanctioning and completing the new rail bridge work over River Sone had resulted in heavy detention of trains leading to avoidable revenue loss of ₹ 284.20 crore.

The matter was brought to the notice of Railway Board (October 2011); their reply had not been received (January 2012).

3.5 South Central Railway: Injudicious retention of an old bridge by strengthening sub-structures

Railway's injudicious decision to strengthen an old bridge instead of rebuilding a new bridge resulted in avoidable expenditure of ₹13.64 crore

Bridge No.1017 across river Tungabhadra on Wadi – Guntakal section constructed in 1889 served more than the stipulated life of 100 years. The bridge consisted of 36 spans of steel girders confined to deeper portion of the river and 44 spans of arch spans on either side approaches.

Railway Board had taken a policy decision to replace old steel girders of bridges as they were considered unsafe due to presence of sulphur and phosphorus in excess of the permissible limits rendering them brittle. Accordingly, the Railway Administration proposed to rebuild this bridge on permanent diversion on the downstream side at 15 m from the centre line to the existing track. The work was included in the Preliminary Works Programme (2002-03) and sanctioned under State Railway Safety Fund (Green Book–2004-05). Accordingly, detailed estimates for ₹24.69 crore were prepared and vetted by Finance in June 2004.

Meanwhile, the Chief Engineer (Construction) decided (2003) to explore the possibility of strengthening the substructure and foundation of the bridge. Two experts i.e. Director, Transport Infrastructure, National Academy of Construction, Hyderabad and Professor, IIT, Bombay inspected the bridge in February and March 2003 respectively and recommended the strengthening of sub-structure and closure of all arch spans, leaving one to two openings for road passage. However, the Professor, IIT, Bombay observed that a proper hydrological study was required for framing up the recommendations.

The Chief Bridge Engineer (CBE) decided to recommend (November 2004) to the Railway Board strengthening and replacement of the superstructure at an estimated cost of ₹13.56 crore as against the originally approved cost of ₹24.69 crore for rebuilding the bridge, after consultation of the experts' opinion and the flood data available for the 26 years (1973-1999).

Railway Board further sought the advice of the RDSO (December 2004) who opined (January 2005) that there were chances of very abnormal flood discharge in case the rain fall was heavy necessitating the opening of gates of the dam and that the dam authorities may be consulted. The dam authorities basing their opinion on past records of rainfall and flash floods and the recommendations of the Dam Safety Review Committee conveyed (May 2005) that closure of arch spans of the bridge might not be feasible.

The Deputy Chief Engineer, Construction considered the recommendations of the experts and opined (August 2005) that in view of the fact that the cost of strengthening of sub-structure was almost equal to the cost of new sub-structure, it would be better to go for complete rebuilding of the bridge. However, the work sanction (estimated cost ₹24.74 crore) was accorded (November 2005) for retaining the sub-structure of the existing bridge and taking up the construction of second bridge on the same sub-structure besides retention of 36 central spans for waterway and closure of the arch spans except those required for Road Under Bridge (RUB) and canals. The arch spans were closed at a cost of ₹1.01 crore.

When the work was nearing completion, there were unprecedented rains (October 2009) in the catchment area of Tungabhadra river. Due to the closure of 40 arch spans of the bridge, the flood water level had reached rail level. As a result, some of the Pre-Stressed Concrete (PSC) decks of the bridge under construction on the upstream moved laterally and three decks infringed the existing track. Railway revised the cost of work to ₹34.47 crore to facilitate the execution of required restoration works besides opening of already closed arches. A subsidiary agreement for ₹9.94 crore was entered into with the contractor. Railway also spent a sum of ₹2.69 crore for immediate restoration on track due to damages due to flood. The injudicious decision of Railway Administration to close the arch portion of the bridge thus resulted in avoidable expenditure of ₹13.64 crore.

When the matter was taken up (May 2011) with the Railway Administration, they stated (July 2011) that the work of strengthening rather than rebuilding was taken after deliberations with the CBE who had considered the opinion of experts and Tungabhadra dam authorities and consulted with the Railway Board and RDSO. The loss was unavoidable on account of the unprecedented floods. The reply was not acceptable. Railway Administration failed to consider the impact of heavy

flood discharge in case of heavy rainfall and to properly evaluate the case of complete rebuilding the bridge vis-à-vis its strengthening. Further, prior to taking ultimate decision to strengthen the sub-structure of existing bridge and close the arches portion, neither a proper Hydrological study as advised by one of the experts was undertaken nor the opinion of Tungabhadra Dam Authorities against closure of the arch portion of the bridge was duly communicated to the Railway Board / RDSO. Further, the Railway Administration was left with an old bridge structure with attendant risks and weaknesses even after investment of ₹34.47 crore.

The matter was brought to the notice of Railway Board (November 2011); their reply had not been received (January 2012)

Chapter 4 – Mechanical – Zonal Hqrs/Workshops/ Production units

The Mechanical Department is mainly responsible for management of –

- **Train operations** by ensuring Motive Power availability, Crew Management, Rolling Stock Management and Traffic restoration in case of accidents
- **Production Units** engaged in production of Locomotives, Coaches, Wheel sets, etc
- **Workshops** set up for repair, maintenance and manufacturing of rolling stock and related components

The Mechanical Department is headed by Member (Mechanical) at Railway Board. In each of the zones the Department is headed by a Chief Mechanical Engineer who reports to the General Manager of the Railway. The office of the Member (Mechanical) of the Railway Board guides the CME on technical matters and policy. At the divisional level, Sr. Divisional Mechanical Engineers are responsible for implementation of the policies framed by Railway Board and Zonal Railways.

Production Units are managed independently by General Managers reporting to the Railway Board. The Workshops are headed by Chief Works Managers and report to the CME.

Central Organization for Modernization of Workshops (COFMOW) under the Mechanical Department is a centralized agency of the Indian Railways responsible for modernization of Railway Workshops and Production Units and carries out procurement and induction of modern workshop technologies and specialized Machines & Plant (M&P).

The total expenditure of the Mechanical Department during the year 2010-11 was ₹22614.98 crore. During the year, apart from regular audit of vouchers and tenders etc., 585 offices of Mechanical Department were inspected.

This chapter includes a study on planning, procurement, installation and commissioning of Machinery and Plants (M&P) through Central Organisation for Modernization of Workshops. Besides, the following instances of serious irregularities in procurement and maintenance operations have been highlighted.

- Inadequate assessment of reasonableness of tender rates and lack of decision within the validity of offer period
- Tendering of steel at prices other than ex-works SAIL, used as benchmark by Railway units in cost estimates.
- Stabling of rolling stock for long periods
- Splitting up of tendered quantity of steel items at higher rates

4.1 Plant and Machinery Procured by COFMOW

Executive Summary

Central Organization for Modernization of Workshops (COFMOW) was established in 1978 as a centralized agency for modernization of Railway Workshops and Production Units for induction of modern technologies and Machines & Plant (M&P) based on the present day needs.

Audit in their earlier reports had brought out instances of pre-procurement and post procurement delays, non-utilization and underutilization of costly machinery and plants and Railway Board had stated that continuous efforts were being made to bring about improvements and shorten the procurement cycle.

This study was, therefore, undertaken to ascertain pre-and post-procurement performance of COFMOW vis-à-vis Zonal Railways in respect of selected Machinery and Plant (M&P) items procured during the period from 2008-09 to 2010-11. The study revealed delay up to a maximum of 25 months in installation and commissioning of M&P costing ₹ 99.87 crore besides significant delays at each stage i.e. submission of indents by Zonal Railways to COMOW, finalization of specifications, calling and finalization of tenders etc. reflecting weak planning and coordination among user agencies and the service organization. There were 37 cases of underutilization of procured M&P costing ₹131.15 crore on account of non-availability of work load raising serious concerns on the justification for their procurement. In a few cases, the machines procured were either not compatible with the actual demands or there was virtually no requirement and thus had to be transferred to other units. In some cases, defects were noticed at the time of installation and commissioning and Railway Administration had not taken necessary action against the suppliers to meet their warranty obligation.

4.1.1 Introduction

Central Organization for Modernization of Workshops (COFMOW) headquartered in New Delhi, is a designated centralized agency of the Indian Railways responsible for modernization of Railway Workshops and Production Units and carries out procurement and induction of modern workshop technologies and specialized Machines & Plant (M&P). The focal area of responsibilities of COFMOW in procurement broadly covers the following:

- Selection of manufacturing technologies and M&P;
- Preparation of detailed technical specifications for M&P procurement;
- Consultancy for on-site commissioning;
- Coordination of warranty services with manufacturers;
- Support of rolling stock – Transfer of Technology (TOT) projects like LHB coaches, GM diesel locomotives and ABB locomotives by purchasing special purpose M&P; etc.

All new and replacement plant and machinery are sanctioned by the Railway Board in the Annual Machinery and Plant (M&P) Programme. On the basis of sanctioned and vetted indents received from various Zonal Railways and Production Units, COFMOW prepares specifications and places orders for their procurement after acquiring the approval of consignees. Inspection of M&P procured by COFMOW is normally done by RITES.

4.1.2 Organizational Structure

The Chief Administrative Officer (CAO) having overall charge of COFMOW reports to the Member (Mechanical) in the Railway Board. The CAO is assisted by three Chief Mechanical Engineers (CMEs), one Chief Electrical Engineer, two Controller of Stores (COS), two Financial Advisors & Chief Accounts Officers (FA&CAOs) and supporting staff.

Technical evaluations of proposals are carried out by CME/Dy. CMEs and CEE/Dy. CEE for their respective departments while commercial evaluation is prepared by the Stores department and vetted by finance department. The CME/Post Contract Management (PCM) is responsible for co-coordinating with consignees and supplier firms to ensure timely supply, installation, commissioning and performance of machines.

4.1.3 Audit objective

The budget for procurement of plant and machinery is allocated to various Zonal Railways under Capital Grant No. 16 of the Ministry of Railways' Demands for Grants and comprises on an average, 0.50-0.60 per cent of the total capital budget (Plan + non-Plan) of the Ministry. The expenses incurred by COFMOW as a service organization for execution of centralized procurement are allocated to Zones. The total budget estimates during 2008-09 to 2010-11 were of the order of ₹ 1274 crore against which actual utilization of funds was only ₹ 945.25 crore (74 per cent on an average). (Table below)

Year	Budget Classification	Budget Estimate	Revised Estimate	Actual Expenditure	Percentage utilization against Budget Estimates	Percentage utilization against Revised Estimates
Figures ₹ in crore						
2008-09	M&P	367.48	262.62	225.41	61	86
2009-10	M&P	400.63	395.20	352.23	88	89
2010-11	M&P	506.23	420.27	367.60	73	87

There were recurrent savings even with reference to revised reduced budget estimates in each of these years. These savings were attributed by the Ministry to less procurement under M&P items and delayed supply of equipment analysis.

Audit had raised in earlier Audit Reports the issue of delays and deficiencies in procurement and delays in commissioning of equipment in specific instances. These cases were also linked with underutilization of costly equipment procured. It was seen that in one of the actions taken note the

Ministry had claimed that measures had been taken to shorten procurement cycle.

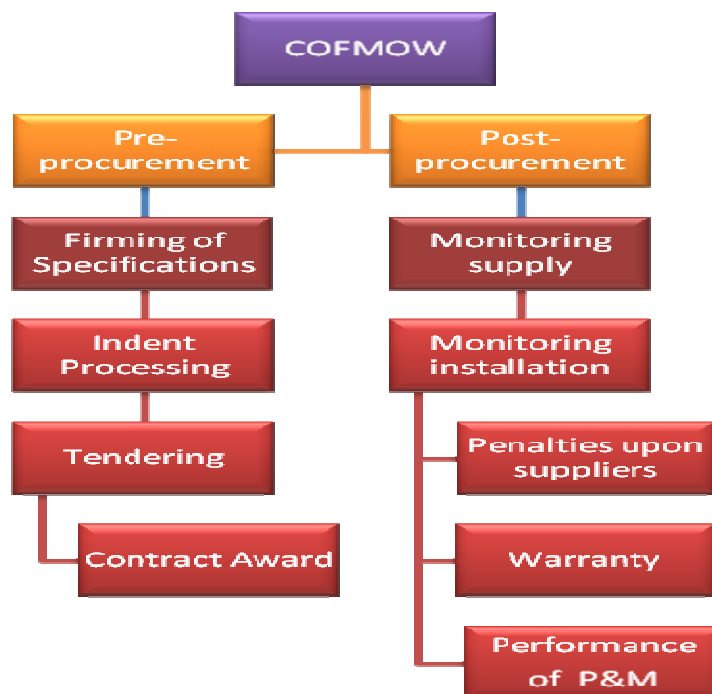
It was, thus, decided to conduct a thematic study on entire procurement process from planning to commissioning to evaluate-

- Efficiency in co-ordination in planning
- Efficiency in tender management
- Efficiency in post delivery including quality assurance

For this purpose, it was decided to focus on specific group of machinery having regard to their significance in terms of money value.

4.1.4 Audit Scope and Selection Methodology

The thematic study was focused on pre- and post-procurement stages and COFMOW’s performance reviewed on the parameters as shown in the following diagram:



This study covered the period from 2008-09 to 2010-11, incorporating only such M&P for which orders were placed by COFMOW in these three years. Relevant data and supporting documentation of the Stores, Mechanical and Integrated Finance departments of COFMOW, all Zonal Railways and Production Units of Indian Railways available in COFMOW were studied. Out of 2023 machines valued at ₹1378 crore procured by COFMOW in the last three years, a sample of 124 machines valued at ₹550.42 crore were selected for pre-procurement and 155 machines selected for post-procurement review.

Since the bulk of M&P procured by COFMOW falls into following four categories, all the M&P falling in the price range indicated against each procured during 2008-09 to 2010-11 were taken up for review:

Category of Machines	Cost (₹in crore)
Milling	0.80 - 3
Boring	0.80 - 3
Paint Booth	1 - 12
CNC/Lathe	2 - 6

4.1.5 Audit findings

4.1.5.1 Pre-Procurement Process

Zonal Railways and Production Units submit indents for procurement of machines to COFMOW. Such indents fall in two main categories as follows:

- Replacement of obsolescent/obsolete machines for existing production line(s).
- New machines for new production line(s).

Zonal Railways and Production Units are required by the Railway Board to submit their respective indents to COFMOW for procurement action latest by 15th June of every year. Thereafter, COFMOW prepares specifications and initiates tendering if required, awards contracts etc. The time limit prescribed by the Board from receipt of indent to issue of letter of acceptance (LOA) is detailed below:

- Category I: Open tender without new/modified specifications=> 208 days
- Category II: Open tender with new/modified specifications=> 388 days
- Category III: Global tender without new/modified specifications => 223 days
- Category IV: Global tender with new/modified specifications => 403 days
- Category V: 2-packet tender without new/modified specifications => 413 days
- Category VI: 2-packet tender with new/modified specifications => 593 days

(i) Delayed submission of indents by indenting units to COFMOW

Timely submission of indents by the Zonal units is essential to successful planning of procurement. However, it was observed that 85 of 124 indents reviewed were belatedly indented by indenting agencies (Zonal Railways and Production Units). Delays in indenting were observed in 54 cases (64 per cent) extending up to six months, in 18 cases (21 per cent) ranging from six to 12 months and in 11 cases (13 per cent) ranging from 12 to 24 months. Two cases were also noticed where indenting delays were more than two years. No

delays were noticed in eight cases. The delay in indenting consequently affected finalization of specifications of machines and inviting of tenders.

Indenting Unit	Machine Units	Minimum Delay	Maximum Delay
In Days			
NR	9	31	248
CR	8	26	332
ICF	1	0	33
WCR	3	38	72
NWR	1	0	39
DMW	4	44	194
SR	8	45	209
SCR	9	49	234
RWF	5	49	789
RCF	1	0	851
NCR	4	56	370
NER	5	71	606
DLW	1	0	70
ER	12	77	518
NFR	3	0	99
WR	2	0	256
ECR	2	84	523
E Coast	1	0	172
SECR	4	121	193
SER	1	0	39
SWR	5	234	377
TOTAL	85	930	6224

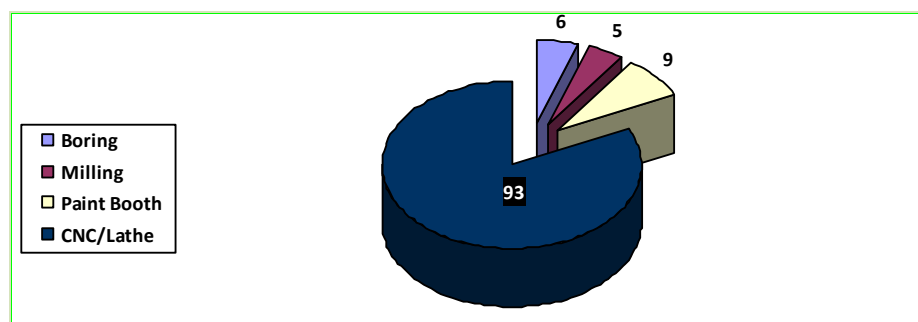
From the above table, RWF, RCF, NER, ECR and ER emerged as the worst performers with maximum time delay.

In excess of six months delay in 38 cases (31 per cent) of the cases test checked, no reasons for delay in submission of indents were made available to audit. In the circumstances, it was unclear whether these indents were actually need-based or otherwise.

(ii) Delay in finalizing specifications by COFMOW

COFMOW draws up standard specifications for M&P procured by them on behalf of indenting units. COFMOW is responsible for keeping abreast with commercially available technology and updating their technical databases pertaining to inventory of various machines procured from time to time. COFMOW has prescribed minimum time of three days for submission of specifications (not requiring modifications) and a period of 183 days for those requiring modifications. Despite its assigned responsibilities, COFMOW had taken more than 183 days in 14 cases to finalize the specifications. Moreover, in eight cases, time taken to finalize specifications was more than one year and extended up to two years. No delays were noticed in 22 cases.

Category of M&P	Minimum Delay	Maximum Delay
	In Days	
Boring	3	179
Milling	3	147
Paint Booth	3	336
CNC/Lathe	3	302



In terms of units of the above M&P, CNC/Lathe accounted for the largest share of M&P in the indenting agency, which were delayed the most by COFMOW.

No reasons were made available to audit to explain the abnormal delays in compliance with the norms prescribed.

(iii) Delays in calling of tenders by COFMOW

After finalization of specifications, tenders shall be called within a period of 20 days.

Out of 124 M&P cases reviewed, delays in 35 cases (28 per cent) were observed in calling for tenders. These exceeded three months in 16 cases. Moreover, in eight cases, tenders were not called even after a lapse of one year. In a particular case of CNC Grinder Cylindrical machine, COFMOW had taken about three years and six months to call the tender.

These delays had mainly occurred at the time of forwarding the demands to the Stores Department of COFMOW for further necessary action. Reasons for the delays were not on record.

(iv) Delay in acceptance of tenders and placement of Purchase Orders

As per norms prescribed, the process of placement of orders from receipt of indents in COFMOW shall be completed over a time range of approx. six months to 20 months. However, delays in placement of Purchase Orders (POs) in 81 cases costing ₹ 358.94 crore (of total 124 reviewed M&P) were noticed. Delays were observed in 37 cases (46 per cent) ranging from one to six months, in 19 cases (23 per cent) ranging from six to 12 months and in 14 cases (17 per cent) ranging from 12 to 24 months. Moreover, 11 cases were also noticed where COFMOW had taken more than two years to place the

Purchase Orders (POs). No delays were noticed in 41 cases. Some examples of excessive delays are discussed in succeeding paragraphs.

CNC Gear Hobbing Machine

A CNC Gear Hobbing Machine was indented by DMW/PTA in April, 2008 with estimated annual earnings/savings of ₹4.72 crore per annum. COFMOW finalized the global tender and issued Letter of Acceptance (LOA) in March 2010, i.e. after about two years against the allowed time of 223 days. Despite lapse of over three years after placing the indent, the machine was yet to be received in DMW/PTA depriving DMW of its expected earnings/savings of ₹4.72 crore per annum (Aug 2011).

Spray Paint Booth

In another case of procurement of Spray Paint Booth and Baking oven indented by SWR, the total estimated cost of ₹4.12 crore at the stage of indenting (April 2009) escalated to ₹6.46 crore at the stage of placement of PO (December 2010). Railway had to thus bear extra burden of ₹2.34 crore. The delay in placement of PO was on account of obtaining revised sanction of enhanced funds from indenting units.

(v) Letter of Acceptance (LOA) held up for want of sanction of funds

In some cases, funds allotted for M&P programme for procurement of machinery fell short of actual market price. In case, the sanctioning limit was beyond the power of CAO, COFMOW, cases were returned to indenting units for obtaining the sanction of Railway Board. Audit observed that in 11 cases valuing ₹ 7.04 crore, finalized by the Tender Committee (TC), LOA was not issued for want of revised sanction and additional funds from the indenting units. These delays exceeded one to six months in three cases, six to twelve months in another two cases and more than one year in six cases. These delays in turn were carried forward to commissioning of M&P with cost escalation.

Study of procurement of M&P items revealed that there was lack of coordination among the user departments and the COFMOW from the stage of sending indents to the receipt of machines. While COFMOW had taken its own time for finalization of specifications, calling and finalization of tenders, in most of the cases the indenting departments were not equipped with adequate funds that further delayed placement of orders on suppliers and increase in cost.

The above finding on the pre procurement process revealed inadequate coordination between user departments and COFMOW at every stage from submission of indents to finalization of tenders.

4.1.5.2 Post-Procurement of M&P

For the post-procurement evaluation, 155 cases of procurement of M&P were test checked by audit to assess time taken in delivery, commissioning/installation, its actual performance and follow up of warranty claims. Rules prescribe that in case of delayed delivery, liquidated damages at the rate of

two per cent of the total contract value would be levied for each month. If stores are rejected by consignee, the supplier is required to replace the same within 21 days or fresh purchase authorized at the risk and cost of the existing contractor.

(i) Delay in supply of Plant and Machinery

Audit noticed that out of 155 M&P, 61 M&P (40 per cent) costing ₹ 212.04 crore were supplied after unreasonable extension of original delivery period with a maximum of 35 months. Of these, in 25 cases delay was for more than six months. The reasons for delay in supply were attributable to suppliers as well as Railways as detailed below:

- In 40 cases, the delay was on the part of suppliers. Out of these, in six cases the suppliers had not made available the drawings on time for approval of the Railway. In one case, the supplier had failed to assemble the machine on time. In the remaining cases, the detailed reasons were not made available.
- In eleven cases the delay was attributable to internal factors such as excessive time taken for approval of GA drawings, non completion of concrete foundation beds, late inspection, unprepared site etc.
- In ten cases, the reasons for delay could not be ascertained as complete information was not on record.

Some cases where the drawings were approved by Railways after abnormal delay are given in Table below.

Type of machine	Consignee	Cost of the machines (₹ in crore)	Period of delay	Reasons of delay
Horizontal Boring and Milling	ICF	1.13	15 months	Faulty foundation drawings
Automatic CNC Under Floor Wheel Lathe	WCR	4.69	14 months	Delay by supplier
CNC Vertical Turret Lathe	DLW	2.69	35 months	Delay in approval of GA drawing and provision of clear site
CNC Camshaft Grinding Machine	DMW	9.06	10 months	Delay by supplier
CNC Vertical Turning and Boring Machine	RWF	3.63	22 months	Delay in approval of GA drawings

(ii) Failures in Installation & Commissioning

The ultimate success of procurement of M&P depends on its satisfactory installation and commissioning within the prescribed/contracted time limits. A time-limit of three to four months has been set as the norm. Delays in commissioning of valuable machinery adversely impact the operational efficiency of Railways. Audit scrutiny of 155 cases of procurement of M&P

items revealed that in 82 cases (53 per cent) there was delay in installation or commissioning as discussed below:

- Out of 82 cases, 66 M&P items were installed till August 2011. Out of these 30 machines costing ₹99.87 crore were installed with time delay up to 25 months. While the delays in 19 cases were attributable to indenting agencies as excessive time was taken in approval of GA drawings, creation of supporting infrastructure like sheds, foundations and provision of power supply, etc., in three cases installation delay was owed to suppliers. In other eight cases, clear reasons were not made available to Audit. In three cases, delay in installation was more than 12 months. Moreover, in a case of CNC under floor wheel lather machine received by NER, machine was installed with a delay of 25 months.
- 18 M&P costing ₹46.34 crore were either not installed or the information of their installation was not on records.
- Out the 68 M&P installed, 45 cases of M&P costing ₹140.58 crore were yet to be commissioned. In 18 cases, commissioning of M&P took more than one month and extended up to 26 months. Such delays carry with it concomitant substantial dividend liability without any return on investment.

It was also observed that in the under mentioned cases, the installation/commissioning had not yet been done (August 2011) despite lapse of more than one and half year to four years after their receipt as illustrated below:

Instances of Machines received long back but yet to be installed/commissioned

Type of machine	Consignee	Cost of the machines (₹ in crore)	Date of receipt of M&P	Reasons of delay
Baking Oven	RCF	0.97	February 2007	Site of installation was not made available
CNC Axle Turning Lathe	CR	5.15	December 2009	Installed in March 2010, but has yet not been commissioned owing to certain manufacturing defects. However no action has been taken till date
CNC Vertical Turret Lathe	DMW	3.26	January 2010	Reasons not defined
Vertical Turret Lathe (four machines)	CR(two) ECR(two)	2.06 1.78	Nov'08 & Dec'08 March '09 & June'10	In CR, in one machine firm has not responded for commissioning while in other machine, due to technical defects commissioning is held up. In ECR, reasons were not defined.
CNC Vertical Turning Lathe	NFR	2.25	April 2010	Failure to complete pre-requisite foundation work.

(Annexure LI)

4.1.5.3 Discharge of Warranty Obligations by Suppliers and Defective M&P

COFMOW's standard conditions of contract stipulate that all replacement and repairs of new M&P should be delivered or performed by the supplier within two weeks of the call by the consignee. Further, warranty period shall be

extended by the number of days if the machine remains broken down. However, Audit observed that in 76 cases defects were noticed at the stage of commissioning of machines or immediately thereafter. In three cases, (Table below) the supplier had neither attended to its warranty obligations nor COFMOW taken adequate measures to hold the suppliers responsible for failure of such M&P.

Railway/ Units	Name of Plant and Machinery	Date of commissioning/ issue of PTC	Date on which defects noticed	Date on which defects brought to notice of supplier	Remarks
CLW	CNC Turning Lathe MT/1802	10.05.2010/ 06.07.2010	18.08.2010	26.08.2010	Supplier had not rectified. COFMOW has been informed (17.02.2011) not place orders on the firm.
CLW	Opt. Gas Profile Cutting M/c MT/1814	12.01.2009/ 16.06.2009	17.04.2009	18.04.2009	Supplier had not rectified. Proposal was sent to COFMOW to realize the cost of the machine from the supplier as the machined should be treated as rejected.
RCF	CNC Plasma Profile cutting machine (Portal type)	22.08.2009	22.01.2010 to 20.04.2011	22.01.2010 to 20.04.2011	No action taken by supplier and COFMOW

Lapses on the part of Railway Administration to take action against the supplier for non-fulfillment of warranty obligation in selected cases are discussed in succeeding paragraphs.

Under Floor Wheel Lathe

An Under Floor Wheel Lathe for Basin Bridge workshop (SR) costing ₹1.94 crore received in September 2006 was installed and commissioned in June 2010 after almost four years. Dy. CME (Planning) had stated in January 2010 that the firm had failed to send its team for completion of erection and commissioning. By this time the wheel lathe had ceased to work (September 2010) on account of development of major mechanical and electrical faults. No action was taken against the supplier for default.

A similar case was also noticed where the lathe machine costing ₹1.94 crore, received by ELS, Ghaziabad (NR) in July 2006 was commissioned in March, 2008. But the lathe had developed mechanical and electrical faults and had to be rejected (January 2011) owing to frequent breakdowns and low out-turn. Though, COFMOW had raised (April 2011) a demand notice for recovery of ₹1.46 crore on the supplier, only an amount of ₹0.30 crore could be recovered. COFMOW was yet to blacklist this supplier.

(i) Difference between advertized and received M&P

It was noticed that a CNC Gear Shaping Machine received (October 2009) by DLW was not as per the requirement and indent sent by DLW. Despite its non-compatibility with demand, the same was installed in January 2010. It was also noticed that an amount of ₹1.23 crore had already been paid to the supplier as 80 per cent advance payment against receipt of stores. Inspection of this machine was carried out by RITES on behalf of COFMOW. COFMOW had neither fixed any responsibility for accepting a machine other than that required, nor approached the RITES to clarify how the machine was passed during inspection. This case is illustrative of a procurement failure that was neither corrected during the inspection nor after receipt.

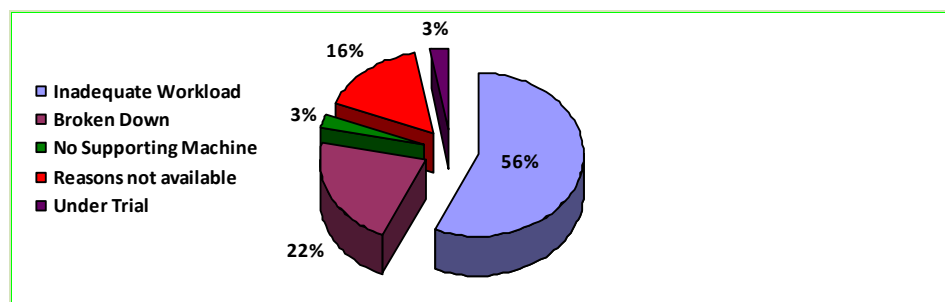
The above analysis of post procurement performance has brought out weak coordination between user departments and COFMOW on planning of procurement and ensuring timely installation and commissioning of machines. This has also contributed to ineffective actions against suppliers found deficient in performance.

4.1.5.4 Utilization of Commissioned M&P

While initiating procurement of M&P, the production requirement and capacity of the M&P (that would satisfy the requirement) are generally considered. However, it was observed that 37 machines costing ₹131.15 crore were working below their rated capacity. Summarized detail of underutilized cases of M&P is as under:

Performance in range of (percentage)						
	NA	0-25%	26-50%	51-75%	Above 75%	Total
Number of Machines	3	12	9	8	5	37
Cost (₹ in crore)	9.78	34.42	40.51	29.52	16.92	131.15

Further, audit noticed that in eight cases, M&P remained in broken down condition. In one case, M&P was under trial whereas in six cases, reasons for under utilization were not made available to Audit by the operating/indenting agency. The pie diagram below illustrates the break-up of reasons for underutilization.(Figure below)



The above indicated that 56 per cent of the under utilized machines (out of which 10 machines were worth over ₹5 crore) were on account of inadequate availability of workload that ought to have been factored into justification for this requirement. Table below highlights some individual cases where M&P were working far below their rated capacity. **(Annexure XLII)**

Type of machine	Consignee	Cost of the machines (₹ in crore)	Prescribed rated capacity	Actual output	Percentage of utilization
CNC Surface Wheel Lathe	SR	5.38	24 wheel sets in an 8-hour work shift	10 wheel sets per shift	42.00
AJTB Lathe	WR	1.11	500 wheel assemblies per mensem	Four wheel sets per mensem	1.00
CNC Axle Turning Lathes	NR	1.20	8 axles per 8-hour shift	183 axles from April 2009 to May 2011 against its capacity of 5058 axles	4.00
	NR	1.20	112 axles per mensem	36 axles	32.00
CNC Surface Wheel Lathe	NR	7.70	24 wheel sets per 8-hour shift	272 instead of 953 wheel sets from October 2010 to May 2011	29.00

4.1.5.5 Transfer of M&P

Audit also observed that in some cases, M&P received by indenting agencies were not required after its receipt and had been transferred to other zones where too, the M&P were though received, but not installed/commissioned. Some illustrative cases are detailed in the succeeding paragraphs.

- A Coach Washing Plant costing ₹3.16 crore initially procured (January 2007) for Basin Bridge workshop (SR) was not commissioned as the site was not made available by SR. Thereafter COFMOW shifted the plant to Anand Vihar (NR) with approval of Railway Board. But this site was also not found suitable and the M&P was again shifted to Ghorpuri, Pune, (CR) on receipt of indent from the latter in June, 2010 i.e. more than three years from the date of receipt of this M&P. However, the M&P had yet not been commissioned (August 2011).
- Dynamic Balancing machine costing ₹0.07 crore received (November 2009) at Vadodara Electric Loco Shed (ELS), was not commissioned. Thereafter, this M&P was transferred to ELS, Valsad (WR) in August, 2010 where it lay, without being commissioned, till August, 2010 when it was again transferred to Dahod Workshop (WR). This M&P had yet to be commissioned (August 2011) at its latest location.
- A Grit Blasting machine procured at a cost of ₹1.18 crore for ICF, Perambur received in March, 2010, was lying uninstalled to date. ICF had replied stating that this M&P was not required “in the present scenario of products and processes.”

The above cases clearly indicated inadequacies in planning for procurement leading to availability of machinery and their transfer for finding a user.

4.1.6 Conclusion

COFMOW was set up as a service organization dedicated to induct updated technology in Indian Railways through bulk procurement of specialized plant and machinery. This objective has not been effectively fulfilled due to lack of adequate monitoring by COFMOW from end to end. Analysis of the performance of pre and post-procurement process revealed weak planning and co-ordination right from the stage of formulating indent up to the commissioning of M&P. Though Railway Board on an earlier occasion had stated that action was being taken to curtail the pre and post-procurement delays, Audit found little improvement. In a significant number of cases there were delays in submission of indents, developing specifications, finalization of tenders and delays in installation and commissioning. The underutilization of M&P procured and their subsequent transfer from zone to zone reinforced the conclusion/ argument that much of the justification for procurement was flawed and, therefore, of doubtful validity. Moreover, COFMOW was found lacking in proper up-dation of database regarding latest technology available in the market.

Recommendations

- *In order to cut pre-procurement delays, COFMOW needs to develop a robust and updated data base regarding changes in technologies and sources of availability of Machinery and Plants across major markets within the country and abroad.*
- *COFMOW/Railway Board needs to ensure that the indenting agencies had supported the requirements for M&P with proper justification and should streamline the post procurement monitoring mechanism for timely installation and commissioning. Besides, indenting agencies may be made accountable in case of lapses in respect of idling of machines received by them.*
- *COFMOW should initiate timely action in cases of defective supply and failure to meet the warranty obligations by the supplier through active monitoring.*

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

4.2 **Railway Board: Loss in procurement of steel materials**

Failure of the Ministry of Railways in finalization of tender within the validity of the offer and also failure in proper assessment of the reasonableness of quoted rates resulted in avoidable extra expenditure to the tune of ₹52.94 crore towards procurement of steel at higher rates in the subsequent contract. Besides, special dispensation granted to zone for local procurement of steel also resulted in avoidable loss of ₹4.97 crore

A. Loss due to delay in finalization of tender

In March 2009, Ministry of Railways opened a tender (IS-167 of 2009) for procurement of mild steel, corrosion resistant plates and sheets for meeting the requirement of Zonal Railways, Production Units and wagon fabrication. As per the tender notice, response was solicited from established, reliable, indigenous producers of steel having integrated steel plants or sources especially approved by RDSO. Stores were required against running contract during the period September 2009 to August 2010. Tender was floated for 59138 MT of Corrosion Resistant Steel Sheets and Plates and 136954 MT of mild steel sheets and plates.

Seven firms responded to the tender. The comparative position of the Last Purchase Rates (LPR) of 2008-09 (IS-164 of 2008) vis-à-vis the lowest rates obtained in the present tender (IS-167) revealed average decrease in rates of about 23.53 per cent for mild steel sheets/plates and 23.49 per cent for corten steel sheets/plates due to reduction in wholesale price index for iron and steel.

Out of 44 items of steel sheets/plates of different specification tendered for, M/s Essar stood lowest in 35 items. M/s Essar were eligible for bulk order for all other items except cold rolled sheets and a few items of higher thickness and width. In respect of 13 items, since the percentage of reduction (14.26 - 18.12 per cent) of quoted rates as against the LPR was less than the bench mark of 18.12 per cent reduction, TC recommended for negotiation of rates for those 13 items and the same was approved (July 2009) by the Board. During negotiation, while both the firms declined to reduce their rates, M/s Essar expressed their inability to extend the validity of offer beyond 24 August 2009. Accordingly, the recommendations of TC were put up to the Minister for Railways (MOR) on 13 August 2009. Before getting approval of the MOR, the validity of offer of M/s Essar expired. MOR, therefore, advised Board to review their recommendations.

In view of the above situation, TC reviewed their recommendations and considered following two options:

- I. Calling of fresh tender in respect of those items where M/s Essar was L1 and was eligible for regular order.
- II. Re-allocating the share of M/s Essar on single tender basis to the next available offer suitable for bulk orders

Apprehending that retendering might fetch higher rates, TC recommended for Option II i.e. reallocation of share of M/s Essar on single tender basis. MOR, however, did not agree to the recommendation of the Board and approved (November 2009) Option I i.e. calling of fresh tender in respect of those items where M/s Essar was L1 and was eligible for regular order and procurement of balance quantity from the remaining firms with the quantity distribution as recommended by the Board. Accordingly, contract was executed (December 2009) with M/s SAIL, M/s TATA Steel and M/s Jindal Steel & Power Ltd. for supply of mild/corrosion resistant steel sheets /plates.

As per CVC guidelines (March 2007) on tendering process, there should be no post tender negotiation with L1 except in certain exceptional situations which would include procurement of propriety items, items with limited sources of supply and items where there is suspicion of cartel formation. In the instant tender, although there was reduction of rates in the range of 14.11 per cent to 40.29 per cent as compared to the Last Purchase Rates (LPR) of 2008-09 (IS-164), TC considered 18.12 per cent (reduction in wholesale price index for iron and steel) as the reasonable expected reduction. However, opting for negotiation to achieve insignificant reduction in rates caused time loss that led to expiry of validity of lowest rate of M/s Essar Ltd. The same stores were subsequently procured at higher rates in next year's contract against Tender No. IS-170 of 2010.

Ministry of Railways was unable to avail of the lowest rates offered by M/s Essar due to delay in finalizing the tender within the validity of the offer and failure in proper assessment of trend of domestic steel prices as well as global market trend. This resulted in avoidable extra expenditure to the tune of ₹52.94 crore due to procurement at higher rates in a subsequent contract.

When the matter was taken up (December 2011) with the Railway Board, they stated that had negotiation been successful, there would have been approximate savings of ₹12 crore. They further stated that the failure of negotiation was due to changing market situation in the steel price which Tender Committee could not have been aware of in advance and also there was no option but to retender the left over quantity because of backing out of L1 firm (M/s Essar).

The reply was not acceptable. During negotiation (August 2009) both the firms (M/s Essar and M/s SAIL) expressed their inability to reduce their quoted rates and extend the validity of rates on the ground of upward trend of the prices of steel since the opening of tender in March 2009. Ignorance of the market trend in respect of steel items being procured regularly by the Indian Railways was indicative of inefficiency of Stores Directorate of Railway Board. Further, it was a forced decision to go for retendering for the left over quantity as there was delay in getting approval of the competent authority.

B. *Loss due to dispensation granted to zone for local procurement of steel*

Ministry of Railways, Railway Board invited tenders (No.IS-173) in June 2010 for procurement of Special Grade Steel items¹² for manufacture of 675 Nos. BLC wagons in Jamalpur workshop of Eastern Railway and 315 Nos. BLC wagons in GOC workshop of Southern Railway. In June 2010 the Chief Material Manager, Southern Railway requested for issue of dispensation to locally procure 1601 MTS of 12 sizes of special grade steel items for manufacturing 315 BLC wagons. The request was not agreed to by the Board as only 20 days were left for opening of the above tender. Subsequently, Southern Railway again requested (July 2010) for dispensation on the ground that another order for manufacture of 600 BLL wagons had been received from CONCOR for which they would be placing an indent shortly and the quantity, for which dispensation was sought for, was planned to be adjusted against steel requirement for the manufacture of those wagons. Railway Board accepted Southern Railway's request and allowed local procurement by reducing equal quantity from the quantity intended to be procured against Railway Board's Tender No. IS-173.

In November 2010, Southern Railway placed indent for 5017.80 MT of steel for the manufacture of 600 BLL wagons in GOC Workshop and requested dispensation for local purchase of at least one third of the indented quantity. Considering the urgency, Railway Board issued dispensation for local purchase of 1671 MT of steel.

Scrutiny in audit revealed the following:

- I. The rates at which Southern Railway procured steel were considerably higher than the rates at which orders were placed by the Railway Board against tender no. IS -173 leading to extra expenditure of Rs. 1.80 crore.
- II. The Ministry of Railways did not consider the adjustment proposed by the Southern Railway against steel requirement for the manufacture of 600 BLL wagons and reduced the tendered quantity by 1601MT. Had this quantity been procured through tender No.IS-173, dispensation granted subsequently for local procurement of 1671 MT of steel could have been avoided. Failure to give due cognizance to the proposal of the zone resulted in loss of ₹2.48 crore towards procurement of steel at higher rates as compared to the rates obtained in the subsequent Railway Board tender (N0. IS-174).
- III. The contract placed against Tender No. IS-173 did not provide for plus 30 per cent option clause. Due to absence of option clause for increasing the contractual quantity by 30 per cent, Ministry of Railways incurred extra expenditure to the tune of ₹0.68 crore towards procurement of steel at cheaper rates.

¹² includes Z-Sections to IS-2062-2006 E410 with Cu (IS:8500 Fe 540 with Cu) and plates to IS-2062-2006 E450 D with Cu (IS:8500 Fe 570 with Cu)

Thus, the injudicious decisions of the Ministry of Railways to issue dispensation to Southern Railway reducing the tendered quantity and non-inclusion of option clause resulted in a loss of ₹4.97 crore excluding of Excise Duty and Sales Tax involved thereon.

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

**4.3 Northeast Frontier: Avoidable extra expenditure due to
Railway acceptance of higher price of steel
than prescribed by SAIL**

Acceptance of higher price of steel than that actually prevailing in the market as per SAIL's ex-works price resulted in avoidable extra expenditure of ₹19.34 crore

Basic rates for supply of steel contained in tenders for fabrication of super structure of railway bridges are prepared on the basis of prevailing market rate i.e. Ex-works price of steel as obtained from Steel Authority of India (SAIL), excise duties, sales tax, etc. Other incidental charges including profit elements as admissible are added to this rate. These tenders also include a Price Variation Clause (PVC) clause to calculate the escalation/ de-escalation of prices between the ex-works price obtained on the day of opening the tender and that prevailing on the day of actual purchase of the material.

For construction of a bridge super structure on the river Mahananda, a tender was opened on 8 August 2008 by the Construction Organisation of Northeast Frontier Railway. Instead of using ex-works price of ₹49,321 per MT of steel as on 1 August 2008 as obtained from SAIL for procurement of steel, an increased estimated rate of ₹59,112 per MT based on a quotation obtained from a retail seller at Katihar was used. Thereafter, these rates were further increased by 18.2 per cent over and above the estimated quoted rates of the tenderer and the rate of ₹69,870 per MT was accepted by the Railways. It was stated by the Tender Committee (TC) that the estimated rate was based on the rate analysis considering the market rate and there had been a rise of steel prices during the intervening period of last three/ four months. It was further stated that during negotiation the company had submitted the rate of ₹71,499 per MT. In view of this, the TC opined that the negotiated rate of ₹69,870 per MT was reasonable and recommended the same for acceptance.

After acceptance of the unusually higher rate, the Northeast Frontier Railway Administration executed eleven more contracts between 8 August 2008 and 18 June 2010 for a few other projects with 4.4 per cent to 32 per cent per cent over and above the estimated rate of ₹59,112/- per MT. The fixation of estimated rate of steel at a rate above the rate actually prevailing in the market as per SAIL's ex-works price was not acceptable because even the Open Line Organisation of this Zonal Railway was procuring steel materials in accordance with the SAIL's ex-works price prevailing in the market. Thus, the acceptance of higher rates in all the twelve contracts much in excess of the SAIL's prevailing market rates resulted in avoidable extra expenditure of ₹19.34 crore for supply of 9119.913 MT of steel.

When the matter was brought to the notice of Railway Administration (March 2011), they accepted (October 2011) that the estimated rate contained in the Schedule of Works for execution was based on a quotation obtained from a retail seller at Katihar instead of consulting Ex-works price as obtainable from SAIL. However, the work had to be executed at site and workshop and hence prevailing rate in Siliguri stock yard could not be justified for those works to be executed at Mahananda River site. The argument is not acceptable because while working out the rate at Siliguri Stockyard, audit took into account the cost of transportation per M.T. of steel from Siliguri Stockyard to worksite at the rate of ₹650/- per MT, the rate which was adopted by the Railway Administration itself in working out the cost per MT. Further, Railway Board always communicate the SAIL's ex-works price of steel to all the Zonal Railways based on which estimates are to be finalised for inviting tenders for acceptance. Thus, the acceptance of higher rates than the SAIL's prevailing market rates resulted in avoidable extra expenditure of ₹19.34 crore.

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

4.4 North Western: Loss due to non utilisation of rolling stock Railway

Failure of the Railway Administration to properly plan the movement of its rolling stock resulted in loss of Railways' earning of ₹15.42 crore

The performance of the Railway as a 'Goods Carrier' depends *inter-alia* on optimum utilisation of rolling stock with minimum detention so as to increase its revenue earning capacity. Rolling stock viz. wagons and coaches should be periodically overhauled in the nominated workshops as applicable. Wagons and coaches due for Periodical Overhaul (POH) are handed over by the traffic department to the workshop authorities. After POH the same are handed back to the traffic department. On receipt, the rolling stock is dispatched wherever required for commercial use.

Audit scrutiny of the rolling stock coming for POH at the Ajmer Workshop revealed that abnormal time was taken prior to commencing and after completion of the POH work. During the period 2008-09 to 2010-11 (upto January 2011), as many as 637 wagons were detained for 5180 wagon days. This resulted in loss of earnings of ₹4.52 crore, after allowing a grace of five days. Similarly, 989 coaches were detained for 6270 vehicle days. This also resulted in loss of earnings of ₹10.90 crore, after allowing a grace of five days. Hence, rolling stock was stabled without any use and the Railway Administration failed to effectively utilise the available rolling stock despite scarcity of the same in Indian Railways. Thus, poor management of rolling stock on the part of Railways resulted in loss of earning capacity of ₹15.42 crore.

When the matter was taken up with the Railway Administration in March 2011 and April 2011, the Senior Divisional Operations Manager, Ajmer stated that detention of rolling stock prior and post POH period was purely on account of workshop authorities. Similarly, the workshop authorities viz.

Deputy Chief Mechanical Engineer (carriage and loco)-Ajmer stated that receipt and dispatch of coaches and wagons to and fro workshop was being controlled by the Operating Department and as such the detention to coaches and wagons before and after POH was on account of Operating (Traffic) Department.

The replies of the Operating and Mechanical Department reflected total lack of coordination between the two by trying to shift the onus from one to another. It was noticed that on several occasions, the workshop authorities belatedly intimated the Operating Department regarding withdrawal of rolling stock from the workshop causing avoidable detention after POH. On several occasions, the delay was on the part of the Operating Department as they failed to accept the rolling stock after receipt of information from the workshop authorities. The shunting power engine was regularly available with the workshop and thus, the piece meal offering of wagons and coaches after POH was easily manageable. On the matter being taken up by Audit, the Workshop authorities in May 2011 requested the Traffic Department to accept the rolling stock immediately after a POH to avoid such delays.

Had the Railway Administration properly planned the movement of the rolling stock coming for POH to Ajmer Workshop in close coordination between Operating and Mechanical departments, 89 goods trains comprising 58 BOXN wagons and 348 passenger trains comprising 18 coaches could have been run for the period under report and loss of ₹15.42 crore could have been avoided.

The matter was brought to the notice of Railway Board (October 2011); their reply had not been received (January 2012).

4.5 Railway Board: Improper splitting of tendered quantity

Failure of the Ministry of Railways in negotiating acceptance of the lowest rate before splitting of tendered quantity resulted in avoidable extra expenditure of ₹12.36 crore

In March 2008, Ministry of Railways opened a tender (IS-164) for procurement of mild steel, corrosion resistant plates and sheets for meeting the requirement of Zonal Railways, Production Units and wagon fabrication. As per the tender notice, response was solicited from established, reliable, indigenous producers of steel having integrated steel plants or sources especially approved by RDSO. Stores were required against running contract during the period June 2008 to May 2009. Tender was floated for 172741 MT of mild steel sheets and plates and 66364 MT of Corrosion Resistant Steel Sheets and Plates.

In response to above open tender, six firms quoted their rates. The comparative position of the Last Purchase Rates (LPR) of 2007-08 (IS- 157) vis-à-vis the lowest rates obtained in the present tender (IS-164) revealed that the rates in the present tender were 15 to 65 per cent higher. Average increase in rates was 31.92 per cent for mild steel sheets/plates and 33.61 per cent for corten steel sheets/plates. M/s Tata steel was found to be L1 for all the five items of mild steel sheets/plates quoted by them.

Tender Committee (TC) observed that M/s Tata Steel was eligible for bulk supplies against all the items quoted by them as they were regular bulk supplier of steel items to Railways and their past performance was satisfactory. Despite this, TC recommended splitting up of tendered quantity in favour of M/s SAIL at a rate higher than the L I bid on grounds of poor performance and capacity constraint of L1 tenderer.

Scrutiny of records by Audit revealed that the supply performance of M/s Tata Steel (L1) during the years 2006-07 and 2007-08, was 94.7 per cent and 100.64 per cent respectively. Thus, M/s Tata Steel was eligible for bulk supply order and, therefore, the splitting up of tendered quantity was not based on reasonable grounds. Further, no counter offer was made to M/s SAIL for acceptance of lowest rate quoted by M/s Tata Steel before splitting up of tendered quantity although TC itself accepted that M/s Tata Steel was eligible for bulk order.

Thus, improper assessment of capacity of the tenderer M/s Tata and failure of the Ministry of Railways in negotiating with M/s SAIL for accepting the lowest rate offered by the firm M/s Tata Steel before splitting of tendered quantity resulted in avoidable extra expenditure to the tune of ₹12.36 crore.

When the matter was taken up with Railway Board (October 2011), they stated that in respect of one item, the firm M/s TATA was yet to supply 22 per cent of the total ordered quantity when the recommendation for splitting of tendered quantity was made. For the other two items, they stated that M/s TATA was not found suitable for the full quantity due to length and width restriction quoted by the firm. Railway Board further stated that the question of counter offer to M/s SAIL did not arise either due to reluctance of the firm to reduce their quoted rate or non-availability of lower technically suitable offer.

The reply was not acceptable. Despite annual maintenance shut down, performance of M/s TATA was consistently satisfactory since 2004-05. The option for allotment of quantity at a higher rates to L2 firm M/s SAIL was avoidable had the Ministry of Railways given due consideration to the past performance of M/s TATA. The contention of the Board in support of reduction of quantity due to length and width restriction was not susceptible to verification as there were no documents on record in support thereof.

Chapter 5 – Signal and Telecommunication

The Signalling Department is responsible for Safe Train operations and maximizing the utilization of fixed and moving assets such as train rakes, locos and tracks etc. The Telecommunication Department caters for safety related and operational communication needs of the Indian Railway network.

The S&T Organization is headed by Member-Electrical and is assisted by Additional Member (Signal) and Additional Member (Telecommunication). At Zonal, level the organization is headed by Chief Signal & Telecommunication Engineer (CSTE) who is assisted by Chief Signal Engineer, Chief Communication Engineer, CSTE (Planning), CSTE(Projects) and CSTE(Construction).

The total expenditure of the Department during the year 2010-11 was ₹3,679.86 crore. During the year, apart from regular audit of vouchers and tenders etc., 237 offices of Signal & Telecommunication Department were inspected.

This chapter incorporates a study on safety works viz. provision of Anti Collision Device (ACD) and Train Protection and Warning System (TPWS) over Indian Railways. The study revealed that despite lapse of about a decade since the trials of the ACD began, the system had not been a proven success. The TPWS system tried in Southern Railway had also not met with success.

Safety works on Indian Railways – Anti Collision Device (ACD) and Train Protection and Warning System (TPWS)

Executive Summary

The Ministry of Railways (Railway Board) adopted a Corporate Safety Plan (2003-2013) laying down a comprehensive strategy for implementation of safety related works. The performance of pilot project for installation of ACD over Northeast Frontier Railway (NFR) was reported to Parliament (Report No. 26 of 2008-09 tabled on 24 July 2009). Railway Board in their reply had stated that ACD was successfully implemented on trial basis on Northeast Frontier Railway and would be extended to three other Railways. The present study assessed Railway's performance in provisions of Anti Collision Device (ACD) and Train Protection and Warning System (TPWS) up to June 2011.

Audit observed that though Railway Board had conducted trials with ACD in 2001 and sanctioned a pilot project in Katihar – Guwahati-Ledo/Dibrugarh section (1736 Rkm) of Northeast Frontier for installation and commissioning of the safety equipment, the trials conducted so far had not indicated satisfactory results. The ACDs were prone to generation of spurious information and were not applying automatic breaks indicating presence of another train on the approach section. Thus despite incurrence of expenditure of ₹158.67 crore, and inducting several modifications, the reliability of the system was not certain and robust.

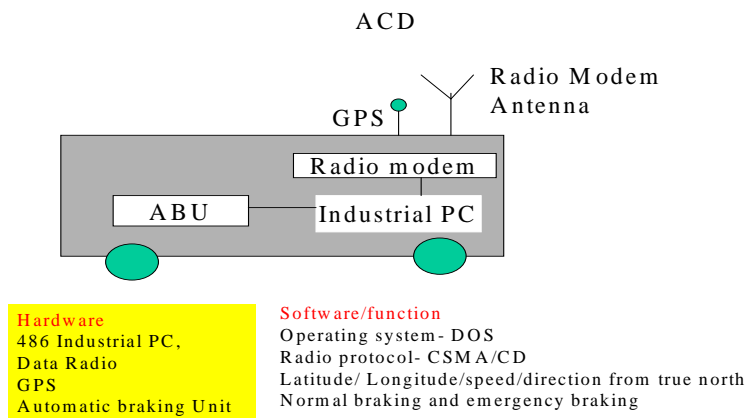
Similarly despite commissioning of the TPWS in Southern Railway in May 2009 at a cost of ₹49.49 crore, the trial reports indicated various failures of the equipment requiring modifications in the software. The performance efficiency recorded during trials was between 77 to 90 per cent as against the acceptable level of 99.9 per cent. The TPWS work commenced (2005) in North Central Railway had not yet been completed despite incurrence of expenditure of ₹41.54 crore.

5.1 Introduction

With human failure accounting for nearly 86 per cent of the train accidents (half of them by Railway staff), the Indian Railways have recognized the necessity of accident prevention strategies through adoption of upgraded technologies and signaling and telecommunication. The Vision 2020 brought out by the Ministry of Railways had affirmed safety as a critical Mission Area and targeted zero tolerance for accidents through a combination of technological and HR intervention. Under the Corporate Safety Plan (2003-2013) Indian Railways has inducted modern safety devices such as Block Proving Axle Counters (BPAC), GPS based Fog Safe Device, Auxiliary Warning System (AWS), Vigilance Control Device (VCD), etc. In addition, XI Five Year Plan has considered anti-collision devices that are under trial in the IR since 2000-01 as a part of planned technological up-gradation to achieve reduced human dependence.

5.1.1 Anti Collision Device (ACD)

Anti Collision Device (ACD) also called “Raksha Kavach” is a train collision prevention system developed by Konkan Railway Corporation (a Public Sector Undertaking of Ministry of Railways). First proto-type of ACD was demonstrated by KRCL in December, 1999. The ACD is an intelligent micro-processor based equipment. It consists of a central processing unit, a global positioning system and a digital modem for communication with other ACDs. When installed on locomotives, brake vans and at stations and level crossing gates, these ACDs network among themselves to prevent accident like conditions.



There are two types of ACD equipments viz. mobile ACDs for locomotives and brake vans and stationary ACDs for stations and level crossing gates.



LOCO ACD ABU



Goods Guard ACD



Gate ACD MLCG

All the ACDs interact with each other and exchange information when they are within their radio zones up to three kilometers. While approaching a station, loco ACD gives station approach warning to the driver. In the event of not acknowledging this warning, the speed of the train is regulated automatically. While entering the station area, if loco ACD detects a train on the main line the system automatically regulates the speed. In the mid section, loco ACDs remain in look out position to detect the presence of other trains in a radius of three kilometers. In case, another train is approaching on the same track, the ACDs apply brakes in both the trains to bring them to a stop thereby reducing possibility of head-on collisions. When a train is approaching a level crossing gate, visual and audio warning is initiated by the ACD systems for the road users.

5.1.2 Train Protection and Warning System (TPWS)

The Train Protection & Warning System (TPWS), a variant of Auxiliary Warning System (AWS), is a train protection system prevalent in European Countries especially in UK Rail Network. It automatically activates brakes on any train that passes a signal at danger or is over-speeding. The purpose of the TPWS is to reduce the number and minimise the consequences of Signals Passed At Danger (SPADs) by providing the facilities of Over-speed Sensor and Train Stop. The main purpose of an Over-speed Sensor is to demand a brake application on a train that approaches a signal at danger at such a speed that has high probability of a SPAD occurring. Over-speed Sensors are also used at locations not associated with signals, e.g. at permanent speed restrictions and buffer stops. The purpose of a Train Stop is to demand a brake application on a train which passes a signal at danger without authority.

5.2 Background for Audit

The Ministry of Railways (Railway Board) adopted a Corporate Safety Plan (2003-2013) laying down a comprehensive strategy for implementation of safety related works. In 2004, Railway Board informed the Standing Committee on Railways that a number of steps were being taken to induct safety related technologies such as introduction of ACD and TPWS. Railway

Board also committed that the ACDs would be installed on entire Broad Gauge system by 2013.

The performance of pilot project for installation of ACD over Northeast Frontier Railway (NFR) was reported to Parliament (Report No. 26 of 2008-09 tabled on 24 July 2009). Railway Board in their reply had stated that ACD was successfully implemented on trial basis on Northeast Frontier Railway and would be extended to three other Railways. In the 'White Paper on India Railways' presented to Parliament (2009), Railway Board had indicated that based on the experience over NFR, revised specifications for ACD were framed and KRCL was asked to develop ACD with revised specifications for trial on the three Railways. Subsequently, the Minister of Railways in her Budget speech made in Parliament on 25 February 2011, had also declared that trials with an improved version of ACD had met with success and the same would be commissioned on three more Zonal Railways - Southern Railway, South Central Railway and South Western Railway."

5.3 Audit objectives

This study was thus, conducted as a sequel, in the light of assurances given to the Parliament to make an assessment with regard to progress achieved in trials of -

- Anti Collision Device (ACD) over Northeast Frontier Railway and its extension to other Zones.
- Train Protection and Warning Systems (TPWS) over Southern Railway and its expansion to other Zones.

5.4 Audit methodology

Audit reviewed in depth the relevant records of trials of installation and commissioning of ACD over NFR and TPWS over Southern Railway. In addition, records of other Zonal Railways where provision for ACD and TPWS were sanctioned were also examined. The period covered the entire duration of trials and commissioning till 30th June 2011.

5.5 Installation of Anti Collision Device

5.5.1 Trials of ACD in Indian Railways

To start with, Indian Railway first conducted field trials of ACD developed by Konkan Railway Corporation Limited on Northeast Frontier Railway in 2000/2001 on a limited scale and a pilot project to provide ACD in Katihar – Guwahati-Ledo/Dibrugarh section (1736 Rkm) of Northeast Frontier Railway (NFR) was included in the Works Programme of 2000-01 at an anticipated cost of ₹50 crore subsequently revised to ₹96.36 crore. After some rectification by KRCL in the ACDs, extended field trials were conducted during August 2002 to January 2003 on Jalandhar – Amritsar section of Northern Railway to test proof the device in a working railway system and thereafter first set of specifications was finalized by Research Design & Standard Organisation (RDSO).

5.5.2 Installation of ACD over Northeast Frontier Railway (NFR)

The work of provision of ACD was undertaken by KRCL after signing the Memorandum of Understanding with the Indian Railway. Field surveys on NF Railway were completed in September 2003 and work started in January 2004. Final Working agreement for erection and commissioning of 1018 stationary and Mobile ACDs in Katihar-New Jalpaiguri-Guwahati section of NFR was signed in 17 September 2004 (modified in May 2007 to include New Jalpaiguri – Samukatala Road 141 Kms section). The first Site Acceptance Test (SAT-I) of Anti Collision Device (ACD) system deployed in Katihar-New Jalpaiguri-Guwahati section was conducted by a Joint team of KRCL, RDSO and NFR during the period 31 July 2005 to 17 August 2005. As the trials had brought out spurious detection of abnormal situations causing unwarranted applications of train brakes, mismatch of information amongst different ACDs installed in the loco, guard van, at stations and level crossings, the work was stopped on the direction of Ministry of Railway in May 2006 pending evaluation of performance parameters by multi disciplinary team (MDT), transfer of design documents to RDSO as well as verification of selection of technology partner by KRCL.

5.6 Audit findings

5.6.1 Acceptance of the System

Audit observed that the multidisciplinary team constituted by the Board in November 2006 which included experts from ISRO and a scientist of reputed institute was unable to carry out evaluation of the system as the design documents, despite repeated requests, were never made available by KRCL who owned the system design.

Item	Parameters approved by RB	Upper limit proposed by KRCL	Performance during SAT-I per loco day (Locos 95 , Loco days 377)	Performance during SAT-II	Comments/ observation
Wrong TID (% of total decisions)	0	0.25	0.27	0.14 (0.15 per loco day)	The availability of correct TID and communication availability of at least 99.99% each as per FRS should be ensured.
TID-FS for loco ACD (% of total decisions)	Performance and effects on train operations to be observed by MDT and comments given	0.25	2.00 per loco per day	0.78 (0.85 per loco day)	
TID-FS braking		0.25 loco day	1.84 per loco day	0.17 per loco day	
TID assignment failure resulting in TID-FS		0.1 per station loco day	0.08 per LD	5.5% of loco movement through TID assigning station	
Spurious parting/ Jumbling		0.1 per LD	0.42	0.08 per LD (after accounting for dropping/ picking, shunting of terminating/ originating load)	
Loco ACD restarts		0.1 per LD	1.7	0.35 per LD	
Spurious faulting cases		0.1 per LD	0.37 per LD	User Domain	
No communication		As per Functional Requirement	0.25 per LD	7.0 per loco day		Stationary ACD-1.08/LD Loco ACD 0.12 /LD Guard ACD 1.17/LD

Low communication	Specification	0.25 per LD	2.5 /LD	Stationary ACD-0.04/LD Loco ACD 0.01 /LD Guard ACD 0.19/LD	
Battery low event	Such cases should be avoided	Depends on maintenance	0.47 (excl. Guard ACD	0.66/LD incl. guard ACD and 0.31 excl. guard ACD	

Audit further observed that second Site Acceptance Test (SAT-II) of the pilot project of ACD system was conducted by RDSO and NFR as directed by the Railway Board during 9 March 2007 to 29 March 2007 using a modified version of Station and Loco ACDs for deriving inputs from track circuits for corrections of track identification (TID). The Site Acceptance Test II Report prepared by RDSO and NFR revealed that as compared to SAT I there were improvements in ten parameters: however, there were five areas namely, track assignment failure, TID- failsafe cases in guard ACD, low battery events, spurious messages regarding head on collision, assurance on reliability and availability of parameters that were considered not comparable and needed evaluation by the MDT. Table below summarize the report highlights.

In quite a few areas, the Railway Board was not able to establish its own safety parameters for want of expert evaluation by the MDT. As pointed out already, the MDT evaluation was pending as the system design documents were not transferred by KRCL.

The SAT II report also emphasized that as per the Functional Requirement Specification (FRS) the modified ACD would function as a GPS based safety shield against collisions and would use inputs from existing signaling system of the Railways only to supplement its working and not be dependent on it. Audit noticed that -

- The deviation count theory based on which the original version of the ACD system was modeled was no longer applicable as the functional requirements specifications (FRS) were modified to draw inputs from track circuits (signaling system) and thus had become dependent on signalling system in a big way. Since the information from signalling system was not processed in a failsafe manner, the reliability of ACD on information derived from existing system would not be useful to avert collision.
- ACD was not only dependent on signalling system but its decisions based on inputs received from signalling had overriding priority over other decisions of ACD including KRCL's patented Deviation Count Theory (DCT)¹³. This was reflected in the correction of TID at stations.
- The ACD was not in a position to judge whether the inputs derived from the signalling systems were dependable i.e. whether the

¹³ **Deviation Count Theory** is a technique by which both loco and guard ACDs automatically deduce, using input from GPS receiver, the change in their Track IDs when they negotiate a point zone already pre-fed as data in the deviation count table of that station. Accuracy & efficacy on Points on a curve, Ladder points, Diamonds & Slips to be spelt out clearly by supplier.

signalling inputs were derived under the condition of unsafe interference, disconnection or non-interlocking of signalling gears. Wrong Track Identification (TID) can be assumed by Loco and Guard ACD under abnormal working, for example, there were 9 cases of wrong TID at Kendukana station when wiring of dead points and crossings zone points was disturbed due to shifting of relay room during Electronic Interlocking work.

- In case of non-interlocked working or failure of track circuit, correct TID assignment would not be possible and thus prevention of accident of the nature that had occurred at Gaisal would not be possible.

5.6.2 Limitation of Site Acceptance Test –II

The above assessments were subject to certain limitations recognized in the report such as –

- Design details of ACD were not shared or handed over by KRCL to RDSO / NFR leading to the qualification that all the design deficiencies had not come out during the SAT-II that required constant monitoring of the system not only for rectification but also for unusual performance of ACD.
- Besides certification of design by the verifier and validator i.e. Electronic Test and Development Centre (ETDC) and agency carrying out the test were necessary to establish the suitability of ACD.
- Significantly, the SAT II Report had indicated that performance of the system was likely to be considerably impacted when all the trains in the sections were equipped with loco and guard ACDs and all the level crossings covered.

During the SAT –II, the position of defective ACDs was as per Table below:

Type of ACD	Installed	Switched off	Decommissioned (removed from the data file of Loco ACD)	Working	Defective percentage
Station ACD	172	4	0	168	2.32
MLCG ACD	61	4	7	50	18.03
Repeater ACD	139	27	37	75	46.04
UMLC ACD	51	9	12	30	41.17
Total	423	44	56	323	23.64

The above table indicated that during SAT-II, 23.64 per cent ACDs were either defective or decommissioned.

5.6.3 Commissioning of ACDs

Thus although there remained unresolved issues, the Railway board as a follow up of SAT-II, Railway Board (25 June 2007) approved the appraisal of operational requirements delivered by ACD application of pilot project and directed NFR to treat the project as commissioned by taking over the assets. The ownership of ACDs was assigned as per Table below:

S.No.	ACDs installed at	Department
1.	Relay rooms, Equipment rooms at stations and Repeater Stations	S&T Department
2.	Loco Sheds , Locos and Loco Shed Bahar Line	Mechanical or Electrical to whom the loco belongs
3.	Station and Guard	Traffic
4.	Level crossing (Manned or Unmanned)	Engineering

Maintenance of ACDs and training, counseling of staff was to be undertaken by KRCL in co-ordination with S&T department of NFR. For maintenance of all ACDs an Annual Operation Maintenance Contract was entered into between KRCL and NFR. Railway Board while declaring the system as commissioned also directed the KRCL and NFR to complete the following items in a fixed time frame to make the application run in full scale.

- TID assignment malfunctioning cases should be plugged by KRCL at their cost.
- Provisioning of Loco ACDs must be completed so that at least 90 per cent of the trains running on the NFR (both passengers and Goods) are with ACDs.
- Portable goods guard ACD should be used whenever last vehicle was unwired
- KRCL should complete their commitment pertaining to third party certification for software and hardware validation.

Audit however noticed that KRCL had not taken adequate actions for compliance of the above requirements including third party certification as evident from the Report of the team of the Safety Directorate deputed by Railway Board in June 2009 to ascertain the effectiveness of ACD after a lapse of two years. Audit also observed that many of the deficiencies that were noticed during previous testing were continuing and commented upon by the Safety team as under:

- There was no system to detect whether the Loco and Guard ACDs were defective or not.
- No support was available to analyse the repeated cases of failure such as 'isolation of Automatic Braking Unit (ABU)', Normal Brake (NB) not OK.
- There was mismatch between the messages seen by the team at Station Master's console and the message reflected in the ACD AMSS. On 6 September 2009 while the console at Narangi station had recorded eight cases of low communication between 1400 hrs and 2100 hours, the maintenance report of AMMS submitted by KRCL showed no failure.
- As against the prescribed limit of zero, there were 58 cases of invalid/wrong Track identification (TID) in 15 days.
- The Safety team had observed that invalid/wrong TID, TID-FS, Automatic Braking Unit isolated and normal brake not OK could lead to

potentially unsafe conditions as driver may become complacent because of false sense of security provided by presence of ACDs.

5.6.4 Status of ACD as on 30.6.2011

The status of installation of ACD in Katihar – Guwahati-Ledo/Dibrugarh section (1736 Rkm) of Northeast Frontier Railway (NFR) is depicted in Table Below.

S No.	Type of ACDs	Number of ACDs installed	Number of ACDs in Working Condition as on 30.6.11	Number of ACDs not working due to defects	Not working due to solar panel thefts
Stationary ACDs					
1	Stations	203	194	9	0
2	Manned level crossing Gates (MLCG)	78	59	0	19
3	UMLCG	61	24	0	37
4	Repeater Station	174	52	0	122
5	Loco Shed	12	12	0	0
6	Track Identification Number Assigning	10	9	1	0
7	RI/O Unit	14	14	0	
	TOTAL	552	364	10	178
Mobile ACDs					
1	Loco ACDs	550	522	28	0
2	SLR -Guard ACD	90	87	3	0
3	Goods Train Guard ACDs	145	139	6	0
	TOTAL	785	748	37	0
GRAND TOTAL		1337	1112	47	178

Out of a total of 552 stationary ACD installed at stations, level crossings both manned and unmanned, Repeater stations, TID assigning etc. 188 (34 per cent) were either defective or were not working on account of theft of solar panel provided for charging the batteries of the ACDs.

Besides 37 mobile ACDs out of 785 provided in the locomotives and Guard Vans were also lying defective resulting in reduced ACD cover. The total cost of these defective ACDs worked out to ₹12.86 crore approximately.

5.6.5 Cost of installation and maintenance

The total expenditure incurred on supply and installation of ACD as well as annual operation and maintenance incurred up to 30 June 2011 was ₹158.67 crore out of which the annual maintenance costs accounted for ₹66.08 crore.

5.6.6 Inadequate ACD coverage

Actual ACD coverage on an average per month (June 2011) was seen to be 33 per cent on Passenger trains and 43 per cent on Goods trains i.e. four years after the commissioning. Since the ACD coverage was not available to two-third of the passenger trains and more than fifty per cent of freight carrying trains, the risk of averting collision was more or less the same even after incurrence of expenditure of ₹158.67 crore.

5.6.7 Non-compliance of provision of operational and maintenance contract

Audit scrutiny of operational and comprehensive maintenance activities revealed that

- As per clause 11.6 KRCL was to report to the NFR on monthly basis the summary of ACD unusual positions, contracted up time of ACDs and analysis of unusual of all field and train bound ACDs vis-à-vis action taken by KRCL to eliminate the reporting of false cases. No action in this regard was being carried out by KRCL as found on record with no assurance on the performance of the system.
- Clause 12.3.2 provided that on completion of physical work by KRCL and submission of bill based on self certification NFR would release 75 per cent of billed amount to KRCL. Balance 25 per cent (clause 12.3.3) of the billed amount would be released by NFR after verification of bills, including receipt of compliance of deficiencies noticed. Audit noticed that during the period 2010-11 and 2011-12 (upto second quarter), NFR had made 75 per cent advance payments of ₹14.06 crore to KRCL on self certification of the work of repair and maintenance done without details of the work of maintenance carried out.

5.6.8 Extension of the system to other Zones

In regard to the declaration by the Minister for Railways during Budget speech (2010-11 and 2011-12) that further commissioning of the ACD was being extended to Southern, South Central, South Western, Eastern, East Central, East Coast and South Eastern Railways. Audit reviewed the progress of installation and commissioning of the works in these zones and found that there was negligible progress (Table below).

Anti Collision Device (ACD) work over Zonal Railways as on June 2011				
(₹. in crore)				
Railway	Name of the work	latest anticipated cost	Actual expenditure	Status
Southern	Emakulum-Shoranum-Palghat-Errode-Chennai and Bangalore-Jolarpettai-Chennai- Anti Collision Device	75.24	0.05	No work commenced

South Central	Vasco-Madgaon-Londa-Hubli-Guntakal-Renigunta-Anti Collision Device	52.00	0.11	No work commenced
East Central	Anti Collision Device on all broad gauge A.B & D-Special Routes (1736 rkm)	104.20		No expenditure incurred so far.
Northern	Jalandhar - Amritsar - Anti Collision Device	15.73	0.16	Railway Board had stopped the work In May 2006 and as such survey was yet to be conducted
Western	Churchgate-Mumbai Central & Dahanu Road - Gholved - Field trial of Anti Collision Device (A&C routes)	4.67	Nil	Western Railway had proposed to cancel the work of field trials. Decision of the Railway Board awaited.

5.6.9 Conclusion

Audit scrutiny thus revealed that the indigenously developed ACD, based on KRCL's patented deviation count theory was modified for extensive trials in NFR and the system became dependent on the efficiency of the existing signalling system. The continuing deficiencies on various safety counts had not been fully evaluated by RDSO/Railway Board with reference to the system design that needed to be addressed on priority for satisfactory resolution for enhancing safety.

5.7 Provision of Train Protection and Warning System

5.7.1 Introduction of TPWS as pilot projects

Indian Railways had installed Auxiliary Warning System that provided advance information of upcoming signal aspects to the motorman via a display panel in the driving cab of the EMU on Western and Central Railway's suburban sections and the system had worked satisfactorily over the years. In June 1998, Railway Board deliberated new developments in the field of AWS replacing analogue version that had now become obsolete and considered the trial offer received from International Union of Railways [Union Internationale des Chemins de fer (UIC)] for provision of European Train Control System (ETCS). The work of provision of ETCS was included in the works programme (1999-2000) at a cost of ₹48.98 crore. The UIC was to conduct trials on Delhi – Mathura section with 30 Electric and five Diesel Locomotives. The UIC had, however, shown their inability to conduct trials as the specifications of ETCS level II were under formulation and the provision of funds was not firmed up. Railway Board decided (2003), to install a modified system of Train Protection Warning System (equivalent to ETCS level-I) at a cost of ₹53.54 crore in 50 Route KM of Chennai –Gummidipundi section of Southern Railway (SR). The system was to be developed indigenously by RDSO. Another pilot project to provide indigenously developed TPWS over Delhi –Mathura Section of North Central Railway (NCR) was sanctioned (January 2004).

5.7.1.1 Provision of TPWS in Southern Railway

The TPWS was designed to aid the Motorman of an EMU/MEMU train by automatically initiating service brakes and emergency brakes in case of over speeding or disregarding the signal aspects, providing various information like permitted speed, actual speed, over speed audible warning, target distance, target speed, modes and level information on a screen called DMI (Driver Machine Interface) placed at a convenient position in front of the motorman.

The detailed estimate for provision of the TPWS in Chennai –Gummidipundi section of the SR was sanctioned by Railway Board in August 2005 at a cost of ₹53.54 crore. The work was taken up for 50 route kilometers (Chennai - Gummidipundi). The contract for installation and supply of the complete TPWS system was awarded to M/s. Union Switch & Signals Ltd., Bangalore at a total cost of ₹46.77 crore during February 2005 to be completed by August 2006. The contract provided, among other things,

- Provision of ‘on board’ equipments in 82 Motor Coaches (MCs)
- Track mounted and wayside equipment for 50 RKMs (Chennai - Gummidipundi).

After completion of track side work, Commissioner of Railway Safety, Bangalore inspected the provision of TPWS on 17 October 2007 and sanctioned the commissioning of TPWS during January 2008 and trials were commenced immediately. The installation of TPWS on-board equipment in the motor coaches was completed in May 2009 at a total cost of ₹49.49 crore.

5.7.2 Audit findings

Though the trials were conducted through a period of more than two years, the reliability of the system fell short of prescribed standard of 99.9 per cent. There were failures of the following nature despite modifications to software.

- Simplified Driver Machine Interface (SDMI) blanking
- SDMI Audio port failure
- Balise Transmission Module (BTM) error
- Train Interface Unit (TIU) failure
- Speed bouncing on SDMI
- System failure during booting
- System failure in sleep mode
- Brake not releasing
- Braking during run without reason
- System failure during run

Further analysis of the reports of trials conducted revealed that the reliability of the system had not been established as was indicated in the trial reports detailed below:

- Out of 5608 trials conducted during the period from 25.02.11 to 26.05.11, there were 868 failures. Of this, there were 566 on-board failures, 255 trackside failures and 47 other types of failures such as linkage error, data overflow, etc. The performance efficiency of the system ranged from 77 to 90 percent as against 99.9 per cent as prescribed in Para 7.1 of contract.
- As on 17.07.2011, out of 81 motor coaches (excluding one MC involved in accident), the TPWS system was out of order in 11 MCs for the period ranging from one to four months.
- There were 958 cases of isolation during the period between 25 February 2011 and 26 May 2011 (a situation when train bound equipment is disconnected from communicating with track side equipment) of TPWS. Out of this, 277 isolation incidents were reported by Motormen while the trains were in the section provided with TPWS system. In addition, 1491 cases of isolation/defects were noticed in the maintenance depots during night examination of rakes.
- In spite of providing latest version of European Vital Computer (EVC) on board software and Balise Transmission Module (BTM) software, there were 138 cases of on board failure during the period 3 June 2011 to 13 July 2011, wherein the system went to 'system failure mode' and came to 'healthy mode' simply by repeated booting of the system. Though this clearly pointed out to likely problems in hardware leading to computer not being able to establish communication with its associated equipment such as BTM, Simplified Driver Machine Interface (SDMI), Odometeric Card for measuring speed and distance and Emergency Brake feedback system, the same was not investigated.

Also analysis of failure as mentioned above was not submitted by the firm along with corrective steps taken, if any, for their redressal.

5.7.3 Provision of Train Protection and Warning System in North Central Railway

The tenders for work of Survey, Design, Supply, Installation and commissioning of Loco borne and line side equipment for TPWS in New Delhi – Agra Cantt sections of Northern and North Central Railways were invited in March 2004 and the work was awarded in June 2005 to M/S Union Switch & Signal Pvt. Ltd, Bangalore. The work was to be completed by June 2006. The detailed estimate for ₹60.44 crore was sanctioned in August 2005.

Audit observed that though the equipment to be installed on track and locos had been supplied by the contractor, the same were installed only on ten locomotives and along the track between Agra Cantt.-Mathura-Palwal and Tuglakabad. The work of provision of equipment in remaining locos had not been completed so far (June 2011) despite expenditure of ₹41.54 crore having been incurred. The reasons for delay in completion of the work were attributed to infringement caused by construction of third line between Palwal and Mathura as it required trenching, cable laying and track crossings with probable damage to equipment and various other factors such as frequent

modifications in equipment, on board system, odometry etc. to make the system suitable and adaptable on Indian Railways.

On the basis of recommendation of a high level committee constituted in October 2009, trials were conducted by fitting on-board equipment on one locomotive with features of traction cut off and E-70 interface on 16 coach train (January 2010) by the firm in association with NCR and RDSO. The trial Report was sent to Railway Board in January 2010 but its evaluation results were not available with NCR (June 2011).

5.7.4 Extension of the system to other Zones

While the results of TPWS trials over NCR were still under evaluation and those of Southern Railway were found below acceptable standards, audit found that Railway Board had sanctioned (2010-11) TPWS work on other zones (Table below).

List indicating Train Protection and Warning System (TPWS) work over Zonal Railways up to 30.6.2011				
Railway	Name of the work	latest anticipated cost (₹. in crore)	Actual expenditure up to 2010-11 (₹. in crore)	Status
Eastern	Sealdah-Howrah-Khana-Train Protection System (142 kms)	139.00	0.01	Detailed estimate amounting to ₹147.36 crore sanctioned in November 2010. Tender called for but not yet opened.
South Eastern	Howrah-Kharagpur-Train Protection System (116 rkm)	135.57	0.10	No work has been taken up as yet.
Western	Virar-Vadodara - Train Protection System (340 rkm)	146	Nil	Detailed estimate sanctioned by RB in August 2010 at a cost of ₹.127.32 crore. Tenders floated but not finalized.
Southern	Basin Bridge-Arakkonam Junction Section (Slow Line)	25.73		Tender for the work floated in May 2011. Technical bid opened on 19.7.2011
North Central	Tundla-Kanpur-Track side equipment for train protection system (230 rkm) and onboard equipment on electric locos of Indian Railways (100 locos)	144.77	0.30	Tender notice issued and pre-bid conference held in March 2011. RDSO revised the specification of TPWS and qualification criteria also revised by Railway Board.

From the above it was observed that while tenders had been called for by Eastern, Western, Southern and North Central Railways (yet to be finalized), no action has so far been taken by South Eastern Railway.

5.7.5 Conclusion

The trials reports of Indigenously developed Train Protection and Warning System (TPWS) commissioned (May 2009) in Chennai – Gummidipundi of Southern Railway with 81 on board equipments fitted in 81 Motor Coaches revealed that the system suffered from various software and hardware related problems which needed to be rectified. The work of pilot project (New Delhi – Agra Cantt) commenced six years ago was yet incomplete as the Railway had resorted to frequent changes in the design of the equipment to make it suitable to Indian conditions.

The matter was brought to the notice of Railway Board (January 2012); their reply had not been received.

Chapter 6 – Stores

The Stores Department is responsible for planning, procurement of various types of stores required for operations and maintenance of trains. These include supply of spare parts, components, fittings, sub-assemblies to production units, maintenance and manufacturing workshops. The department is also responsible for total inventory management of all stores, their purchasing and distribution to consignees. Besides this, Stores department also carries out disposal of scrap items through public auction and tenders (selected items).

The Stores department at Railway Board is represented by Member Mechanical. However, Additional Member (Railway Stores) is the virtual functional head of the department and he is assisted by various Executive Directors and Directors. At the Zonal levels, Controller of Stores is the principal head of the department who is assisted by Chief Material Managers and Deputy Chief Material Managers. The Division is headed by Senior Divisional Marketing Manager reporting to Divisional Railway Manager.

The total expenditure of the Stores Department during the year 2010-11 was ₹ 8,254.73 crore. During the year, apart from regular audit of vouchers and tenders etc., 297 offices of the Stores Department were inspected.

This chapter includes three paragraphs as detailed below:

- Non-inclusion of profit element in the price of wheelsets sold to M/s CONCOR.
- Excess procurement of sleepers.
- Loss of ₹38.44 crore due to delay in finalization of tender.

**6.1 South Western: Loss due to non-loading of profit element
Railway in the price of wheelsets sold to M/s
CONCOR**

Sale of wheelsets to M/s CONCOR without including profit margin in the price resulted in loss of ₹19.78 crore

Railway Board has empowered (October 2005) the General Managers of Production Units to reduce the profit margin up to three per cent while fixing cost of their product for sale with the concurrence of FA & CAO. In case the profit is to be reduced below three per cent, it should be done under exceptional circumstances with the approval of Railway Board.

Rail Wheel Factory (RWF) had been selling wheelsets to M/s CONCOR regularly. The cost of wheelsets supplied to M/s CONCOR by the RWF invariably included profit element ranging from 35 per cent to 40 per cent of the basic cost of the wheelsets.

Railway Board directed RWF (2008) to manufacture 3840 Nos of 840 mm dia wheelsets to meet the requirement of M/s CONCOR during 2009-10. Accordingly, RWF issued two Sale Orders in November 2009 (1440 Nos) and March 2010 (2400 Nos) for supply of wheelsets of 840 mm dia to M/s CONCOR at a rate of ₹1,28,789 per wheelset. The rate accepted was only the basic cost i.e. without any profit margin, though all previous Sale Orders contained 35 per cent to 40 per cent profit margin. The Sale Order issued subsequent to these two Sale Orders (December 2010) also contained a profit margin of 40 per cent and the rate charged was ₹ 1,80,345 per wheelset.

When the matter was taken up with the RWF Administration (July 2011), they stated (August 2011) that since there was no demand for such type of wheelsets and excess wheelsets were available in dead stock, it was decided to quote the basic rate. The reply was not acceptable in view of the fact that wheelsets of 840 mm dia was not a regular product of RWF and these were manufactured by the RWF only to cater to the requirement of M/s CONCOR as per sanction of the Railway Board. Further all the orders issued for the sale of such wheelsets before and after these orders had invariably included a profit element of 35 per cent to 40 per cent.

Therefore, the supply of two consignments of 840 mm dia wheelsets (November 2009 and March 2010) to M/s CONCOR at a rate that did not include profit element was not justified. This arbitrary fixing of price had resulted in loss of ₹19.78 crore to the RWF.

The matter was brought to the notice of Railway Board (November 2011); their reply had not been received (January 2012).

6.2 *Northeast Frontier: Loss due to excess procurement of Railway Sleepers*

Excess procurement of sleepers and non-maintenance of stock resulted in wasteful expenditure of ₹24.45 crore

The gauge conversion of Katihar-Barsoi-Radhikarpur (KIR-BOE-RDP) and Katihar-Jogbani (KIR-JBN) Metre Gauge (MG) branch lines was sanctioned in the year 2002-03. Out of this, Barsoi-RDP (54 km.) was completed and opened for traffic in February 2006 and the remaining section KIR-BOE) (34.61 km.) and KIR-JBN (108.3 km.) were completed and opened for traffic in November 2007 and June 2008 respectively.

In connection with availability of the required number of sleepers, the Railway Administration executed two contracts in September 2003 and December 2005 for unloading 70,000 Pre-stressed concrete (PSC) sleepers from Railway wagons at Katihar and 15,000 PSC sleepers by road mostly from New Jalpaiguri sleeper manufacturing plant. In addition, six more contracts were also executed between March 2004 and November 2007 for 2,35,780 PSC sleepers and 22,782 turnout sleepers. Thus, eight contracts were awarded for 3,20,780 PSC sleepers and 22,782 turnout sleepers against the actual requirement of 2,39,478 PSC sleepers and 10,226 turnout sleepers. The Zonal Railway Administration, however received 3,70,953 PSC sleepers and 18,655 turnout sleepers. Acceptance of quantities in excess of the order resulted in excess procurement of 1,31,475 PSC sleepers [3,70,953 (-) 2,39,478] and 8,429 turnout sleepers [18,655 (-) 10,226] worth ₹20.67 crore. In addition, ₹3.78 crore was also incurred as the cost of carriage of these sleepers from the manufacturing plant to the work site.

Audit scrutiny of records further revealed that the excess sleepers procured were neither transferred to other sections nor any entry was made in the statement of surplus permanent way material register issued by the field engineer. Thus, excess procurement of 1,39,904 sleepers resulted in wasteful expenditure of ₹24.45 crore.

When the matter was brought to the notice of Railway Administration (April 2011), they accepted (July 2011) that due to sudden death of the Sectional Engineer (SE) in December 2008, who was the custodian of the materials of KIR-BOE and KIR-JBN section, the stock verification ledger was not updated. They further stated that although excess sleepers had been procured these had been utilised by diverting them to other units. The reply of the Railway Administration was not acceptable because the projects KIR-BOE and KIR-JBN were commissioned in November 2007 and June 2008 respectively. Moreover, as per Railway Administration, 8,287 sleepers valued at ₹1.38 crore were still lying scattered at various locations and in view of incomplete entries in stores ledgers, the Railway's claim that the excess quantity was utilized could not be verified.

Thus, procurement of 1,39,904 sleepers (1,31,475 line sleepers and 8,429 turnout sleepers) in excess of actual requirement resulted in wasteful

expenditure of ₹24.45 crore (blocking up of capital worth ₹20.67 crore and cost of carriage ₹3.78 crore).

The matter was brought to the notice of Railway Board (December 2011); their reply had not been received (January 2012).

6.3 Railway Board: Loss due to delay in finalization of tender

Inaction of the Ministry of Railways in obtaining timely approval of the competent authority in acceptance of tender led to loss of ₹38.44 crore in procurement of sleepers at higher rates

In October 2007, a tender (Tender No. CS-160/2007) was invited from existing RDSO approved concrete sleeper manufacturers for supply of 2.10 crore BG PSC line sleepers to cover the requirement of Indian Railways for the year 2008-09 and 2009-2010. The tender was finalized in August 2008. Initially, only five tenderers accepted the Railways counter offer of ₹ 1132 per sleeper. As a result, the tender was to be discharged and reinvited as per Board's endorsement duly accepted by the competent authority (Minister for Railways). Subsequently, the counter offer was accepted (September 2008) for a limited quantity and for a limited period of three to four months. The accepted total quantity was 52.18 lakh nos. of sleepers.

From the records, it was observed that the main reason for non acceptance of counter offer by the lowest tender was due to rise in steel prices. The existing price variation formula based of WPI/CPI index was considered inadequate in compensating the prevalent market price. In order to insulate the sleeper manufacturers from the market volatility, it was decided (September 2008) to link escalation/de-escalation of freight reimbursement on cement, HTS wire, SGCI inserts and aggregates with a revised price variation formula.

Between September 2008 and December 2008, as the market condition stabilized to a large extent, almost all the firms sought for additional order with varying Delivery periods from June 2009 to October 2010 and the same was approved by the Board. The total order placed against the tender was 1.78 crore as against the tendered quantity of 210.22 lakh sleepers. These orders were placed with the following stipulation:

“On finalization of the new tender, the ordered quantity against tender No. CS-160/2007 shall be reduced to the number of sleepers manufactured till the date of issue of letter of acceptance (LOA) for the new contract. If the rate accepted in the new tender is higher than the updated rate of CS-160/2007 on the date of issue of LOA and the manufactured quantity is less than the pro-rata quantity then the supplier will have to recoup the shortfall in the quantity on the same terms and conditions. Thus updated rate will be frozen on the date of issue of LOA for the shortfall quantity”.

Meanwhile, a new tender (CS-162/2008) for supply of 170.56 lakh and delivery period of two years covering the requirement of Indian Railway for

the year 2009-2010 was floated in November 2008. The tender was opened in January 2009. The proposed quantity intended to be procured in this tender was, in fact, the balance quantity which was not initially accepted by the tenderers against the earlier tender (CS-160/2007). The lowest rate quoted in the new tender was ₹ 1290 per sleeper, which was negotiated and finalized (March 2009) at ₹ 1194 per sleeper as assessed by the Railways. This rate was lowered by ₹74 when compared to the updated rate of the existing contract (CS-160/2007).

The recommendation of the Board could not be accepted by the competent authority as the Model Code of Conduct had been enforced by the Election Commission of India (ECI) from 2 March 2009 onwards. On being taken up with the ECI, the Railways were permitted (April 2009) to finalise the tender.

Despite dispensation by the ECI, the tender was put up to the competent authority only in October 2009 for acceptance. No reason was found on record for the delay in submission to the competent authority for acceptance. The tender was finally accepted by the competent authority in November 2011.

In this connection, following points arise for consideration:

- I. In correspondence with ECI for obtaining permission to finalise the tender, Chairman, Railway Board indicated a financial loss of about ₹6.4 crore per month of delay in application of the rate of new tender. Though ECI permitted finalization of tender in April 2009, no action was taken till October 2009 to get the approval of the competent authority to arrest loss due to procurement at higher rates. Thus Railways incurred an approximate loss of ₹38.4 crore for the period between June 2009 and November 2009 after allowing a grace period of one month since clearance from the ECI for finalization of tender.
- II. Test check in Audit revealed that the sleeper manufacturers supplied 19.63 lakh sleepers in seven zones (SR, CR, WCR, NEFR, SWR, SECR and ECR) between June 2009 and November 2009 at rates ranging from ₹1202.49 to ₹1292.31 per sleeper as per the existing contract (CS-160/2007). This led to an avoidable loss of ₹13.43 crore when compared with the applicable rate of ₹ 1194 per sleeper of the new tender CS-162/2008.
- III. Audit observed that while allotting additional quantity in the existing contract, it was stipulated that if the rate accepted in the new tender was higher than the updated rate of CS-160/2007 on the date of issue of LOA and the manufactured quantity is less than the pro-rata quantity, then the supplier would recoup the shortfall quantity at the rate updated as on the date of issue of LOA. This condition, however, did not take into account a situation where the rate accepted in the new tender was less than the updated rate of CS-160/2007 on the date of issue of LOA, which indicated gross negligence on the part of Railways.

Thus, due to negligence and improper management of contract, the very purpose of obtaining special dispensation from ECI for early finalization of the tender was defeated. Against an assessed all India loss of ₹ 38.44 crore, Ministry of Railways incurred a loss of ₹ 13.43 crore in seven zones.

The matter was brought to the notice of Railway Board (January 2012); their reply had not been received.

(B. B. PANDIT)

New Delhi

Deputy Comptroller and Auditor General

Dated:

Countersigned

(VINOD RAI)

New Delhi

Comptroller and Auditor General of India

Dated:

Annexure I
(Para 2.1.5.5)

STATEMENT SHOWING FACILITIES INCORPORATED IN THE SCOPE OF WORK IN GOODS SHEDS APPROVED FOR UPGRADATION WORKS

Railway	Name of goods shed	Required Traffic facilities to be provided at freight terminals														
		Rail Level/High Level Platform		Whether No. of lines provided in development plan as per norms	Pucca Circulating area (Y/N)	All Weather Approach Road (Y/N)	Lighting including lighting for facilitating night unloading/loading	Merchant room				TMS/FOIS connection (Y/N)	DOT Phone with STD facilities (Y/N)	Coffee/Tea vending machines (Y/N)	Corporate style durable furniture (Y/N)	Cool drinking water, wash room & toilets for the labourer (Y/N)
		With covered shed (Y/N)	Without covered shed (Y/N)					Vitrified tiling (Y/N)	AC (Y/N)	Drinking water (Y/N)	Modern toilet (Y/N)					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
CR	Ahmednagar			Y												
	(R/L)	N	Y (for 16 BCN)										DOT phone not working for more than			
	H/L	Y (for 48 BCN)	Y (for 12 BCN)		Y	Y	Y	Y	N	Y	N	Y		N	N	N
	New Mulund	Y (M/S-2 & M/S 3)	Y (M/S 1)	N	Y	Y	Y	N	N	N	N	Y	Y	N	N	N (toilet for labourers only)
	Solapur (HL)	Y (for 64 BCN)	Y (for 21 BCN)	N	Y (for 20 BCN)	Y	Y	N	N	N	N	Y	Y	N	N	N
	Jalgaon	N	Y	N	N	N	Y	N	N	N	N	Y	N	N	N	N
	Turbhe	Y	-	N	Y	N	Y	N	N	Y	N	Y	N	N	N	Y
ER	Dankuni	N Partly covered (only in one line)	Y	Y	N	Y	Y	N	N	N	N	Y	N	N	N	N
	Durgapur	N	Y	N	N	Y	Y	N	N	Y	N	Y	Y (local only)	N	N	Y (Normal drinking water)
	Sabour															
ECR	Danapur	N	Y	Y	Y	Y	Y	N*	N*	N*	N*	N	N	N	N	N
	Fathuha	N	Y	Y	N	N	Y	N	N	N	N	Y	N	N	N	N
	Narayanpur Anant	Y	Y	Y	N	N	N	N	N	N	N	Y	Y	N	N	N
ECOR	Cuttack	(N) Partly covered	(N) Partly covered	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
	Jajpur Keonjhar Road	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
NR	Muzaffar Nagar	Y (two high level)	Y (two rail level)	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N
	Ghaziabad	Y (two high level)	Y (six rail level)	Y	N	N	Y	N	N	N	N	Y	Y	N	N	N
	Delhi Kishanganj	Y (one rail level)	Y (three rail level)	Y	Y	N	Y	Y	N	N	N	Y	N	N	N	Y
	Ballabgarh	N	Y (three rail level)	Y	N	N	N	N merchant room is available				Y	N	N	N	N
	Govindgarh	Y	Y	N	Y	Y	Y	N	N	Y	N	Y	Y	N	N	N
	Moga			Y												
	chandigarh			Y												

Railway	Name of goods shed	Required Traffic facilities to be provided at freight terminals																
		Rail Level/High Level Platform		Whether No. of lines provided in development plan as per norms	Pucca Circulating area (Y/N)	All Weather Approach Road (Y/N)	Lighting including lighting for facilitating night unloading/loading	Merchant room				TMS/FOIS connection (Y/N)	DOT Phone with STD facilities (Y/N)	Coffee/Tea vending machines (Y/N)	Corporate style durable furniture (Y/N)	Cool drinking water, wash room & toilets for the labourer (Y/N)		
		With covered shed (Y/N)	Without covered shed (Y/N)					Vitrified tiling (Y/N)	AC (Y/N)	Drinking water (Y/N)	Modern toilet (Y/N)							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
NCR	Yamuna Bridge	N	Work in progress	N				Work in progress										
	Rairu							Work is in progress										
NER	Ballia	Y	Y	N	N	Y	Y	N	N	Y	N	Y	N	N	N	N		
	Rudrapur City	Y	Y	N	Y	Y	Y	Y	N	Y	N	Y	Y	N	Y	Y		
	Gonda	N	Y	N	N	Y	Y	Y	N	Y	N	Y	N	N	N	N		
	Farrukhabad	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	N	Y	Y		
	New Chhapra Kacheri																	
NFR	New Guwahati	N	N	N	Y	Y	Y	Y	N	N	N	Y	Y	N	N	N		
	Changsari	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	N	N		
	New Jalpaiguri	N	N	N	Y	N	Y	Y	N	N	Y	Y	N	N	N	N		
NWR	Kanakpura	N	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	N	N	U/P		
SR	Tiruchirappali	(N) Cover only for 7 wagon length	30 wagon length	Y	Y.Available for Road 1 & 5	Y	Y	N	N	Y	Y	Y	N	N	N	Y		
	Korukkupet	Partial. Provision made in the sanctioned work		Y	N	N	N	N	N	Y	N	Y	N	N	N	Y		
	Tiruppur	(N) cover only for 5 BCN length	Y for 37 BCN length	N	N	N	N (partial)	N	N	Y	N	Y	N	N	N	Y		
SCR	Sanatnagar	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	Y	Y		
SER	Balasore	(N), cover only for 15 wagons		N	N	Y	Y	N.	N	N	N	Y	N	N	N	N		
	Barbil		4,5& 6 HL .High level for L.N. 5&6 going on.	N	N	N	Y(3 High Mast existing but, 01 working properly)	N	N	N	N	Y	N	N	N	N		
	Noamundi		L.N.5 HL,Bokaro siding HL	N	N	N	Y (But Not in working condition)	N	N	N	N	Y	N	N	N	N		
	Jhasrsuguda	(N) 1 HL under covered shed of small area		N	N	N	Y (But Not sufficient)	N	N	N	N	Y	N	N	N	N		

Railway	Name of goods shed	Required Traffic facilities to be provided at freight terminals														
		Rail Level/High Level Platform		Whether No. of lines provided in development plan as per norms	Pucca Circulating area (Y/N)	All Weather Approach Road (Y/N)	Lighting including lighting for facilitating night unloading/loading	Merchant room				TMS/FOIS connection (Y/N)	DOT Phone with STD facilities (Y/N)	Coffee/Tea vending machines (Y/N)	Corporate style durable furniture (Y/N)	Cool drinking water, wash room & toilets for the labourer (Y/N)
		With covered shed (Y/N)	Without covered shed (Y/N)					Vitrified tiling (Y/N)	AC (Y/N)	Drinking water (Y/N)	Modern toilet (Y/N)					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Tatanagar	N		N												
	Tata Goods Shed	HL.Out of 5 lines, L.N. 1,2,3&4 under covered shed of small area			N	N	High Must Tower light is available and in working condition but light is insufficient	N	N	N	N	Y	Y without STD	N	N	Cool drinking water, wash room & toilets for the labourer is available. But, regular cleaning provision of toilets.
	Tata Goods Departure Yard (GDY)	Rail level Platform.High Level PF is under construction.	Without covered shed .		N	N	N	N	N	N	N	N	N	N	N	N
SECR	Kalumna	N	Y	Y	N	Y	Y	Y	N	N	Y	Y	N	N	Y	Y
	Belha	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
	Tilda	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
SWR	Sanvordem	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
	Sasalu			Y												
WR	Dewas	Y- High Level	N- Rail Level	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N
	Boisar	Y-High Level	Y	Y	Y	Y	Y	N	N	Y	N	Y	Y	N	N	N
	Laxmibainagar	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	N	N	Y	Y
	Mangaliyagam	N	Y	Y	N	N	Y	Y	N	Y	Y	Y	N	N	Y	Y
	Chirai	N	Y	Y	Y	Y	Y	N	N	N	N	Y	N	N	N	Y
	Navlakhi	N	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	N	N	N
WCR	Gosalpur	N	Y	Y	N	N	Y	N	N	N	N	Y	N	N	N	N
	Kota	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N

Note: In respect of one goods shed in NER, information could not be obtained.

* Merchant room under construction at Danapur in ECR

Annexure II											
(Paras 2.1.5.5 & 2.1.5.6)											
STATEMENT SHOWING DETAILS OF DELAY IN COMPLETION OF UPGRADATION OF GOODS SHEDS- COMPLETED OR IN PROGRESS ALSO INDICATING REASONS FOR DELAY											
Sl No	Railway	Division	Name of goods shed	Date of		Target date of completion	Extended date of completion if any	Actual date of completion	Delay in months [Col 9 - 7]	Reasons for delay	Remarks
				Approval by RB	Commencement						
1	2	3	4	5	6	7	8	9	10	11	12
1	Central	SUR	(1) Ahmednagar (ANG)-Development of Goods shed for dealing another full rake (2nd full rake) and converting the non-standard layout into standard layout (2) Ahmednagar-Highlevel Platform and covered shed for 40 BCN on new full rake siding	(1) 26.02.07 (2) 26.02.08	(1) 2009-10 (2) 2008-09	(1) 31.03.11 (2) 30.06.09	(1) Nil (2) 28.2.10	(1) 31.01.10 (2) 31.01.10	(1) NIL (2) 7	(1) NA (2) Due to lack of funds.	Work completed
		BB	(1) New Mulund (NGSM)-Additional goods shed facilities for handling cement traffic. (2) NGSM-Provision of cover over shed on 3rd rake handling facility	(1) 2007-08 (2) 26.02.08	(1) 2007-08 (2) 2008-09	(1) 28.02.09 (2) 28.02.10	(1) 30.04.09 (2) 31.03.11	(1) Dec '09 (2) 31.01.11	(1) 9 (2) 11	(1) Monsoon period and non availability of river sand. (2) Fund problems	Work completed
		SUR	(1) Solapur-High level platform and covered shed for 40 BCN on new jumbo rake siding (2) Solapur - Provision of connectivity of new jumbo rake siding towards Wadi end	(1) 26.02.08 (2) 2008-09	(1) 2008-09 (2) Not started	(1) 28.02.10 (2) NA	(1) 31.01.11 (2) NA	(1) Work not completed (2) Though this particular work at SUR not started, work at this goods shed is treated as in progress as the other work at this goods shed (High level platform and covered shed for 40 BCN on new jumbo rake siding) is started and is in progress			Work in Progress
		BSL	(1) Jalgaon (JL)-Upgradation of facilities at old full rake goods shed (2) JL-Improvement to goods shed circulating area (rail level) and approach road by concreting (OOT)	(1) 03.07.09 (2) 28.02.10	(1) 2009-10 (2) 2010-11	(1) 31.12.10 (2) NA	(1) 31.03.12 (2) NA	(1) Work not completed (2) This work is not started. However the work at Jalgaon goods shed is treated as in progress as the other work - upgradation of facilities at old full rake goods shed - is in progress.			Work in Progress
		BB	Turbhe-Augmentation of handling capacity for two additional rake	3.07.09	2009-10	31.03.12	-	-			Work not started (as on 31.03.2011)	Work not started
2	Eastern	Howrah	Dankuni	2008-09 (04.11.08)	Yet to start	Not fixed	Does not arise	Yet to start	Does not arise.	Plan under approval of Division. Tender for additional work is under process.	Work not started
			Sabour	sanctioned in in 2010-11	NA	NA	NA	NA	-	Work Not started	Work not started
		Asansol	Durgapur	2008-09 (04.11.08)	Tender not yet finalised	Not fixed	Does not arise	Yet to start	Does not arise.	Plan and Estimate under finalisation.	Work not started
3	East Central	Danapur	Danapur	2009-10	21.04.2010	15.08.10	30.07.11	Work in progress.	NA	Delayed in providing block & due to non-sanction of variations.	Work in Progress
		Danapur	Fathuha	2009-10	Jun-10	19.01.2011	30.05.11	Work in progress.	NA	Part work of approach road from state highway to DD-1 delay due to non workable rate	Work in Progress
		Sonpur	Narayanpur Anant	2008-09	05.01.2009	04.01.2011	31.08.11	Work stopped due to lack of fund.	NA	Delay in payment due to paucity of fund as this work lies in DF(3).	Work in Progress

Sl No	Railway	Division	Name of goods shed	Date of		Target date of completion	Extended date of completion if any	Actual date of completion	Delay in months [Col 9 - 7]	Reasons for delay	Remarks
				Approval by RB	Commencement						
1	2	3	4	5	6	7	8	9	10	11	12
4	East Coast	KUR	Cuttack	Feb-08	7/3/2008	4/2/2009	31-10-09	15-10-09	6	(1) The road and column work was delayed due to high level water and heavy seepage of water. (2) Due to heavy vehicular traffic engaged in both the platform 11 and 12. (3) Due to continuous loading and unloading of	Work completed
		KUR	Jajpur Keonjhar Road	Feb-09	5/12/2010	1/11/2011	5/31/2011	Work not yet completed	-	(1) Due to non availability of site clearance.	Work in Progress
5	Northern	DLI	Ghaziabad	1/4/2008	19/04/10	30/06/11	30/9/11	In progress	NA	GA Plan for both the UP and DN line yards finalised. Traffic block started in Punjab line yard from 16/1/11. VDC flooring 3500 sqm, CC3600 sqm, in the Kotgaon Mineral siding 9300 sqm, VDC flooring, 10500 sqm CC and 200 m length draining completed. Traffic block in progress.	Work in Progress
		UMB	Chandigarh	1/4/2008	15/01/10	28/02/11	NA	In progress	NA	Delay in preparation/sanction of Detailed Estimate. Besides, the work involves one full rake handling siding with loading/unloading PF and extension of shunting neck. Earthwork, platform, flooring, P/f shelter is in progress. Permission for tree cutting coming in the alignment is under process with Chandigarh UT Administration. Now the work is held up for want of funds.	Work in Progress
		DLI	Muzaffar Nagar	2008-09	25/01/09	31/01/10	28/02/11	31/03/11	14	The work involves improvement of Mandi siding, coal siding and city siding. Mandi siding - completed and commissioned on 4/11/10. Coal siding - Rail level goods platform and boundary wall is completed. Traffic block in progress.	Work completed
		UMB	Govindgarh	2008-09	29/4/09	19/11/09	31/5/10	31/5/10	6	Delay in providing site of work to the contractor due to heavy loading/unloading at the station. The work has been completed on 30/5/10	Work completed
		FZR	Moga	2008-09	29/4/09	4/7/2009	31/7/11	In progress	NA	Contractor failed to complete the work due to shortage of material and skilled labour. Besides, the work is held up due to non-availability of funds.	Work in Progress
		DLI	Delhi-Kishanganj	2009-10	Jun-10	31/5/11	31/7/11	In progress	NA	Work was in progress as on 31/3/11	Work in Progress
		DLI	Ballabgarh	2009-10	NA	NA	NA	Not commenced	NA	Work has not commenced as of 31/3/11	Work not started
		AGC	Yamuna Bridge	2007-08 (PB Item No. 19)	26.10.09	31.12.10 (Phase - I)/31.12.11 (Phase -II)	Not Available	work is under progress.	-	Due to non-availability of sufficient fund and non-availability of clear site.	Work in Progress
		JHS	Rairu- New goods sheds	2007-08 (PB Item No. 22)	11.09.08	June 2010	31.03.11	work not yet completed	-	Due to paucity of fund.	Work in Progress

Sl No	Railway	Division	Name of goods shed	Date of		Target date of completion	Extended date of completion if any	Actual date of completion	Delay in months [Col 9 - 7]	Reasons for delay	Remarks	
				Approval by RB	Commencement							
1	2	3	4	5	6	7	8	9	10	11	12	
6	North East	IZN	Rudrapur City	PWP 2008-09	-	31.03.2010	31.03.2011	-	-	N/A	Work in Progress	
			Farukkabad	PWP 2010-11	-	31.07.2011	-	-	-	-	Work not started	
		BSB	New Chapra Kacheri	PWP 2008-09	-	-	-	-	-	-	Work not feasible. Board has been advised for deletion	Work dropped
			Ballia	PWP 2009-10	-	-	N/A	-	-	-	-	Work not started
		LJN	Gonda	PWP 2007-08	-	-	-	-	-	-	GM has approved to drop the work	Work dropped
7	North Frontier	KIR	New Jalpaiguri (NJP) goods shed	LAW item No. 43 of 2009-10	29.03.2010	28.09.2010	30.06.2011	Work in progress	-	Due to heavy rain fall	Work in Progress	
			NGC	New Guwahati (NGC) goods shed	OOT-2009-10	14.05.2010	12.08.2011	-	-	-	-	Work in Progress
					1600(DF/3)							
		NGC		OOT-2009-10	14.05.2010	12.08.2011	-	-	-	-	Work in Progress	
		Changsari	-	25.06.07	-	-	14.3.08	-	-	Work completed		
8	North West	JP	Kanakpura	Item No.32 of PB 2008-09	24.5.10	26-3-11	Upto 31.7.11	Work in progress	-	Non availability of funds and delay in handing over the platform	Work in Progress	
9	Southern	MAS	Korrukupet	17/4/2008	15/02/2010	31/03/2011	31/03/2012	NA	NA	Work in Progress	Work in Progress	
		TPJ	Tiruchhirapalli	4/11/2008	Not commenced	Plan finalised and cleared by Sr.DSTE & Sr.DOM./TPI only on		NA	NA	Work not commenced	Work not started	
		SA	Tiruppur	4/11/2008	18/01/2011	17/12/2011	NA	NA	NA	LOA issued only in January 2011	Work in Progress	
10	South Central	SC	Sanatnagar	01.04.08	-	-	-	-	-	Work not started	Work not started	
11	South East	KGP	Balasore	Sanctioned in PWP(Supplementary)2008-09	10.02.2009	08.09.2009	28.02.11	Work in progress	-	Not furnished by Rly.Admn.	Work in Progress	
			CKP	Barbil	Sanctioned in PWP(Supplementary)2008-09	10.12.09	Mar.-11	Aug.-11	Work in progress	-	Site obstruction due to Iron Ore loading	Work in Progress
			Noamundi	Sanctioned in PWP(Supplementary)2008-09	Plan not yet finalised.						Work not started	
			Jharsuguda	Sanctioned in PWP(Supplementary)2008-09	Plan not yet finalised.						Work not started	
			Tatanagar	Pink Book 2009-10	Acceptance letter issued on 03.9.2010	02.09.11			Work recently started			Work in Progress
12	South East Central	NGP	Kaluma	25-04-2008	10-02-2009	02-10-2009	Nil	01-10-2009	No Delay	Not Applicable	Work completed	
		Raipur	Belha	Rail Budget 2009-10	Work has not been started till date	14-05-2011	Nil	Work has not been started till date	Not applicable	Work is held up for non granting of block for execution of Platform works.	Work not started	
		Raipur	Tilda	Rail Budget 2009-10	Work has not been started till date	19-10-2011	Nil	Work has not been started till date	Not applicable	Work can be done only after Yard Remodelling by RVNL for 3rd line.	Work not started	

Sl No	Railway	Division	Name of goods shed	Date of		Target date of completion	Extended date of completion if any	Actual date of completion	Delay in months [Col 9 - 7]	Reasons for delay	Remarks
				Approval by RB	Commencement						
1	2	3	4	5	6	7	8	9	10	11	12
13	South West	UBL	Sanvordem	25/4/2008	12/6/2009	11/3/2010	31/05/2011	Not Completed	Work is in progress	Work is under progress. During the course of execution, certain changes in the quantities and items were necessitated.	Work in Progress
			Sasalu	NA	NA	NA	NA	NA	NA	NA	Work not started
14	Western	Mumbai Central	Boisar	March-08	30.07.09	31.03.2011	31.07.11	Work in progress	Not Applicable	Different types of Work awarded to different agencies on different dates.	Work in Progress
			Ratlam	March-08	10.2.09	31.07.11	31.07.11	Work in progress	Not Applicable	Due to non availability of fund and non sanction of Traffic Work Order.	Work in Progress
			Dewas	March-08	1.11.08	05.08.09	31.08.10	31.08.10	13	Not Available.	Work completed
			Mangaliyagam	March-08	22.10.08	30.06.11	31.03.11	Work in progress	Not Applicable	Due to non availability of fund and non sanction of Traffic Work Order.	Work in Progress
			Ahmedabad	March-08	23.05.2009	30.06.2011	30.06.2011	Work in progress	Not Applicable	Due to non availability of funds.	Work in Progress
			Rajkot	March-08	Not Applicable	31.03.2011	Not Applicable	Not Applicable	Not Applicable	Due to non availability of Railway Land, estimate finalised late tender invited and under finalisation.	Work not started
15	West Central	JBP	Gosalpur	Apr-07	23/05/2008	22/11/2008	30/11/2009	28/10/2009	11	(i) Non availability of T-28 machines and (ii) Non passing of variation and non approval of CRSE sanction.	Work completed
		KOTA	Kota	Aug-07	26/03/2009	23/08/2010	31/12/2010	Not Commissioned as on 31.3.11	-	Due to loading and unloading of commercial material and operating point of view, whole site was not handed over to contractor at a time	Work in Progress

Annexure III

(Para 2.1.6.1)

STATEMENT SHOWING DETAILS OF POSITION OF RAKES HANDLED IN RESPECT OF 23 GOODS SHEDS WHERE UPGRADATION WORKS INITIATED AND COMPLETED BY ZONAL RAILWAYS.

Railway	Division	Name of goods shed	Actual Date of completion of work	Date of commissioning	Whether all the facilities required have been provided	No of rakes handled for 6 months before commissioning	Average No. of rakes per month before commissioning (Col.8/6)	No. of completed months from date of commissioning	No of rakes handled after the commissioning	Average no of rakes handled per month (Col 11 / Col 10)
1	2	3	4	5	6	7	8	9	10	11
CR	SUR	Bhigwan	07.05.2007	07.05.2007	No	114	19	22	457	20.77
		Latur	30/04/2010	30/04/2010	No	62	10.33	11	171	15.55
		Daund	28/02/2009	28/02/2009	No	0	0	25	46	1.84
	BSL	Kherwadi	09.04.2008	09.04.2008	No	66.5	11.08	35	282.5	8.07
		Manmad	05.03.2008	05.03.2008	No	NA	NA			
	NGP	Rajur	16/10/2010	16/10/2010	No	194	32.33	5	192	38.40
	PA	Saswad Road	25/06/2009	25/06/2009	No	122.5	20.42	21	380.5	18.12
	BB	Nagothane	28/04/2009	28/04/2009	No	42	7	23	249	10.83
Taloje		25/06/09	25/06/09	No	5	0.83	21	72	3.43	
ER	Sealdah	Barasat	2/13/2008	2/16/2008	No facilities have yet been provided except Lighting, Drainage, FOIS, DOT.	48	8	37	374	10
	Asansol	Raniganj	5/20/2008	5/20/2008	Yes except the following : Platform partly High Level and concreted, Non A/c Merchant Room.	78	13	34	1573	16.8
	Asansol	Siuri	6/30/2007	6/30/2007	Yes except covered shed	51	8.5	45	540	12
	Sealdah	Bongaon	2/20/2008	2/20/2008	No only wharf.	23	3.83	37	84	2.27
ECR	NIL									
ECoR	No goodsheds were identified by Zonal Railways for upgradation during the period of review.									
NR	NIL									
NCR	ALD	Etah Goods Shed	31.01.07	31.01.07	NO	53	8.83	50	403	8
	AGC	BAD Goods Sheds	31.12.09	31.12.09	NO	165	27.5	15	2183	145
	AGC	MTJ Goods Sheds	31.12.09	31.12.09	NO	13	2.17	15	273	18
NER	NIL									
NFR	Nil									
NWR	Nil									
SR	Trivandrum (TVC)	ANGAMALI (AFK)	3/12/2010	10/6/2009	CC paving and Lighting facility partially completed	156	26	21	482	23
	Trivandrum (TVC)	Kalamassery (KLMR)	12/10/2009	7/8/2009	CC paving work for 8 BCN length is pending	39	7	19	178	9
SCR	Secunderabad	Jaggayapeta Town	12.09.07	27.10.07	No	153	25.5	41	1588	39
	Guntakal	Koduru	16.10.08	14.06.08	No	17	2.83	33	169	5
SECR	Bilaspur	Uslapur	April 10	6/5/2009	Yes	47	7.83	8	33	4
		Kharsia	Sept-09	2/26/2008	No	133	22.17	39	616	16
	Raipur	Durg	Dec-10	Not Available	Yes	106	17.67	4	52	13

Annexure IV

Statement showing the Detention per wagon at the 23 Goods sheds where upgradation works initiated and completed by Zonal Railways

(Para 2.1.6.1)

Sl No	Railway	Name of goods shed	Date of commissioning	Average No. of rakes per month before commissioning	Average no of rakes handled per month after commissioning	Detention per wagon	
						Prior comm	After comm
1	2	3	4	5	6	7	8
1	CR	Bhigwan	07.05.2007	19	(+)20.77	0.62	(+)1.36
2		Latur	30/04/2010	10.33	(+)15.55	0.33	(+)0.71
3		Daund	28/02/2009	0	1.84	0	NA
4		Kherwadi	09.04.2008	11.08	(-)8.07	0.35	(+)1.13
5		Manmad	05.03.2008	NA		NA	NA
6		Rajur	16/10/2010	32.33	(+)38.4	0.39	(+)0.63
7		Saswad Road	25/06/2009	20.42	(-)18.12	0.42	(-)0.42
8		Nagothane	28/04/2009	7	(+)10.83	0.92	(+)2.04
9		Taloje	25/06/09	0.83	(+)3.43	0.79	NA
10	ER	Barasat	2/16/2008	8	(+)10	0.95	(-) 0.88
11		Raniganj	5/20/2008	13	(+)16.8	0.57	(+)1.05
12		Siuri	6/30/2007	8.5	(+)12	0.43	(+)0.53
13		Bongaon	2/20/2008	3.83	(-)2.27	1.27	(-)0.66
14	NCR	Etah Goods Shed	31.01.07	8.83	(-)8	0.19	(-)0.11
15		BAD Goods Sheds	31.12.09	27.5	(+)145	0.39	(+)0.41
16		MTJ Goods Sheds	31.12.09	2.17	(+)18	0.86	(-)0.04
17	SR	ANGAMALI (AFK)	10/6/2009	26	(-)23	0.82	(-)0.74
18		Kalamassery (KLMR)	7/8/2009	7	(+)9	0.39	(+)0.93
19	SCR	Jaggayapeta Town	27.10.07	25.5	(+)39	11.23	(-)9.25
20		Koduru	14.06.08	2.83	(+)5	15.36	(-)12.45
21	SECR	Uslapur	6/5/2009	7.83	(-)4	NA	NA
22		Kharsia	2/26/2008	22.17	(-)16	0.69	(+)0.75
23		Durg	Not Available	17.67	(-)13	1.25	(-)1.20

Annexure V (Para 2.2.4.1)
Statement showing the Delay in commissioning of coaches

Railway	Year	MEMU			DEMU			EMU		
		No. of MEMU coaches received	No. of days taken for commission of the coaches	Delay in commission beyond 30 days	No. of DEMU coaches received	No. of days taken for commission of the coaches	Delay in commission beyond 30 days	No. of EMU coaches received	No. of days taken for commission of the coaches	Delay in commission beyond 30 days
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>11</i>	<i>12</i>	<i>13</i>
SCR	2008-09	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2009-10	8	195	165	Nil	Nil	Nil	Nil	Nil	Nil
	2010-11	Nil	Nil	Nil	17	30	Nil	36	60	30
SER	2008-09	8	10	Nil	8	5	Nil	Nil	Nil	Nil
	2009-10	Nil	Nil	Nil	Nil	Nil	Nil	9	23	Nil
	2010-11	16	20	Nil	1	2	Nil	Nil	Nil	Nil
SECR	2008-09	1	7	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2009-10	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2010-11	8	30	Nil	Nil	Nil	Nil	Nil	Nil	Nil
SWR	2008-09	Nil	Nil	Nil	8	41	11	Nil	Nil	Nil
	2009-10	Nil	Nil	Nil	5	16	Nil	Nil	Nil	Nil
	2010-11	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
WR	2008-09	Nil	Nil	Nil	12	338	308	Nil	Nil	Nil
	2009-10	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2010-11	8	20	Nil	5	99	69	Nil	Nil	Nil
ER	2008-09	Nil	Nil	Nil	Nil	Nil	Nil	27	100	70
	2009-10	Nil	Nil	Nil	Nil	Nil	Nil	90	90	60
	2010-11	Nil	Nil	Nil	9	97	67	177	90	60
ECR	2008-09	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2009-10	12	2	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2010-11	Nil	Nil	Nil	8	2	Nil	Nil	Nil	Nil
NR	2008-09	8	17	Nil	8	3	Nil	Nil	Nil	Nil
	2009-10	16	12	Nil	3	7	Nil	9	20	Nil
	2010-11	8	19	Nil	Nil	Nil	Nil	9	10	Nil
NFR	2008-09	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2009-10	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2010-11	Nil	Nil	Nil	32	Nil	Nil	Nil	Nil	Nil
NCR	2008-09	Nil	Nil	Nil	8	18	Nil	Nil	Nil	Nil
	2009-10	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2010-11	Nil	Nil	Nil	8	30	Nil	Nil	Nil	Nil
SR	2008-09	8	13	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2009-10	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	2010-11	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
		101	Total	165	140	Total	481	357	393	220

Type of Coaches	No. of Coaches	No. of coaches detained beyond 30 days	No of days delayed
MEMU	101	8	165
DEMU	140	42	481
EMU	357	330	220
Total	598	380	866

Annexure VI (Para 2.2.4.2)

Statement Showing loss of potential earnings due to under utilization of Rakes during 2008-09 to 2010-11

Railway	Link No.	Kms in a Trip	Average Kms per day	Short fall w.r.t. prescribed 500 kms	No. of Trips X Capacity X Fare X Days X Years	Loss of potential earnings due to under utilisation (₹ in lakhs)	Remarks
I. MEMU RAKES							
SCR	214	938	273	227	4X2436X7X365X3	746.88	4 additional trips assumed in the lie over period for three years
	215	2310	330	170	2X4872X7X144X1	98.22	2 additional trips for 144 days (Introduced on 13-10-2010)
SER							Short utilization ranges between 26 to 50 kms, hence excluded
SECR	1	693	99	401	4X2436X7X365X3	746.88	4 additional trips assumed in the lie over period for three years
	4	2331	333	167	2X2436X7X365X3	373.44	2 additional trips assumed in the lie over period for three years
	7	1729	247	253	2X2436X7X365X3	373.44	-do-
	9	1544	222	278	2X2436X7X365X3	373.44	-do-
SWR	NIL						
WR	BRC-1	2342	390	110	2X2436X7X365X3	373.44	2 additional trips assumed in the lie over period for three years. The utilisation did not improve after extension to PNVL inducting one more rake.
	BRC-4	1036	148	352	3X2436X7X365X3	560.16	3 additional trips assumed in the lie over period for three years
ER							Short utilization ranges between 10.5 to 12.04 kms, hence excluded
ECR	190	2765	395	105	2X2436X7X365X3	373.44	2 additional trips assumed in the lie over period for three years
NR	517	281	322	178	2X2436X7X365X3	373.44	2 additional trips assumed in the lie over period for three years
	518	1803	373	127	2X2436X7X365X3	373.44	2 additional trips assumed in the lie over period for three years
	521	114	98	402	4X2436X7X365X3	746.88	4 additional trips assumed in the lie over period for three years
	522	114	159	341	3X2436X7X365X3	560.16	3 additional trips assumed in the lie over period for three years
NER							The jurisdiction of NER for MEMUs operated by NR is only 25 kms, hence excluded.
NCR							All the MEMU trains are utilized for 515 kms per day
SR	MAS - 1	1211	173	327	3X2436X7X365X3	560.16	3 additional trips assumed in the lie over period for three years
	SAJE -1	2310	330	170	2X2436X7X365X3	373.44	
Total - I						7006.86	
II. DEMU Rakes							
SCR	217	1440	240	260	750X7X3X365X3	172.46	3 additional trips assumed in the lie over period for three years
	218	2423	334	166	750X4X2X365X3	65.70	2 additional trips assumed in the lie over period for three years
SER	NIL						
SECR	1 & 2	3024	216	284	1092X7X8X365X3	334.81	4 additional trips assumed in the lie over period for three years @ two each
	3	2107	301	199	1092X7X2X365X3	167.40	2 additional trips assumed in the lie over period for three years
SWR	SWB-9	1392	232	268	1092X7X2X365X3	167.40	2 additional trips assumed in the lie over period for three years
	SWB-12	972	162	338	1092X7X3X365X3	251.11	3 additional trips assumed in the lie over period for three years
WR	ADI link 4	2016	336	164	1092X7X3X365X3	251.11	3 additional trips assumed in the lie over period for three years
	ADI link 5	2214	369	131	1092X7X2X365X3	167.4	2 additional trips assumed in the lie over period for three years

Chapter 2 Traffic - Commercial and Operations

Railway	Link No.	Kms in a Trip	Average Kms per day	Short fall w.r.t. prescribed 500 kms	No.of Trips X Capacity X Fare X Days X Years	Loss of potential earnings due to under utilisation (₹ in lakhs)	Remarks
WCR	Nil						
CR	Nil						
ER	1	936	156	344	1092X4X2X171	14.94	4 additional trips assumed in the lie over period of 171 days
	2	720	120	380	1092X3X2X171	11.20	3 additional trips assumed in the lie over period of 171 days
ECR	Link No.1	1560	260	240	1092X2X4X365X3	95.66	2 additional trips assumed in the lie over period for three years
	Link No.2	1482	247	253	1092X2X4X365X3	95.66	2 additional trips assumed in the lie over period for three years
ECoR	NIL						
NR	506	330	283	217	1092X2X4X365X3	95.66	2 additional trips assumed in the lie over period for three years
	507	766	255	245	1092X2X4X365X3	95.66	2 additional trips assumed in the lie over period for three years
	510	106	76	424	1092X2X4X365X3	95.66	4 additional trips assumed in the lie over period for three years
NFR	New link	5236	374	126	1092X2X4X264	23.06	
NER	BJ link	1428	238	262	1092X2X4X365X3	95.66	2 additional trips assumed in the lie over period for three years
NCR	All the MEMU trains are utilized for						
NWR	NIL						
SR	LHPA	2040	340	160	750X2X4X365X3	65.70	2 additional trips assumed in the lie over period for three years
	LHPB	1080	180	320	750X4X4X365X3	131.40	4 additional trips assumed in the lie over period for three years
	LHPC	312	52	448	750X5X2X365X3	82.13	5 additional trips assumed in the lie over period for three years
	HHPA	600	100	400	1092X4X4X365X3	191.32	4 additional trips assumed in the lie over period for three years
	HHPB	1824	304	196	1092X2X2X365X3	47.83	2 additional trips assumed in the lie over period for three years
	Total - II						2718.93
III. EMU Rakes							
SCR	MMTS-4	782	391	109	1960X2X2X365X3	85.85	2 additional trips assumed in the lie over period for three years
NR	511	3822	379	121	1960X2X2X365X3	85.85	2 additional trips assumed in the lie over period for three years
	512	936	312	188	1960X2X2X365X3	85.85	2 additional trips assumed in the lie over period for three years
	513	993	249	251	1960X3X2X365X3	128.77	3 additional trips assumed in the lie over period for three years
	514	104	74	426	1960X4X2X365X3	171.7	4 additional trips assumed in the lie over period for three years
Total - III						558.02	
Total (I + II + III)						10283.81	

Note: Loss = No. of Trips X Capacity of the train X Fare for 50 Kms per passenger (i.e. Rs.7) X 365 days X No. of Years

Capacity of the MEMU train = 2436

Capacity of the DEMU train = 1092

Capacity of the EMU train = 2940

Annexure VII (Para 2.2.4.3)

Statement showing details of stoppages that could have been eliminated for important Mail/ Express trains when MEMU trains are running ahead of these trains

SL. No	MEMU Trains No.	Timmin gs	Exp. Train name and name	Soppages timings	No. of stops	No. of trips	Total No. of stoppages P.A.
1	M.163 BZA-OGL	8.00 11.40	17481 BSP-TPTY EXP 17479 Puri TPTY Exp	Nidubrolu Vetapalam Ammandbrolu	3	365	1095
2	M.160 OGL-BZA	14.35 18.00	17482 TPTY-BZP Exp 17479 tpty-puri Exp	Ammanabrolu vetapalam Nidubrolu T. sundur	4	365	1460
3	M.164 HYB-WL	9.40 13.45	18645 HYB-HWH East Coast exp	Jangaon Ghanpur	1	365	365
4	Train No.-12069				2	Nil	Nil
				Total	10		
						Total No. Stops	2920
Cost of stoppage as advised by Rly Bd. Vide letter No. 2004/chg.11/13/ stoppage pllicy dt. 16.06.05 is ₹ 4376							

Avoidabale loss due to non-elimination of stppages

Loss for one year= No. of stops X cost per stop = 29x ₹4376=₹12777920

(1) During the review peroid (3 years 2008-09 to 2010-11) = ₹ 3,83,33,760

(2) 25x12x2x4076=24.46 lakh

Total of (1) and (2)

₹ 4.08 crore

No. of trip in a month x No. of month in a year x NO, of stoppage x cost of stopage

Annexure VIII (Para 2.2.5.2)

Statement showing the details of Detention to coaches during POH

Railway	Coach Type	No. of coaches	Detention to coaches (ranged between)			Total no. of days for which the coaches remained out of service beyond 18 days
			In yard	In shop	In transit	
CR	MEMU	0	NIL	NIL	NIL	0
	DEMU	0	NIL	NIL	NIL	0
	EMU	68	0-86	19-142	0-13	7127
ER	MEMU	27	NIL	34-50	3-10	242
	DEMU	0	NIL	NIL	NIL	0
	EMU	792	924	32520	1094	20282
ECR	MEMU	23	4-5	33-53	3-4	192
	DEMU	0	NIL	NIL	NIL	0
	EMU	0	NIL	NIL	NIL	0
ECOR	MEMU	0	NIL	NIL	NIL	0
	DEMU	0	NIL	NIL	NIL	0
	EMU	0	NIL	NIL	NIL	0
NR	MEMU	0	NIL	NIL	NIL	0
	DEMU	25	0-8	19-210	3-26	1647
	EMU	0	NIL	NIL	NIL	0
NCR	MEMU	0	NIL	NIL	NIL	0
	DEMU	8	4	30	3	24
	EMU	0	NIL	NIL	NIL	0
NER	MEMU	0	NIL	NIL	NIL	0
	DEMU	2	NA	130	NA	130
	EMU	0	NIL	NIL	NIL	0
NFR	MEMU	0	NIL	NIL	NIL	0
	DEMU	0	NIL	NIL	NIL	0
	EMU	0	NIL	NIL	NIL	0
NWR	MEMU	0	NIL	NIL	NIL	0
	DEMU	0	NIL	NIL	NIL	0
	EMU	0	NIL	NIL	NIL	0
SR	MEMU	55	0	10-42	0-2	128
	DEMU	30	4-69	6-176	5-15	1152
	EMU	0	NIL	NIL	NIL	0
SCR	MEMU	60	1-41	7-65	4-19	1218
	DEMU	59	2-23	8-130	2-15	1295
	EMU	10	2-7	17-23	NA	62
SER	MEMU	14	NA	24-42	2-42	165
	DEMU	9	0-7	20-39	NA	70
	EMU	56	-	23-53	1-37	427
SECR	MEMU	49	1-11	16-35	9-29	1661
	DEMU	8	11	113	11	1256
	EMU	0	NIL	NIL	NIL	0
SWR	MEMU	8	NA	0-32	3	136
	DEMU	17	7-21	6-90	2-23	680
	EMU	0	NIL	NIL	NIL	0
WR	MEMU	117	1-25	11-415	1-12	3145
	DEMU	26	2-6	3-91	4-69	786
	EMU	0	NIL	NIL	NIL	0
WCR	MEMU	0	NIL	NIL	NIL	0
	DEMU	0	NIL	NIL	NIL	0
	EMU	0	NIL	NIL	NIL	0
COACHING DAYS						41825

Detention beyond 18 days

MEMU		DEMU		EMU		Total
No. of coaches	Coaching Days lost	No. of coaches	Coaching Days lost	No. of Coaches	Coaching Days lost	Days
353	6887	184	7040	926	27898	41825
Loss of earnings per coach per day	Loss of earning capacity due to detention of coaches (₹)	Loss of earnings per coach per day	Loss of earning capacity due to detention of coaches (₹)	Loss of earnings per coach per day	Loss of earning capacity due to detention of coaches (₹)	Days
₹8976	61817712	8976	63191040	8976	250412448	375421200

A) Total No. of other coaches as per Statement No. 10, Col No. 17 of A.S.S.(2009-10)=15671

B) Earnings from passengers for ordinary unreserved as per Statement No. 12, Col No. 22 of

Loss of earnings per coach per day =(B/A)/365=(₹5134.10/15671)/365=₹8975/-

Annexure IX (Para 2.3.5.1)							
Statement showing sections laid with 90R rails - Non-replacement thereof (2007-08 TO 2010-11)							
Railway	Name of the section	Date of introduction of enhanced loading/Part of section laid with 90R rails	Length of section laid with 90R rails	Whether speed restriction is stipulated	date from which Speed restriction is continuing	Reasons for non-replacement of 90 R rails	
1	2	3	4	5	6	7	
Central	Ballarshah to Wardha including Rajur Wani Majri and Ghughus Tadali and Umrer Butibori including Chitoda -Sewagram (Bypass)	1.07.07	20.60	NO	Nil	CTR was in progress	
			12.60	NO	Nil	CTR was in progress	
			12.60	NO	Nil	CTR was in progress	
			0.00	nil	Nil	Nil	
	Nagpur-Ghoradongri	29.09.07	Nil	Nil	Nil	Nil	Nil
			Nil	Nil	Nil	Nil	Nil
			Nil	Nil	Nil	Nil	Nil
			Nil	Nil	Nil	Nil	Nil
	Amla -Parasia including sidings of Ghoradongri	01.12.07	0.15	Yes	01.07.07	CTR was in progress	
			0.15	Yes	01.07.07	CTR was in progress	
			0.00	Nil	Nil	Nil	
			0.00	Nil	Nil	Nil	
	Other CC + 8 Routes	01.12.07	Nil	Nil	Nil	Nil	Nil
			Nil	Nil	Nil	Nil	
Nil			Nil	Nil	Nil		
Nil			Nil	Nil	Nil		
Eastern	Kalipahari-kalipahari Link (SL) [2.94 Km]	NIL	NIL	NIL	NIL	Not applicable	
	Asansol-Bardhaman (DN II) [105.39 Km]	NIL	NIL	NIL	NIL	Not applicable	
	Asansol-Adra (SL) [2.0 Km]	NIL	NIL	NIL	NIL	Not applicable	
	Baktarnagar-Durgapur Steel Plant (SL) [8.0 Km]	NIL	NIL	NIL	NIL	Not applicable	
	Bardhaman-Khana section (DN II) [13.15 Km]	NIL	NIL	NIL	NIL	Not applicable	
East Central	BARKAKANA-RAMGARH		0.87	ONLY TRAIN	NO SPEED	VERY SMALL LENGTH IT WILL BE REPLACED SHORTLY	
			0.200				
	KARAILA ROAD-SAKTINAGAR		0.187				
			0.230				
			0.510				
	JAMUNITANT-CAHNDRAPURA		2.000				
			0.400				
	GOPALICHAK-OLD DAMUDA		0.500				
	PATNA-DIGHAGHAT		0.300				VERY SMALL LENGTH IT WILL BE REPLACED
	PATNASHEB-PATNAGHAT		0.360				
BAKHTIYARPUR-RAJGIR		8.000			WORK SANCTIONED AND		
DILDARNAGAR-TARIGHAT		9.000			WORKED SANCTIONED		
			22.557				

Railway	Name of the section	Date of introduction of enhanced loading/Part of section laid with 90R rails	Length of section laid with 90R rails	Whether speed restriction is stipulated	date from which Speed restriction is continuing	Reasons for non-replacement of 90 R rails
1	2	3	4	5	6	7
East Coast	NIL					
Northern	JEP-VYN	3.193 - 5.456	2.263	Yes	18.12.2007	Work sanctioned but rails 52/60Kg not yet available
	PFM-BPAS	0 - 2.143	2.143	Yes	18.12.2007	
	MGS-AMG	899.663-899.726	0.063	Yes	18.12.2008	
	MGS-AMG	900.368-900.726	0.063	Yes	18.12.2008	
	MGS-AMG	995.758 - 996	0.242	Yes	18.12.2008	
	ZBD-UTR	914.183 - 914.739	0.556	Yes	18.12.2008	
	ZBD-UTR	915.515 - 915.760	0.245	Yes	18.12.2008	
	PRG-PRG	0.515 - 0.895	0.38	Yes	18.12.2008	
	BSB-LKO	777.300 - 778.140	0.84	Yes	18.12.2007	
North Central	SIR-NLDM	1.5 KM	1.5 KM	Yes	Mar-07	Section sanctioned for
	BINA-JHANSI	Nil	Nil	Nil	Nil	Nil
	JHANSI-AGRA CANTT.	1127.306-1127.394 UP	176 M JHS/Yd	Yes	May-07	Turnout portion non standard.
	JHANSI-KANPUR	Nil	Nil	Nil	Nil	Nil
	MUGHAL SARAI-ALLAHABAD	Nil	Nil	Nil	Nil	Nil
	ALLAHABAD-KANPUR	Nil	Nil	Nil	Nil	Nil
	KANPUR-TUNDLA	Nil	Nil	Nil	Nil	Nil
	TUNDLA-GAZIABAD	Nil	Nil	Nil	Nil	Nil
North Eastern	AGRA CANTT.-PALWAL	1343.831-1343.779 & 1342.774	128 M	Yes	01.04.2003	Traffic block not given by
	LKU-KPV	LKU-KPV	58.5	Yes	Since laying,1999-	CTR Sanctioned and work is in
	CI-CPR	CI-CPR	2.95	No	Since laying, 1980-	TRR (P) with 52 Kg. 90 UTS
Northeast Frontier	RQJ-HDB	KM 0 - 30.41	30.41 KM	NIL	NIL	18.63 KM, sanctioned from 0-
	OMLF-SQB	KM 0.0 - 27.5	27.5 KM	NIL	NIL	12.63 km. From 0 - 12.63 is
	APDJ-BXT	KM 30.6 - 73	42.4 KM	NIL	NIL	Not sanctioned.
	SLGR-MRHT	KM 0.0 - 53.61	53.61 KM	NIL	NIL	TRR/P is in progress.
	Total		153.92 KM			
North Western	SSB-BTI-SOG up to STPS	NIL	NIL	NIL	NIL	NIL
	Alwar-RE-SSB & RE-Hisar-BTI	NIL	NIL	NIL	NIL	NIL
	JSM-RKB-FL-JP	NIL	NIL	NIL	NIL	NIL
	JP-BKI	NIL	NIL	NIL	NIL	NIL
	JP-SWM	NIL	NIL	NIL	NIL	NIL
	SOG-LGH-Kolayat-PLC	NIL	NIL	NIL	NIL	NIL
	LGH-MTD	NIL	NIL	NIL	NIL	NIL
Southern	Renigunta-Vyasarpadi-Chennai (HOM)	There are no 90 R Rails in CC+8+2 routes of Southern Railway			Not Applicable	
	Vyasarpadi-Korukkupet (KOK)-Tondiarpet-Attipattu-Ennore					
	Gudur-Chennai					
	Thokur-Panambur					
	Arakkonam-Jolarpettai-Magnesite-Mettur Dam					
South Central	NO SECTION					

Railway	Name of the section	Date of introduction of enhanced loading/Part of section laid with 90R rails	Length of section laid with 90R rails	Whether speed restriction is stipulated	date from which Speed restriction is continuing	Reasons for non-replacement of 90 R rails
1	2	3	4	5	6	7
South Eastern	Sini-Chandil-Gardhrubesar-Joychandipahar-Damodar-Burnpur-	NIL	NIL	NIL	NIL	All routes in the South Eastern Railway as shown in Col.2 were identified for replacement of 90R rails and accordingly all 90R rails were replaced by March'2011
	Bolalikhadan-Barajamda	BYX - BJMD	0.54 kms	NIL	NIL	
	Gua-Padapahar	BJMD - GX - RKSJ	3.092 kms	NIL	NIL	
	Rajkarasawan-Padapahar-Banspani	NIL	NIL	NIL	NIL	
	Haldia-Panskura-Kharagpur-Adityapur-Sini-Bondamunda-	NIL	NIL	NIL	NIL	
	Bondamunda-Barsuan	BNMD - BXF	1.508 kms	NIL	NIL	
	Bimalgarh-Kiriburu	BUF - KRBU	2.2 kms	NIL	NIL	
	Purulia-Kotshila	NIL	NIL	NIL	NIL	
	Birmitrapur-Bondamunda	ROU - BRMP	12.7 kms	NIL	NIL	
	Anara-Rukni-Bhaga	NIL	NIL	NIL	NIL	
	Anara-Adra-Midnapur	NIL	NIL	NIL	NIL	
	Lohardanga-Ranchi	NIL	NIL	NIL	NIL	
	Bondamunda-Nawagaon-Hatia-Muri-Bokaro	HTE - MURI	3.01 kms	NIL	NIL	
	Kharagpur-Rupsa-Bhadrak	NIL	NIL	NIL	NIL	
Panskura-Mecheda-Shalimar	NIL	NIL	NIL	NIL		
South East	90 R Rail does not exist in routes running CC+8+2 / 25 T axle load					
South Western	BELLARY -HUBLI-VASCO	There is no 90 R rails on any of the identified routes for enhanced loading of CC+8+2				
	HOSPET - SWAMIHALLI					
	TORNAGALLU- RANJITPURA					
Western	Jalgaon-Udhna-Vadodra	No section laid with 90R Rails.				
	Vadodra-Godhra-Wanakbori (Upto power house)					
	Vadodra-ADI-SBI (Upto power house)					
	ADI-Gandhinagar(Upto power house)					
	Bhopal-Nagda-RTM-Anand					
	Udhna-Dhanu Road					
	Bombay arear of western railway					
	Neemuch-Ratlam					
	Palanpur-Bhildi-Samkhiyali -Gandhidham					
	Maliya miana-Dhrangadhra-Jhund-VG-SBI					
	Maliya miana-Dahinsara-Wankaner-Surendra Nagar-SBI					
West Central	Bina-Maksi	Kms 1252.46 to 1254.54 and	0.160 Kms	No	NIL	Due to turnout approaches

Annexure X (Para 2.3.5.2)												
Statement showing rail fractures and weld fractures (comparison)												
Railway	Number of sections	Number of rail fractures during									Quantum of rails replaced	Expenditure incurred for replacement of rails
		2006-07	2007-08		2008-09		2009-10		2010-11			
			Actual	Increase over previous year	Actual	Increase over previous year	Actual	Increase over previous year	Actual	Increase over previous year		
1	2	3	4	5	6	7	8	9	10	11	12	13
Central	3	62	61	-1	34	-27	37	3	83	46		6721000
Eastern	5	8	4	-4	1	-3	1	0	1	0	169.0 mtr	313089
East Central		168	209	41	189	-20	203	14	289	86		
East Coast				0		0		0		0		
Northern	3	113	79	-34	48	-31	74	26	78	4	392	3488800
North Central	3	76	116	40	116	0	134	18	61	-73	3269.5	11522004
North Eastern	14	46	56	10	114	58	124	10	56	-68	0	0
Northeast Frontier	3	35		-35		0		0	26	26		
North Western	7	15	28	13	64	36	32	-32	39	7	178	8102275
Southern	3	47	57	10	65	8	77	12	50	-27	1628	7400000
South Central	3	0	41	38	44	3	28	-16	30	2	143	5720000
South Eastern	4	9	25	15	14	1	13	3	12	1	0	3312010
South East Central	3	13	16	4	11	0	7	3	13	10	60	3615169
South Western	3	11	16	5	21	6	14	0	13	0	487.5	2183100
Western	8	77	94		70		48		37			33178783
West Central	3	19	7	-12	4	-3	6	2	14	8	15.8	939212
Total	65	699	809	90	795	28	798	43	802	22	6173.8	86495442
Number of Weld fractures during												
Central	3	60	78	18	32	-46	50	18	52	2	0	6392000
Eastern	5	16	5	-11	7	2	5	-2	3	-2	89 nos.	196300
East Central	7	97	107	10	118	11	179	61	231	52		
East Coast				0		0		0		0		
Northern	4	121	146	25	114	-32	86	-28	84	-2	551	1377500
North Central	3	219	157	-62	144	-13	129	-15	74	-55	4699.5	16686904
North Eastern	12	59	80	21	47	-33	64	17	45	-19	0	0
Northeast Frontier	3	312		-312		0		0	51	51		
North Western	7	74	71	-3	94	23	136	42	185	49	560	14358556
Southern	3	164	152	-12	98	-54	73	-25	42	-31	2909.5	13225000
South Central	3	84	249	157	302	53	282	-20	234	-48	1067	2667500
South Eastern	4	54	100	47	57	0	49	6	44	1	0	13792480
South East Central	3	54	63	11	97	34	69	3	44	0	327	19701006
South Western	3	77	48	0	59	12	109	52	178	69	21055	13680760
Western	8	178	244		207		200		227			19805211
West Central	3	75	61	-14	37	-24	31	-6	25	-6	229	440445
Total	71	1644	1561	-125	1413	-67	1462	103	1519	61	31398	122323662

Annexure XI (Para 2.3.5.2)												
Statement showing increase in cases of derailment and damages caused thereof												
Railway	Name of the Section	Number of derailments during									Quantum of damages	
		2006-07	2007-08		2008-09		2009-10		2010-11		Tracks	Rolling stock
	Number of sections		Actual	Increase over previous year	Actual	Increase over previous year	Actual	Increase over previous year	Actual	Increase over previous year		
CR	3	3	0	0	1	1	2	1	0			8583050
ER		0	0	0	0	0	0	0	0	0	0	0
ECR	30	1	2	1	9	7	13	4	5	0	22846512	1834689013
E Coast	8	8	14		7		6		8		62856674	381006823
NR	2	118	94		111	17	84	-26	126	41	50600	620601
NCR	3	1	4	3	3	0	0	-3	3	3	8340500	9440500
NER		4	6	2	7	1	2	-5	4	2	31186671	
NFR		NIL	NIL	NIL	1	1	NIL	NIL	NIL	NIL	50000	NIL
NWR	7	7	7	0	3	-4	3	0	2	-1	13028604	90869181
SR	3	0	0	0	0	0	0	0	0	0	0	0
SCR		0	0	0	0	0	1	1	0	0	50000	1200000
SER	4	3	1	0	0	0	2	2	0	0	16417539	67797228
SECR		0	0	0	0	0	0	0	0	0	0	0
SWR	3	0	1	1	0	0	0	0	2	2	989124	72191
WR	12	4	6	4	2	1	4	4	2	1	7565000	44605000
WCR	3	13	16	3	27	11	15	-14	15	0	2021734	396943
Total	78	162	151	14	171	35	132	-36	167	48	165402958	2439280530
Total derailment								783				

Annexure XII (Para 2.3.5.2)							
Cases of damages to wagons body or wagon under frames							
Railway	Cases of damages					Total expenditure incurred	Remarks
	2006-07	2007-08	2008-09	2009-10	2010-11		
CR	1174	1667	922	576	954	4200843	
ER	425	452	745	832	408	649777158	
ECR	9249	5862	10826	8429	9856	285988096	
E Coast	4426	5172	6016	4565	4045		The statistic pertains to total replacement of components done by freight examination depots of E.Co.Rly. Since wagons are not having fixed base for maintenance, it is not possible to keep record of existing components life. Hence, it is not possible to segregate from above data of premature replacement. Also freight examination depot do not have system of maintaining expenditure on account of replacement. Hence, data of total expenditure can not be furnished.
NR						883697028	
NCR	7701	8350	7780	10392	11822	660980787	
NER	209	658	741	582	540	6481733	
NFR	1491	2016	1698	1596	2102		Expenditure not available
NWR	0	0	0	0	0	0	
SR	7521	8177	17971	17136	6462		Mechaical department does not maintain case wise details.Number of Wagon body & Underframe repairs in 2005-06 was 730
SCR	3366	11826	15886	19935	25381	572955000	
SER				1151	1059	11487164	Records for 2006-07 to 2008-09 not available
SECR	1209	3094	3516	3703	2677		Expenditure not Available
SWR	2055	3622	3619	5158	4879	23605593	
WR	3272	3208	4130	4497	6660	15225947	
WCR	3115	4424	3948	4399	3995		Expenditure not Available
Total	45213	58528	77798	82951	80840	3114399349	0
						78.80	1372565261

Annexure XIII (Para 2.3.5.3)						
Statement showing weight carried over and above CC+2(i.e.normal weight charged before enhanced CC) and impact on earnings						
Railway	No. of Stations/Sidings	Name of the station	Number of wagons in the rakes	Total weight booked (in Tonnes)	Weight over and above Normal weight of CC+2	Total extra earnings (col.5Xcol.8)
Central		WDSG	55073	3728866	127773	43321738
		Emta sdg.Majri (KECM)	79739	5199036	95733.8	74418293
		WCL SIDING Ghugus	36907	2475804	113756	73054689
		M/S Kartikyan Sdg Wan	30068	2016352	92000	37393433
		Rayatwari Collieries Sds (RCXG)	31901	2194651.41	152987.41	77483075
		Kurduwadi (KWV)	2839	180130	1273	880418
		Rajur goods	252136	15702083	251599	87740837
		GRMT	17653	1118583	6444	7952602
		Sangli Goods	7104	449637	2085	2571212
		9 Wadi Goods	1750	115310	4474	2320540
Eastern		DGR	1245	80607	8458	1223123
		PAW I SDG	77981	5021083	467887	194396618
		BWN	1982	122855	11892	8771846
		DSEY	48523	3057240	291138	334396010
		PAW	42827	2735340	256962	58305713
		RJG	24406	1495299	146435	49138916
		UKA	137511	8701682	825066	165598286
		UDL	133853	10447884	803118	192779153
		PAW SDG2	57120	3745371	342718	113343729
		10 PKR	271778	17680584	1630670	2531740142
East Central		Katrash	33533	1142872		111172630
		Tori	9200	454941		29318558
		Bhurkunda	3533	77536		7430619
		Barkakana	1997	321251		1253892
		Billi	1945	28370		1051893
		Singrauli	1635	48320		4110260
		Patratu	11651	266609		17769804
		Chainpur	20693	7988419		69455420
		Patherdih	8440	250494		7514581
		9				
East Coast		Ananta Colliery SDG/TLHR(ACTR)	338629	21596839.1	2811465.4	1155493435
		G.C.B Siding, Paradeep port(CBSP)	328784	21389462.7	2712530.4	1611689670
		VSKP Steel Plant Siding(VSPS)	39939	4865709	620152.6	759734686.7
		Bharatpur Siding /TLHR (BCMT)	259352	16599889.9	2187941.1	1108403933
		JNC SDG/TLHR(SBCT)	235729	15208823.2	1994414.5	901930568.1
		NMDC/Bachelii (NMDB)	281337	19563881.5	2617559.7	2332696485
		VSKP Port(VZP)	365661	23700310.4	2978459.5	2038279026
		NMDC/Kirandul(NMVK)	149488	10346053.1	1257352.5	1092080264
		Gangavoram Port Ltd.(MGPV)	0	0	0	0
		10 Bhusan Steel Ltd(BPSL)	0	0	0	0
Northern		Kiratpur	50107	32578981	32402097	109835065
		Gaurigani	7033	4470069	349953	15877042
		GACL/RPAR	61961	39303732	4415575	148702683
		Birla Cement Sdg. Lehra Muhabbat	2401	1556140	143768	3692284
		4				
North Central		DAA	50148	1739512.17	55493	51917099.42
		MRA	14973	1010933.5	73871	100796249.1
		DCPG	58452	3697846.5	303087.5	97095079.71
		NYN	7021	445959.3	38741.3	13055203.17
		CPC	14898	942184	78100	102494938.8
		CAR	23543	1506608	141114	59760563.2
		7 JAB	1199	75062	5874	3728268.6
North Eastern		GD	6800	4296140	315050	35440601
		RUPC	4926	3108440	225744	22628431
		BST	250	158220	11768	1264401
		4 GKC	42	26550	1942	142388
Northeast Frontier		AZA	12288	966852.9	72946.29	118849365.7
		NGC	46947	3174359	454088.31	718757667.8
		BIZ	28617	1803713	144235.25	227508677.3
		RNY	29667	1854372	134823.22	217952386.2
		JPZ	54350	3560723.9	412758.54	482837973.3
		NMFS	17799	1120447	87547.61	53374055.96
		TIKOK	30077	1654375.7	128790.87	192248995.8
		TIRAP	27734	1599096.66	137637.28	202098271
		JID	12129	770495	67551	48801965.16
		9				

Railway	No. of Stations/Sidings	Name of the station	Number of wagons in the rakes	Total weight booked (in Tonnes)	Weight over and above Normal weight of CC+2	Total extra earnings (col.5Xcol.8)
North Western		BNGS	79435	5096707	251172	171440202
		BGKG	82269	5297960	279551	149718902
		LCTS/BNS	60025	3844887	182270	121792218
		Bhagega	251	15848	537	437913
		FCI SIRSA	1338	84376	2758	2808989
		SIRSA	15685	988770	31985	10833933
		KANASAR	16741	1102222	81021	86200822
		SURATGARH	5231	344265	25165	23333211
		JAISALMER	71221	4706866	362385	672876162
		GOTAN	11746	770362	53856	78892065
		NAVA	15244	956241	26357	23581768
Southern	11	TNEB North Chennai Thermal Power Plant Siding/Attipattu (AIPS)	141800	9500600	283600	17848154
		TNEB North Chennai Thermal Power Plant Siding/Attipattu (AIPS)	55389	3711063	110778	44701824
		Chennai Harbour (HOM)	87773	5880791	175546	79138364
South Central	3	KAKINADA PORT	15818	1021585	126544	95695698.4
		MANIKGARH	20392	1328552	163136	76131340.8
		TADIKALAPUDI	9315	621650	74520	33072380
		RUDRAMPUR SDG. BDCR	287594	18295510	2300752	374135855.2
		CSP SDG. MANUGURU	254959	16659727	2039672	565621661.6
		RAGHAVAPURAM	22167	1454700	177336	77901739.2
		GDK 1 SDG. RAMAGUNDAM	128540	8284003	1028320	473300005.6
		MANDAMARRI	38294	2521266	306352	156486393.6
		LTC SDG. MANCHERIAL	240849	15535685	1926792	847177220.8
	South Eastern	9	Rashmi Metaliks Siding (PRMB) BARAJAMDA	23111	1516215	184888	80700000
		T.K.Siding BARAJAMDA	9552	614212	76416	41000000
		OMDC Siding (No.2) BARAJAMDA	8996	598080	71968	37200000
		TISCO Siding NOAMUNDI	307193	20885598	2457544	461400000
		SAIL Siding BARSUA	133779	8738479	1070232	161800000
		JSPL Siding BARSUA	107253	7170955	858024	293400000
		Kalinga Siding BARBIL	2897	184570	23176	23000000
		SAIL Siding BOLANIKHADAN	144893	10345020	1159144	419600000
South East Central	8	BOCM 1 Siding, Belpahar	196447	15335685	1571576	735689267
		BOCM 2 Siding, Belpahar	195362	12747595	1562896	949696317
		OC Siding, BRJN	62593	4174769	500744	218875235
		LOCM 1 Siding, BRJN	180987	11743559	1447896	554359917
		LOCM 2 Siding, BRJN	37632	2485369	301056	126759933
		Kharsia	5980	389327	47840	27283162
		Saragbandia	3768	241667	30144	12145294
		Gatora	3512	234550	28096	16936503
		Kotarlia	8344	666267	66752	29563004
	South Western	9	RNJP	237325	16244320	2242145	1328714017
		YTG	114776	7672874	897090	694040730
		SMLJ	35483	2366079	272582	236839270
		RMGD	28302	2312595	218287	154880461
		BNHT	41790	2797887	332278	383081508
		MSPL	2331	156179	18650	24815311
		SDMG	7382	490862	55324	62883296
		BMM	3049	202934	23043	22803670
		OMC	22662	1292870	169063	143828745
		BIOP	11198	740941	80259	75906470
Western		10	NAVLAKHI (UNDER CC+ 6 +2 ROUTE)	21237	1401642	21237	13661040
		PORBANDER (UNDER CC+ 6 +2 ROUTE)	1890	120960	1890	2471292.6
		Gujrat Narmada Valley Fertiliser Corporation -BHARUCH (UNDER CC+8 +2 ROUTE)	9954	647010	29862	24220728
		IFFCO Gandhidham (UNDER CC+8 +2 ROUTE)	31672	2059200	95016	98787782.4
		Birla Cement Works Associated-Chandera (UNDER CC+ 6 +2 ROUTE)	12222	809088	12222	6556443
		Vikram Cement Siding - NIMBHAHERA (UNDER CC+ 6 +2 ROUTE)	28082	1797248	28082	17968809.3
		Solid Cargo Siding-KANALUS (UNDER CC+ 6 +2 ROUTE)	21358	1388270	21358	14645741.1
		Bharuch under CC+8+2 route	10122	675695	30366	31052597
		Chalthan under CC+8+2 route	14119	931854	42357	24464633
		Maliya Miana under CC+8+2 route	6372	441180	19116	22128432
West Central	5	Dundi	9071	607757	62589.9	66999821.1
		GSPR	15973	1070191	110213.7	120232277.1
		BCSW	3715	248905	25633.5	14777934.24
		MSSG	2866	192022	19775.4	9228668.58
		KEQ	5251	351817	36231.9	39851222.55
Total	127		7759881	594654923.3	89348369.08	30342452106

Annexure XIV (Para 2.3.5.3)														
Status of weighment of wagons, average excess weight per rake, Penal freight recovered and loss on account non-weighment														
Railway	Period	Number of stations/sidings	Number of rakes weighed	Number wagons weighed	Number of wagons found overloaded	Total weight found overloaded	Average overloaded weight per wagon	Total penal freight	Average penal freight per wagon	Total rakes passed through weigh bridge station	Number of rakes not weighed	Number of wagons not weighed	Total loss of revenue (col.9Xcol.12)	
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Central	2009-10		4	1834	100454	3143	6627.19	1.97220503	10568238	3362.47	1834	0	0	
	2010-11		6	2040	116142	3724	12408.59	3.335	15662865.4	4205.92	2040	0	0	
Eastern	2009-10		6	1757.9	100230	9369	26126.02	2.79	22308465.76	2381.09	1865.9	95.48	4695	
	2010-11		6	1609.5	92156	12117	25571.57	2.11	12829743	1058.82	1715.44	101.63	5642	
East Central	2009-10			36873	2107684	184458.1	922146.88	4.81675761	1187024213	6225.646403	37433	560	51466	
	2010-11													
East Coast	2009-10			32515	1850772	406430	999995.17		1772781722		34793	2248	130791	
	2010-11											113	6487	
Northern	2009-10		2	109	6044	2069	4331.71		19844658		35261	35152	908568	
	2010-11		2	83	4624	1476	1657		3863001		30530	30447	815108	
North Central	2009-10		2	220	11184	2610	5642.92	2.16	NA	NA	25693	25473	NA	
	2010-11		2	179	9547	1338	2856.79	2.14	NA	NA	25233	25054	NA	
North Eastern	2009-10			27	1187	120	224.49	1.87	901731	7514	293	266	10831	
	2010-11													
Northeast Frontier	2009-10			314	12933	455	354		1503130		317	3	126	
	2010-11			315	13165	694	614.2	0.88501441	1608325		336	21	879	
North Western	2009-10		6	283	16221	6326	7832.71	1.238	22355487	3533.9	265	0	0	
	2010-11		6	867	48516	21589	54159.2	2.511	8081995	347.7	207	0	0	
Southern	2009-10		1	1613	95145	3091	2655.93	0.86	995535	322.08	1646	33	1943	
	2010-11		1	1541	90911	153	159.61	1.04	70006	457.56	1624	83	4885	
South Central	2009-10		8	3771	219191	3046	6822.63	11.2919968	16977575	26468.45038	3771	19	1199	
	2010-11		8	5705	334786	8546	15281.89	15.5405588	16593589	45514.05594	5707	104	6079	
South Eastern	2009-10		2	6987	389404	67462	235838.51	0.55320838	0	87.27	7175	188	10209	
	2010-11		2	4763	265778	46013	155579.9	0.60186542	0	87.27	4917	154	8750	
South East Central	2009-10		1	972	54004	3813	11371.6	2.98232363	73283682	19219.4288	972	Nil	Nil	
	2010-11		1	692	38512	2679	13859.7	5.17346025	24164394	9019.930571	692	Nil	Nil	
South Western	2009-10		10	8662	475311	15368	41506	3.103	214619460	139650	8726	64	3745	
	2010-11		10	7592	425776	13236	48278	8.255	88139839.01	66590	7630	38	2224	
Western	2009-10		5	1538	71738	6880	9144.5	4.2	21212740	6541.84				
	2010-11		5											
West Central	2009-10		5	1349	79070	22755	45158.35	1.98455	65127526	2862.12	1352	3	177	
	2010-11		5	1067	62118	21120	56648.34	2.68221	69680445	3299.26	1072	5	295	
Total			106	125278.4	7092603	870080.1	2712853.4		3670198365	348748.8121	243100.34	120225.11	1974099	7085947068

Annexure XV (Para 2.3.5.3)										
Cases of stalling of trains run with enhanced loading										
Railway	Section where stalled	Period	Number of stalling	Time taken to clear track	Trains that were detained at the previous station for want of clear track ahead		Period of detention	Loco used for clearing stalled train	Loss of earning capacity for the period the trains suffered detention	Loss on account of use of more than one loco
					Coaching	Goods				
1	2	3	4	5	6	7	8	9	10	11
CR	BPQ-WR	2008-09 - 2010-11	46	55.59	38	44	52.3	47	6941023	3476940
	DD-WD/SUR-WD	2008-09 - 2010-11	16	12.85	22	12	61.2	12		
ER	Note: Quarterly average of stalling during pre-enhancement period (April 2004 to March 2005) was 5.5. The incidence of quarterly average of stalling after introduction of enhanced loading was 29.7 (July 2009- March 2010) and 32.5 (April 2010 to March 2011).									
ECR		2010-11	172	50" - 500"	155		323		3929000	
E Coast	Data not made available									
NR	MDPB-KTHU & GHGL-SMBX			134"	3	9	1503"			
NCR	NIL									
NER	Data not made available									
NFR	SGUJ-GMLA	2006-07 to 2010-11	1	3.45	0	0			42206.85	0
	GHY-KYQ		1	2.15		1	0.35	1	32648.90	28987.50
	GHY-NGC		1	1.10		3	5.95		89304.34	0
	SGUJ-GMLA		1	2.08				1	24582.70	16490.67
	NJP-SGUJ		1	3.55				1	45132.30	1288.33
	DLDE-DSR		1	2.33					29384.01	0
	KYQ-GHY		1	2.01				1	23238.33	15588.83
	AGT-KYQ		1	3.10					36489.94	0
			1	4.00				46092.56	0	
NWR	All CC+8+2 Notified sections on NWR	2009-10	797	1196 hrs	NA	NA	NA	NA	18384912	NA
		2010-11	423	635 hrs	NA	NA	NA	NA	9761220	NA
SR	Renigunta-Vyasarpadi-Chennai (HOM)	2007-08	3	230 min.	295 min.	3	49702	NA	NA	NA
SCR	ASAF-RLW, SKZR-VEM, BDCR-MUGR, RUSG-BDCR		7	45" -130"			18.06	11	441764	30084
SECR	No separate data in									
SER	Noamundi-Barajamda-Barbil,Bolanikhadan,Dongaposi-Padapahar-Banspani, Bondamunda 'A' Cabin-Barsuan	2006-07	6	1'20" - 4'05"		13	17.16	11	259747	167161
SWR	BAY-UBL-VSG, SMLI-HPT	2009-10 to 2010-11	49	15" - 335"	13		6.46	62	1027497	579206
WR	BRC-GDA, BRC-ADI-SBI, PNU-BHILDI-SAMKHIYALI-GIM	2009-10 to 2010-11	680		504		1040	304	10236408	2377280
Total			2208		735	85	51226.48	451	51350650.92	6693026.333

Annexure XVI (Para 2.4.6.1)											
Statement showing extra time and operation cost incurred for additional placements											
Railway	Period	Name of station/siding	Number of placement	Number of additional placement	Time required for one placement (hours)	Number of rakes handled	Extra time taken for additional placements i.e. number additional placements X time for one placement (hours)	Engine hours cost	Extra operational cost (i.e. total extra time x engine hour cost (in rupees))		
1	2	3	4	5	6	7	8	9	10		
Eastern	2009-10 to 2010-11	New Alipore	2 to 3					1946	5720	11131120	
		Budge-budge	2 to 4					1504	5720	8602880	
		Srirampur	3					43	7730	332390	
		Bardhaman	3					274	5720	1567280	
East Central	2009-10 to 2010-11	Central Sounda	2	1	0.20"	243		81	7760	628560	
		Jogta	2	1	0.20"	93		31	7760	240560	
		KWS	2	1	0.20"	319		107	7760	827733	
		ARA	2	1	0.20"	320		107	7760	827733	
		BXR	2	1	0.20"	258		86	7760	667360	
		BJU	2	1	0.20"	228		76	7760	589760	
		JMU	2	1	0.20"	115		38	7760	297467	
		BEHS	2	1	0.20"	104		35	7760	269013	
East Coast	2009-10 to 2010-11	Kaipadar Road	2	1	0.15"	12		3	7820	23460	
		Khurda Road	2	1	0.30"	12		6	7820	46920	
		Berhampur	3	2		1	24		36	7820	281520
		FCI/Khurda Road	2	1	0.30"	24		12	7820	93840	
Northern	2009-10 to 2010-11	GZB	2 to 4	2278	00:15	443		834	4370	3644580	
		SSB	2 to 3	913	00:15	371		477	4370	2084490	
		BVH-SAIL	2 to 3	570	00:30	205		326	4370	1424620	
		BVH	2 to 3	1898	00:30	178		1166	4370	5095420	
		CDG	3 to 7	359		1.5	81		426	4370	1861620
North Central	2009-10 to 2010-11	Shikohabad	2	1	0.30"	49		24.5	4370	107065	
		CPC	2	1	0.30"	139		69.5	4370	303715	
		Yamuna Bridge	2	1	0.30"	30		15	4370	65550	
		NTPH/PNK	2	1	0.30"	576		288	7730	2226240	
Northeast Frontier	2009-10 to 2010-11	IOC Siding Dimapur	2	1	0.27 to 2.15 hrs.	22		100	5720	572000	
		Binaguri	2	1	0.25 to 2.48	29		159	5720	909480	
North Western	2009-10 to 2010-11	MTD	16	16		1	16	16	5280	84480	
			33	33		1	33	33	5720	188760	
			6	6		1	6	6	6750	40600	
		Hansi	20	20		3	20	60	5280	316800	
			11	11		2	11	22	5280	116160	
			36	36		6	36	180	5720	1029600	
			70	70		4	70	280	5720	1601600	
			120	120		3	120	360	5720	2059200	
			152	152		3	152	456	6750	3078000	
			47	47		2	47	94	6750	634500	
North Eastern	2009-10 to 2010-11	Gonda	3	2		1	142	284	5720	1624480	
			2	1		1	141	141	6750	951750	
		Chhapra	4	3		1	14	42	5280	221760	
				3			87	261	5720	1492920	
				3			64	192	6750	1296000	
		Balia	2	1		1	2	2	5280	10560	
							66	66	5720	377520	
					36	36	6750	243000			
					8	8	6750	54000			
Southern	2009-10 to 2010-11	TEN	2	1	0.5	175		87.5	6750	590625	
		NCI	2	1	0.5	66		33	6750	222750	
South Central	2009-10 to 2010-11	Khammam	1	2 (spurs)		2	126	252	7730/7820	1960000	
		Warangal	1	2 (spurs)		2	199	398	7730/7820	3096000	
		Tandur	1	2 (spurs)		2	13	26	7730/7820	201000	
		Jangaon	1	2 (spurs)		2	17	34	7730/7820	265000	
		Parbhani	1	2 (spurs)		4	169	676	7730/7820	5310000	
South Eastern	2009-10 to 2010-11	TATA Goods	2	1	0.15"			63.5	4370	277495	
South Western	2009-10 to 2010-11	SAIL Siding/CSDDR & ZCS Siding SKVL	3 to 8	1 to 7	0.5	110		61	5720	349600	
		DBU, DPI & CHLI	2 to 3	1 to 2	0.5	170		65	5720	371450	
Western	2009-10 to 2010-11	LPG Siding -GIMB	2			2				69920	
		FCI - Kandivali	2 to 4		0.2		149			3418040	
		FCI - GDA	2 to 4					109		1128690	
		FCI - GIMB (Inward Traffic) & (Outward Traffic)	2 to 3					86		457590	
		BL	2 to 6					134		2359800	
		BRCY	2 to 6					91		7810811	
		WML	2 to 5					109		6311556	
		KKF	2 to 7					257		1886311	
		ST	2 to 6					815		4944807	
		West Central	2009-10 to 2010-11	Itarsi	2	1	5.36	42		238	7730	1839740
			2	1	2.4	73		194	7820	1517080	
Total			53					12936		104532331	

Annexure XVII (Para 2.4.6.2)							
Statement showing sidings which were notified for booking and receiving train load traffic without adequate facilities (only siding where placement of rake is done in two or more placements) 1.4.2009 to 31.3.2011							
Railway	Number of sidings	Name of siding	Date from which declared	Period	Freight recoverable at Wagons load rates	Freight recovered at train load rates	Short recovery due to difference in freight in Wagon load rates and train load rates
1	2	3	4	5	6	7	8
Central		TVSG, Thal	1984-85	2009-10 to 2010-11	2748689933	2565662281	183027652
		FZSG(RCF) Trombay		2009-10 to 2010-11	1253204309	1169690967	83513342
		BESG, Paras		2009-10 to 2010-11	1231816524	1150766933	81049591
		BRSG, (BPCL) Trombay		2009-10 to 2010-11	1306259141	1248418233	57840908
Total	4				6539969907	6134538414	405431493
Eastern		FCI Siding/Kalyani	01.07.2010	05.04.09 to 03.03.11	346769060	300127902	46641157
		CESC/Cossipore	Since 2001	02.04.09 to 31.03.11	155247791	146637946	8609845
		FCI Siding/Dankuni	23.07.10	23.04.09 to 02.03.11	261141646	240242048	20899598
		IOC/Rajbandh (O/W)	NA	08.04.09 to 31.03.11	235740050	224808752	10931298
		IOC/Rajbandh (L/W)		08.04.09 to 26.03.11	190208162	181140529	9067633
		UTCL/Durgapur(After	04.03.02	03.04.09 to 16.10.10	57691755	54093184	3598570
Total	6				1246798464	1147050361	99748103
East Central		C/Saunda	Not Available	1.4.09 to 31.3.11	640863016	600949290	39913726
		Kargil Siding		1.4.09 to 31.3.11	0	0	0
		Jogta Siding		1.4.09 to 31.3.11	53381178	50057679	3323500
		Patratu Siding		1.4.09 to 31.3.11	204777624	191567895	13209729
Total	4				899021819	842574865	56446954
Northern		IFFCO Aonla	beore 2001	2009-10 to 2010-11	1297286268	1126544372	170741896
		NFL Diwana	1976	2009-10 to 2010-11	49791572	40749719	9041853
Total	2				1347077840	1167294091	179783749
North Central	1	NTPH Siding Panki	prior to 4/2003	2009-10 to 2010-11			
North Eastern		FCI-GDK	10.11.2000	2009-10 to 2010-11	50640064	43842889	6797175
		FCI GKC	10.11.2000	2009-10 to 2010-11	102137820	88106258	14031562
		Bajaj Hindustan Sugar Mills,	17.11.2008	2009-10 to 2010-11	1302028	954466	347562
		Bajaj Hindustan Sugar Mills,	15.12.2006	2009-10 to 2010-11	7138328	5175163	1963165
Total	4				161218239	138078775	23139464
Northeast Frontier		IOC/TXOT	N.A	2009-10 to 2010-11	550764440	524732325	26032115
		HPC/JID	N.A	2009-10 to 2010-11	154362860	135130113	19232747
Total	2				705127300	659862438	45264862
North Western	1	FCI Siding Sirsa	18.2.1994	2009-10 to 2010-11	53292081	46141569	7150513
							0
Southern		Chettinad Cement Siding	15.2.2005	2009-10 to 2010-11	84090547	78826257	5264291
		Associated Cement Co.	15.2.2005	2009-10 to 2010-11	446669281	418962894	27706388
Total	2				530759829	497789150	32970679
South East Central		OC Siding, BRJN	1.4.2003	2009-10 to 2010-11	1811978656	1698785503	113193153
		MOIL Siding, Dongribuzurg	1.4.2003	2009-10 to 2010-11	122185657	115001990	7183667
		Sita Saongi siding/Goberwahi	1.4.2003	2009-10 to 2010-11	144201705	135718345	8483361
		Chidambara Chemicals and	1.4.2003	2009-10 to 2010-11	173376614	149406712	23969901
Total	4				2251742632	2098912550	152830081
South Western		SAIL/CSDR	1.4.03	2009-10 to 2010-11	381239690	357421523	23818168
		ZCS/SKVL	1/4/2003	2009-10 to 2010-11			
Total	2				381239690	357421523	23818168
Western		DCC - SIKKA	Nov-84	1.04.09 to 31.3.11	77210088.8	72383204.4	4826884
		NFST (LPG) - GIMB	NA	1.04.09 to 31.3.11	2450474.08	2321501.76	128972
		FCI- KILE	Jul-84	1.04.09 to 31.3.11	473426422.4	440055530.4	33370892
		FCI - GIMB (Inward Traffic)	NA	1.04.09 to 31.3.11	211417908.1	196183619.3	15234289
		FCI - GIMB (Outward Traffic)	NA	1.04.09 to 31.3.11	8117177.2	7576612.3	540565
		FCI - GDA	NA	1.04.09 to 31.3.11	307626510	285321419	22305091
Total	6				1080248581	1003841888	76406693
West Central	1	Maiher Cement Siding-Maiher	1.12.2005	1.04.09 to 31.3.11	305999447	286891554	19107893
Total					305999447	286891554	19107893
Grand Total	39				16753475204	15553057874	1200417330

Annexure XVIII (Para 2.4.6.2)							
Statement showing benefit of concessional rates (i.e. difference between train load and wagon load rates) at Stations Goods sheds							
Name of Railway	Period	No. of stations	Name of stations	No of rakes	Freight at		Difference
					Wagon Load	Train Load rates	
Central	2009-10 2010-11	4	Pune	552	694298763	650902800	43395963
			Kalyan	421	752338501	705908795	46429706
			Loni	521	1024281917	961410664	62871253
			Nandgaon	360	491312213	460202139	31110073
Eastern	2009-10 2010-11	4	New Alipore		685740415	641495228	44245187
			Nudge Budge		344054415	321103734	22950681
			Bardhaman Goods		1132145921	1002626817	129519104
			Srirampore		411929971	281404562	130525409
East Central	2009-10 2010-11	3	BARAUNI	228	77305382	74181390	3123992
			ARA	320	7726965	7081044	645922
			BUXAR	258	26839550	24950482	1889068
East Coast	2009-10 2010-11	0	NIL				
Northern	2009-10 2010-11	5	SSB	371	613682337	578017700	35664637
			GZB	443	1232957080	1155939311	77017769
			BVH	778	2679958937	2542047520	137911417
			CDG	31	165427789	153849063	11578726
			BGTN	59	156720251	120094180	36626071
North Central	2009-10 2010-11	3	SKB	78	155042011	137294711	17747300
			CPC	430	952160196	820227676	131932520
			JAB	210	383416379	350305392	33110987
North Eastern	2009-10 2010-11	4	Varanasi City	8	19485592	9742432	9743161
			Ballia	104	158158599	141625004	16533595
			Chhapra	165	294291124	265995597	28295527
			Gonda	283	776483676	666305517	110178159
Northeast Frontier	2009-10 2010-11	4	NGC	33	90719205	84823834	5895371
			RNY	80	264176450	247535611	16640839
			BNV	58	148708755	139963875	8744880
			PRNA	42	88979149	82622395	6356754
North Western	2009-10 2010-11	3	MTD	59	164552146	154306791	10245355
			DOZ	132	115073243	109521118	552125
			HANSI	226	379428218	327201813	52226405
Southern	2009-10 2010-11	4	Nagercoil	72	197898847	170527121	27371727
			Tirunelveli	157	545396046	469014137	76381908
			Mangalore central	107	219195619	203336730	15858888
			Madras (Salt Cotarus)	144	354957918	322628445	32329474
South Central	2009-10 2010-11	5	Khammam	127	183817109	158836116	24980993
			Parbhani	168	425045789	365867358	59178431
			Warangal	203	311380591	271409073	39971517
			Tandur	13	5411409	5078211	333197
			Jangaon	17	44725627	38589055	6136572
South Eastern	2009-10 2010-11	3	Barajamda Goods	20	37785244	35746447	2037812
			TATA GOODS	87	138264094	129431537	8832557
			Barbil	34	83040739	78201990	4830160
South East Central	2009-10 2010-11	3	CHINDWARA	58	144566860	121337483	23229376
			TILDA	252	260941116	219200306	41740810
			BALOD	175	430808792	367322712	63486080
South Western	2009-10 2010-11	3	DBU	158	181902029	159967675	21934354
			DPJ	10	8486771	7235048	1251723
			CHLI	2	9541602	8269216	1272386
Western	2009-10 2010-11	5	Valsad(BL)	134	247216704	231011015	16205690
			Vadodara yard (BRCY)	91	173218425	161761437	11456988
			Windmill (WML)	109	325998465	303419487	22578978
			Kankariya (KKF)	257	841500612	703335733	138164879
			Surat (ST)	815	1128972738	1053277545	75695194
West Central	2009-10 2010-11	1	ITARSI	42	87993052	81228644	6764408
TOTAL		54			20384149137	18424517577	1959621986

Annexure XIX (Para 2.4.6.3)																		
Statement showing Siding with inadequate handling capacity notified for train load movement																		
Railway	No. of sidings	Name of Siding	Period		Number of rakes handled	Total wagons	Average detention prior to placement (in hours)	Time taken for loading/unloading i.e. period between 1st placement & release of last lot	Permissible free time (in Hours for each placement)	Total detention on which demurrage is leviable (in hours) (In hours)	Demurrage charges leviable	Demurrage charges actually levied	Short recovery (col.14-15)	Demurrage charges waived	Percentage of waiver	Total intervening period i.e. period from arrival to release - free time x no. Of wagons (hours)	Loss of eaning capacity	Net Loss (col.17-12)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Central		HTSD	11.11.09	31.3.11	212	8884		4-88 hrs	9	43376	12174600	11373680	800920	323440	3	43376	16636503	5262823
		TVSG Thal	1.4.09	31.3.11	1272	53713		5.55-67 hrs	9	322522	1410300	1410300	0	423090	30	322499	123691804	122281504
		BESG	1.4.09	31.3.11	1058	60655		0.45-168 hrs	7	585356	744400	744400	0	297760	40	585356	224508416	223764016
		BRSG	1.4.09	31.3.11	164	6908		7-86 hrs	6	49284	1319850	1119148	200702	224557	17	49284	18902468	17783320
		FZSG	1.4.09	31.3.11	608	25158		3.45-89.20 hrs	10.5	301554	57909900	24749565	33160335	12098365	21	301554	115658524	90908959
	5												0				499397714	46000621
Eastern		FCI Siding /Dankuni	1.4.09	31.3.11			10 minutes	19'-30"			4888520		4888520	118980	2.43	2506	961155	961155
		FCI Siding /Kallyan	1.4.09	31.3.11			2'-40"	20'30"			2202200		2202200	Nil	Nil	11685	4481684	4481684
		CESC /Cossipore	1.4.09	31.3.11			3'-50"	21'-45"			2908800		2908800	249415	8.57	45233	17348740	17348740
		IOC Siding /Rajbandh	1.4.09	31.3.11			3'-35"	7'-45"			1332000		1332000	680890	51.11	25645	9835926	9835926
		UTCL/Durgapur	1.4.09	31.3.11			1'-0	13'-00"			4599700		4599700	1948787	42.36	10961	4204000	4204000
	5												0				36831506	36831506
East Central		Jogta	1.4.09	31.3.11	93	5429	6'-29"	787'-00	5	338	2092400	2465700	-373300	1240957	50.33	30703	11775912	9310212
		KGW	1.4.09	31.3.11	319	18658	3'-81"	7285'-00	5	5233	37633500	1746200	35887300	923885	52.9083152	71117	27276333	25530133
		RASAUL	1.4.09	31.3.11	409	19590	6'-00	3977'-00	8	706	4464100	4558500	-94400	0	0	117469	45054256	40495756
		MKA	1.4.09	31.3.11	44	1751	8'-95"	652'-00	9	275	828479	1222300	-393820.8333	1104077	0	15978	6128229	4905929
		C/Sou	1.4.09	31.3.11	243	12662	0'-00	5198'-00	8	3388	18099400	5751800	12347600	3634661	63.1917139	86565	33201284	27449484
	5												0				123436014	107691514
East Coast Northern	0	NIL											0				0	0
		IFFCO-Aonla	1.4.09	31.3.11	1245	51045	7.2	11231.54	9	26.51	108700	75690	0	33010	30.36	119153	45700140	45624450
		NFL/BTI	1.4.09	31.3.11	95	2469	6.4	1722	787	935	3644100	2107796	0	1536304	42.16	36441	13976642	11868846
	NFL/DIWANA	1.4.09	31.3.11	59	2409	2.3	1545	764	781	4475300	4285940	0	189360	4.23	41536	15930787	11644847	
	3												0				75607569	69138143
North Central	1	NTPH Panki	1.4.09	31.3.11	598	33449	43"	8 hrs to 101 hrs	7				0			460936	176788162	136582072
										7017	40206090	40206090	0	14259305	35		176788162	136582072
North Eastern		FCI-GDK	1.4.09	31.3.11	33	1211	8'-10"	8' to 44'	9	193	802300	667900	134400	128235	0	8023	3077155	2409255
		FCI GKC	1.4.09	31.3.11	48	2004	4'-14"	7' to 21'	9	125	521700	16800	504900	0	0	5217	2000937	1984137
		Bajaj Hindustan Sugar Mills, Palliakala	1.4.09	31.3.11	4	146	2'-30"	13' to 27'	9	47	170300	105400	64900			1703	653171	547771
		Bajaj Hindustan Sugar Mills, Golagokarnath	1.4.09	31.3.11	18	657	10'-36"	28' to 127'	9	1100	4013300	3423600	589700	1122335	0	40133	15392678	11969078
	4												0				21123941	16910241

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Railway	No. of sidings	Name of Siding	Period		Number of rakes handled	Total wagons	Average detention prior to placement (In hours)	Time taken for loading/unloading i.e. period between 1st placement & release of last lot	Permissible free time (in Hours for each placement)	Total detention on which demurrage is leviable (in hours) (In hours)	Demurrage charges leviable	Demurrage charges actually levied	Short recovery (col.14-15)	Demurrage charges waived	Percentage of waiver	Total intervening period i.e. period from arrival to release - free time x no. Of wagons (hours)	Loss of eaning capacity	Net Loss (col.17-12)	
			From	To															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Northeast Frontier		FCI/NGC	1.4.09	31.3.11	111	4555	33-55	13-306	09.00 hrs.	6573	27588200	7106400	20481800	4125460	55%	432299	165804679	158698279	
		IOC/DMV	1.4.09	31.3.11	22	1043	01-09 hrs.	12-17hrs.	08-00hrs.	132	665100	593700	71400	166970	55%	24982	9581638	8987938	
		HPC/JID	1.4.09	31.3.11	9	8363	03-21 hrs.	13-100	09-00 hrs.	2445	12427700	12400400	27300	6739100	55%	196074	75202549	62802149	
		IOC/TXOT	1.4.09	31.3.11	111	431	08-22 hrs.	11-19 hrs.	6 to 8 hrs.	59	280600	247300	33300	69390	30%	14290	5480810	5233510	
	4												0			256069676	235721876		
North Western		FCI Siding Sirsa	1.4.09	31.3.11	32	1340	1 hrs to 34 hrs	3 hrs to 34 hrs	9 hrs	18	242700	242700	0	60940	25.1	14444	5539876	5297176	
	1												0				5539876	5297176	
Southern		Chettinad Cement siding Virarakkiyam	1.4.10	31.3.11	49	2891	41 min.	692 hrs, 25 mts	9	153	901814	856370	45444	45430	5.04	9027	3462231	2605861	
		ACC/MDKS	1.4.09	31.3.11	101	5926	12 hrs 30 mts	1517 hrs, 35 mts	9	441	2573200	2289430	0	283770	0	26263	10072955	7783525	
	2												0				13535185	10389385	
South Central	0	NIL											0				0	0	
South Eastern	0	NIL											0				0	0	
South East Central		OC Siding, BRJN	1.4.09	31.3.11	932	54836	3'	1'35" to 53'40"	5	1649	9696800	5429420	4267380	1221313	22.49	230390	88364165	82934745	
		MOIL Siding, Dongribuzure	1.4.09	31.3.11	87	3716	1'34"	'940" to 50'	9	1277	5363800	840390	4523410	9020	1.07	57636	22105723	21265333	
		Sita Saongi siding/Goberwahi	1.4.09	31.3.11	59	2516	1'29"	11'55" to 67'45"	9	998	4175600	1346200	2829400	9225	0.69	44257.25	16974499	15628299	
		Chidambara Chemicals and Fertilizers Ltd. / Kumbhari (KML)	1.4.09	31.3.11									0					0	0
	4												0				127444387	119828377	
South Western		SAIL/CSDR	1.4.09	31.3.11	6	228	1'-15'	14'-60'	8	110	369800	141300	228500	0	0	4817	1847520	1706220	
		ZCS/SKVL			10	417	10" - 2.30"	26'-44'	9	219	926500	926500	0	0	0	9344	3583813	2657313	
	2												0				5431334	4363534	
Western		FCI-KILE	1.4.09	31.3.11	149	6178	11.59 hrs.				22393700	21523490	0	870210	3.89	101867	39070239	17546749	
		FCI-GDA	1.4.09	31.3.11	109	4849	2.13 hrs				1051300	841255	0	210045	19.98	38837	14895608	14054353	
		DCC-Sikka	1.4.09	31.3.11	32	1307	8.48 hrs				1563300	766760	0	796540	50.95	16946	6499497	5732737	
		FCI-GIMB	1.4.09	31.3.11	86	3612	7.36 hrs				6335800	5471715	0	864085	13.64	38421	14736054	9264339	
	5				2	64	29 hrs				23200	19260	0	3940	16.98	2366	907460	888200	
													0				76108858	47486378	
West Central	1	Maiher Cement Siding-Maiher	1.4.09	31.3.11	73	4296	0	1245	9	255	3530915	3530915	0	896331	25.385233	44420	17036921	13506006	
																		17036921	13506006
Total	42										1336585.51	306659968.2	170604314	131268390.2	56909182	3739753.113	1434351142	1263746828	

Annexure XX (Para 2.4.6.3)														
Loss of earning capacity due to detention to wagons at station with inadequate handling facilities														
Railway	Name of Goods sheds	No. of Rakes	No. of wagons	Demurrage hours worked out by Rly.	Average detention in hours (col.5/col.3)	Demurrage accrued in Rs	Demurrage collected in Rs.	Demurrage waived in Rs.	Demurrage charges refunded	Percentage of demurrage waived (col. 9/ col.7)	Total intervening period (Wagon hrs)	Total wagon days = Total wagon hrs./24 (col. 11/24)	Loss of earing capacity of wagon (Total wagon days x Rupees 9205/-*	Net loss (co.13-8)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Central	Kalyan	304	11723			36527900	35297300	1085625		3	185266	7719	62680441	27383141
	Nandgaon	260	6544			12571000	8453210	249590		2	97081	4045	32846533	24393323
	Kalamboli	260	6267			8803400	9983635	0		0	110573	4607	37410129	27426494
	Pune	449	16049			481700	1596400	1674760			221442	9226	74917703	73321303
	Loni	466	17273			72800500	71934695	1786092		2	480512	20021	162576126	90641431
													370430932	243165692
Eastern	New Alipore				9.25						4812	201	27942757	27942757
	Nudge Budge				22.33						4040	168	33528500	33528500
	Bardhaman Goods				18.5						2084	87	10682860	10682860
	Srirampore				16.5						8957	373	34472826	34472826
													106626943	106626943
East Central	BEHS	104	3836	458	4.4	3980100	1852160	1493840	Nil	44	41942	1748	16086505	14234345
	BXR	258	7240	520	2.01	2304800	2279382	621818	Nil	21	65301	2721	25045654	22766272
	ARA	320	9653	843	2.63	4897000	2346756	564944	Nil	19	85631	3568	32843056	30496300
	BJU	228	9510	282	1.23	1776600	1776600	0	Nil	0	54094	2254	20747303	18970703
	Jamui	115	1081	491	4.26	3741700	2631700	1110000	Nil	29	14834	618	5689457	3057757
												100411975	89525377	
East Coast	Bargarh (Acc L	59	2973			4160100					41601		4160100	4160100
	IOC/BERHAMPT	44	1766			8084080					80840.8		34304793	34304793.48
	BRGA RD	42	2387			2416000					24160		10252296	10252296
	CTC	67	2739			490300					11886		5275095	5275094.85
	FCI/KUR	33	1352			3114500					31145		13216381	13216380.75
	Brundamal	460	26290			15703200					157032		66636529	66636529.2
	KHURDA	20	819			22500					9493		4028355	4028354.55
	KPXR	10	203			355300					3553		1507716	1507715.55
	Lapanga	771	43770			70118800					701188		297549128	297549127.8
	NALCO/BDPK/	91	21636			53724900					537249		227981613	227981613.2
													664912005	664912005.3
Northern	SSB	273	11534	8301.03	30.406704	81789600	43221310	13781500	24786790	16.84	333360	13890	46039907	2818596.697
	GZB	443	18222	7107.68	16.044417	36706900	13214484	14682760	8809656	40	287616	11984	39868602	26654117.79
	BVH	23	887	292.4	12.713184	636900	548180	88720	0	13.92	11280	470	1551495	1003314.588
	CDG	54	2583	29.16	0.54	3751000	2282535	663865	804600	17.69	32184	1341	12343905	10061370
	BGTN	59	2514	29.5	0.5	1249600	558595	691005	0	55.29	33815	1416	13034280	12475685
													112838188	53013084.07
North Central	SKB	49	2107	238	4.51	1004800	927086	77714	77714	7.73	24123	1005	9251025	8323939
	CPC	139	6003	759	5.28	3218900	2637240	588380	588380	18.27	59253	2469	22727145	20089905
	JAB	30	1425	254	8.28	1301800	1079715	222085	222085	17.05	17575	732	6738060	5658345
												38716230	34072189	
North Eastern	Varanasi City	8	334	48	6	199500	93030	106470	106470	53.37	2004	84	773220	680190
	Ballia	104	4334	118	1.13	491300	354080	137220	137220	27.93	4897	205	1887025	1532945
	Chhapra	165	6881	737	4.47	3099900	2301700	797200	797200	0.36	30758	1282	11800810	9499110
	Gonda	283	11931	1333	4.71	5694400	3863280	1831120	1831120	32.16	56195	2342	21558110	17694830
												36019165	29407075	
Northeast Frontier	NGC	283	587	8098	28.61	59655480	22858630	3734070	0	6	655126	27297	251268885	228410255
	RNY	1	59	9	9	53100	0	0	0	0	1534	192	1767360	1767360
	BNV	29	1667	207	7.14	1168600	236300	31928	0	3	39746	1656	15243480	15007180
	PRNA	182	7327	3324	18.26	17722492	11832400	56875	0	1	215166	8965	82522825	70690425
	NJP	31	1306	466	15.03	2291300	2291300	503250	0	22	40348	1681	15473605	13182305
												366276155	329057525	

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Railway	Name of Goods sheds	No.of Rakes	No.of wagons	Demurrage hours worked out by Rly.	Average detention in hours (col.5/col.3)	Demurrage accrued in Rs	Demurrage collected in Rs.	Demurrage waived in Rs.	Demurrage charges refunded	Percentage of demurrage waived (col. 9/ col.7)	Total intervening period (Wagon hrs)	Total wagon days = Total wagon hrs./24 (col. 11/24)	Loss of earing capacity of wagon (Total wagon days x Rupees 920/-*	Net loss (co.13-8)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
North Western	MTD	59	2706	465	7.42	2346000	1128655	1217345	--	51.89	39033	1626	14967330	13838675
	DOZ	132	9598	473	3.36	2470300	1867060	603240	--	24.42	80041	3335	30698675	28831615
	HANSI	226	7189	106	0.28	479000	179285	299715	--	62.57	45725	1905	17535525	17356240
													63201530	60026530
Southern	Tirunelveli	160	6775	775	4.84375	3318800	3318800	0	0	0	31000	1292	11892860	8574060
	Nagercoil	66	2851	252	3.818182	1045900	996600	49300	0	0.047136	10080	420	3866100	2869500
	Mangalore Cen	113	4352	555	4.911504	3671300	3671300	0	0	0	22200	925	8514625	4843325
	Salt cotours	144	6400	1068	7.416667	9560300	9560300	0	0	0	42720	1780	16384900	6824600
													40658485	143164545
South Central	Khammam	127	5024	775	32.29	3876100	2776735	1099365		28.36	60226	2509	23099180	20322445.42
	Parbhani	168	7454	699	29.13	3950000	3297575	652425		16.52	75151	3131	28823540	25525964.79
	Warangal	203	8857	1089	45.38	6324300	4683040	1641260		25.95	132933	5539	50985344	46302304.38
	Tandur	13	543	195	8.13	594800	544065	50735		8.53	12214	509	4684578	4140512.92
	Jangaon	17	716	155	6.46	655300	523500	131800		20.11	11247	469	4023287	3499787
													111615930	99791014.51
South Eastern	Barbil Line No.:4, I	34	1422			5378500	5378500				35959	1499	18126282	12747782
	Barajamda (Goods) Line No.:10, I	20	1099			1419100	1419100				22953	956	11572284	10153184
	Tata Goods	87	1185	0	0	2280100	2286400	0	0	0	62950	2623	31730064	29443664
													61428630	52344630
South East Central	CHINDWARA	62	2615	928	14.97	6968000	3900600	3067400	0	44.02	68605	2859	26317095	22416495
	TILDA	149	5686	789	5.3	3642300	2961600	680700	0	18.69	35468	1478	13604990	10643390
	BALOD	320	12729	1947	6.08	8605000	7866204	738796	0	8.59	85409	3559	32760595	24894391
													72682680	57954276
South Western	DBU	158	1442	474	3 hrs	1137000	875600	0	0	0	60144	2506	18316781	17441181
	DPJ	10	537	45	4.5 hrs	1138300	900400	0	0	0	3408	142	1037902	137502
	CHLI	2	42	4	2 hrs	75600	16400	0	0	0	768	32	233893	217493
													19588576	17796176
Western	Valsad	134	5094	883	6.40 hrs.	5973800	5295020	663180	0	11.10%	68802	2932	26989060	21694040
	Surat	815	30063	4887	5.50 hrs.	47702040	38265800	8375570	0	17.56%	432823	18424	16952920	131327120
	BRCY	91	3688	1896	20.50 hrs.	12957500	9916152	2095368	0	16.17%	121428	5103	46973115	37056963
	Kakariya	257	10814	2023	7.55 hrs.	8639900	5960290	2527380	0	29.25%	193063	8159	75103595	69143305
	Wind Mill	109	5070	318	3.00 hrs.	1670000	707160	937640	0	56.15%	58563	2482	22846810	22139650
													341505500	281361078
West Central	ITARSI	42	1697	453	11.19	840400	498777	185403	185403	22.06%	18890	784	7216720	6717943
													7216720	6717943
Grand Total		68				672829592	365246621	71597453	38346638		6651500	211344	2514129644	2268936083

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Annexure XXI (Para 2.4.6.4)					
Whether action taken to create additional facilities					
Railway	Name of station/siding where works sanctioned but not completed	Date/year of sanction	Name of work	Physical progress (Percentage)	Expenditure incurred (₹ In crore)
1	2	3	4	5	6
Central	New Mulund Goods Depot	2007	Construction of full length dealing line	80	
	Nandgaon	2009-10	Full rake single spur line	40	0.23
	Niphad	2007-08	Full rake single spur line	In progress	
	Gurmarket	2008-09	Full rake single spur line	In progress	
	Karad	2010-11	Extension of covered shed for BCN	In progress	
Eastern					No work sanctioned
East Central					No work sanctioned
East Coast					No work sanctioned
Northern	Chanethi	2006-07	Making line 8 fit for goods loading	Work yet to commence	
	Moradabad	2008-09	Emergency lighting	Work yet to commence	
	Rosa	2008-09	Extension of loading/unloading platforms 3&4	Work yet to commence	
	Bijnor	2006-07	Extension of loops	In progress	
	Harrawala	2008-09	Improvement in loading/unloading area	Work yet to commence	
	Rampur	2009-10	Provision of emergency lighting	Work yet to commence	
	Rishikesh	2009-10	Work of provision of flooring between line 5&6 and extension portion of line No. 6	Detailed estimated is under vetting	
	Gajraula	2009-10	Improvement to approach road to goods shed	Detailed estimated is under vetting	
	Laksar	2009-10	Provision of loading/unloading PF with CC flooring	Work yet to commence	
	Firozpur City	2009-10		Work yet to commence	
Udhampur	2009-10		Work yet to commence		
North Central					No work sanctioned
North Eastern					No work sanctioned
Northeast Frontier	Binnaguri	2010-11	Augmentation handling facilities	Work yet to commence	
	Falakata(Siding)	2009-10	Augmentation handling facilities	In progress	0.38
	Tinsukia	2007-08	Augmentation handling facilities	Work yet to commence	
North Western					No work sanctioned
Southern	Tirunelveli	2001	Improving line handling capacity	Work awarded in May 2011	
South Central					No work sanctioned
South Eastern	Barajamda (Goods) Line No.:10	2007-08	Augmentation handling facilities	In progress	0.1
	Tata Goods	Details not made available			
	Barbil Goods				
South East Central	Ramtek	2009-10	Extension of line 3 to facilitate full rake loading/unloading	Work in progress	0.74
South Western	Shimoga Town	2007-08	Augmentation handling facilities	Work in progress	2.87
	Doddaballapur	2005-06	Augmentation handling facilities	Work in progress	
Western					No work sanctioned
West Central					No work sanctioned
					4.32

Annexure XXII (Para 2.5.1)										
Parties who submitted requisite documents partially										(Amount in ₹)
Sl.no	Name/Code Name of the Party	Period 22.5 2008 to 5.6.2009				Period (1) Dt. 6/6/09 to 31/3/11				Total from 22.5.08 to 31.3.11
		No of rake ↓	freight without DBC	freight with DBC	Difference	No of rake ↓	freight without DBC	freight with DBC	Difference	
1	2	3	4	5	6	7	8	9	10	11
1	API	11	12979658	28849092	15869433	19	22835606	98901992	76066386	91935819
2	ARTI	8	9433320	20964503	11531183	15	18569232	72104658	53535426	65066609
3	BAJRANG	5	5632436	12403808	6771372	35	38394402	199024962	160630560	167401932
4	BAPL	3	3260934	7128762	3867828	23	25099532	131910008	106810476	110678304
5	Crest	7	24196207	48203434	24007226	39	137201660	283338678	146137018	170144244
6	DEVI	3	11656877	16295958	4639081	18	20637078	78534258	57897180	62536261
7	DROLIA	8	9470529	21062171	11591641	16	18011924	84080852	66068928	77660569
8	ESL	173	463417488	1027682602	564265114	1577	4330107752	9265097072	4934989320	5499254434
9	GHANKUN	2	2288494	5055585	2767091	3	3561512	8462410	4900898	7667989
10	GPIL	58	67731327	150225578	82494251	16	18100882	73356948	55256066	137750317
11	GRSP	5	5417434	11835073	6417639	8	7900808	53537174	45636366	52054005
12	GSPL	1	1184061	2633135	1449073	10	10160668	62009236	51848568	53297641
13	Harekrishna	6	7102407	15795902	8693496	5	5806096	18697178	12891082	21584578
14	JBIL	3	3495970	7752218	4256247	9	31678320	68523044	36844724	41100971
15	JNL	52	89904200	209299858	119395658	67	115299182	400291924	284992742	404388400
16	JSW	56	340824271	870482910	529658639	15	91717180	97256440	5539260	535197899
17	MAAM	14	36759810	83658900	46899090	51	136250900	328452848	192201948	239101038
18	MAHE	10	12226314	27359886	15133572	20	28181560	120597636	92416076	107549648
19	MIL	31	101253533	217678608	116425075	25	70043386	159207954	89164568	205589643
20	NAKODA	4	4444995	9761898	5316903	8	15047468	40217604	25170136	30487039
21	NFCL	18	19710145	43155926	23445782	16	17699070	63080988	45381918	68827700
22	NIPP	2	2385165	5312883	2927717	6	7221178	29336532	22115354	25043071
23	PDI	7	7812821	17173438	9360617	17	18844504	102812914	83968410	93329027
24	RIPL	7	7825371	17207514	9382143	30	34461820	160454050	125992230	135374373
25	RSPL	3	3260934	7128763	3867829	22	23708200	138883312	115175112	119042941
26	SAL	12	33160329	64736040	31575711	55	194368290	358058800	163690510	195266221
27	SEIL	3	7342625	15728010	8385385	20	40166532	120012626	79846094	88231479
28	SKS	36	52761722	117279709	64517987	71	83148522	369063220	285914698	350432685
29	SSPL	1	1222631	2735989	1513357	4	4882848	21222354	16339506	17852863
30	SUNIL	12	13755739.8	30402290.6	16646550.8	10	10950688	60008726	49058038	65704589
31	TOPWORTH	8	31448304	52783105	21334801	48	169672698	342726370	173053672	194388473
32	VGL	25	29458411	65454842	35996431	51	58714408	261627720	202913312	238909743
33	WMSL	156	420296456	919936659	499640203	273	750673394	1824017366	1073343972	1572984175
	TOTAL	750	1843120919	4153165048	2310044129	2602	6559117300	15494907854	8935790554	11245834683
										1124.58 crore

Annexure XXIII (Para 2.5.1)					Annexure XXIV (Para 2.5.1)						
Parties who submitted requisite documents partially					Parties who had not submitted documents at all (period 6.6.09 to 31.3.2011)						
Sl.no	Name/Code Name of the Party	Period (1)			S.No.	Name of Party	No. of rakes	freight without DBC in ₹	freight with DBC in ₹	Difference in ₹	
		No of rake ↓	freight @ Class 170 in ₹	freight @ Class 200X in ₹							Difference in ₹
		22/05/08 to 5.9.2009			1	SKPL	13	16033530	71585616	55552086	
					2	Shyam Sponge	7	8087958	25076428	16988470	
1	AGARWAL SPONGE	4	4830428	10784860	5954432	3	SHK	9	11428310	57201096	45727286
2	ANJANEE STEEL	5	5689045	12556731	6867686	4	SHPL	1	2907684	7705906	4798222
3	ARSH IRON & STEEL	1	1052068	2283861	1231793	5	SHILPY	1	1151286	3039886	1888600
4	BHAGWATI	1	1104433	2422451	1318018	6	SHIL	2	7709706	16676604	8966898
5	BHUS	14	62678467	87010196	24331729	7	SEML	23	88638306	1582402964	93764658
6	BS Sponge	2	2445263	5471977	3026714	8	SBPL	12	12944700	86286372	73341672
7	CONC	1	3045396	5394670	2349274	9	SARDA	28	73335402	116651982	43316580
8	GOPAL SPONGE	1	1052068	2283861	1231793	10	SALASAR	5	5806096	29065402	23259306
9	GSL	1	2447542	4855070	2407528	11	NMIX	1	2864554	4334280	1469726
10	IIL	406	1094779468	2391407445	1296627976	12	NIPPON	7	21845478	50784302	28938824
11	INDIA STEEL	2	2327064	5158440	2831375	13	NINL	38	180343782	244387576	64043794
12	KHETAN SPONGE	2	2233525	4911717	2678192	14	MIP	1	776340	8899030	8122690
13	Kudremukh(KIOCL)	101	270522422	649724547	379202125	15	MIML	2	8192572	11095696	2903124
14	MAA SHAKAMBARI	1	1222631	2735989	1513357	16	Kudremukh(KIOCL)	234	665824410	1508423718	842599308
15	MAHENDRA SPONGE	8	11871700	27417580	15545880	17	IIL	946	2618972160	5721263660	3102291500
16	MANGAL SPONGE	1	1052068	2283861	1231793	18	HTP	1	1174542	3022710	1848168
17	NINL	2	8852906	21236490	12383584	19	GSL	2	5165416	11357592	6192176
18	NLWA	2	8560868	21659772	13098904	20	GKSL	2	4907358	13995438	9088080
19	NR SPONGE	5	5708685	12605715	6897030	21	BPSL	8	29706880	86046136	56339256
20	NUTAN ISPAT	6	6755543	14879018	8123475	22	AGARWAL SPONGE	4	4627260	21554284	16927024
21	PKIL	3	3607797	8048871	4441074	23	BHAGAWATI	2	2429682	10927356	8497674
22	PRAKASH INDUSTRIES	1	1126487	2480762	1354274	Total		1349	3774873412	8291784034	4516910622
23	RASHMI	7	8475085	18787118	10312033	Annexure XXV (Para 2.5.2)					
24	REAL	1	1144247	2528623	1384376	Statement showing undercharges against the parties who handed over their consignment to the exporter (Deshlahra Minerals) and others					
25	SALASAR SPONGE	1	1184061	2633135	1449073	S.No.	Name/Code Name of the Party	Period			
26	SARDA	17	58676419	85937782	27261363			22/05/08 to 31/03/11			
27	SHK	2	2445263	5471977	3026714			No of rake ↓	freight at domestic rate in ₹	freight at export rate in ₹	Difference in ₹
28	SHREE HARE KRISHNA(SHK)	2	2193710	4805545	2611834	1	AGARWAL SPONGE	8	9457688	32339144	22881456
29	SINGHAL ENTERPRISES	4	4656617	10321855	5665238	2	MAHE	7	7294860	52355982	45061122
30	SK SARWAGI	10	11628193	25771582	14143389	3	MAHENDRA SPONGE	13	15817068	35362144	19545077
31	SSSP	2	7771251	10088772	2317521	4	SARDA	11	13139082	32809368	19670286
32	SVSL	1	3931038	5541274	1610236	5	SINGHAL ENTERPRISES	3	3552184	7899404	4347220
33	URO PRATIK	2	2385165	5312883	2927717	6	SK SARWAGI	20	23645798	80398493	56752695
34	VANDANA GLOBAL(VGL)	1	1222631	2735989	1513357	7	REAL ISPAT	22	25188947	128397440	104444177
35	VASWANI	9	10387356	22985881	12598525	8	VANDANA GLOBAL(VGL)	76	88201453	326682563	239757644
36	VISA	5	23128510	32302660	9174150	Total		160	186297079	696244538	512459677
Total		634	1642195420	3532838956	1890643536	Period 6.6.09 to 31.3.2011					
1	HPSL	12	29184418	68193926	39009508						
2	MSPP	1	1151286	2860868	1709582						
3	SARWAGI	12	14211316	59432456	45221140						
4	SHIVA	3	6852160	28994380	22142220						
5	TSPL	3	3747066	15585624	11838558						
6	VIL	33	37026174	173597376	136571202						
7	VSIL	38	102653998	147966794	45312796						
Total		102	194826418	496631424	301805006						
G.Total		736	1837021838	4029470380	2192448542						

Annexure XXVI										
(Para 3.1.1)										
Statement showing land holdings on Indian Railways (as of 31 March 2011)										
(Area in Hectares)										
S.No	Railways	Track & Structure	Afforestation	GMF	Comm'l Licensing	Other uses like pisciculture	Encroachment	Vacant land	Total land (Col.1 to Col.8)	(*) Land identified for Commercial utilization (out of Col 8)
1		2	3	4	5	6	7	8	9	10
1	Central	24023.73	609.21	339.34	120.68	427.91	63.52	2792.39	28376.78	478.65
2	East Central	24539.64	3325.01	38.00	129.52	1788.46	17.75	2565.77	32404.18	8.31
3	East Coast	9891.64	628.49	497.27	145.87	37.24	22.56	1922.19	13145.26	1.99
4	Eastern	17072.33	721.97	955.45	250.73	248.85	21.39	1555.08	20825.80	40.70
5	North Central	13447.02	2159.63	421.91	203.28	8.73	49.06	648.74	16938.38	35.08
6	North Eastern	11506.20	7776.67	6.07	79.07	401.40	28.05	5852.16	25649.62	70.75
7	North Western	22230.30	1284.12	0.00	47.63	0.00	14.00	545.19	24122.92	18.75
8	Northeast Frontier	29322.44	1227.74	988.50	564.08	427.57	252.26	6609.97	39392.56	42.88
9	Northern	26046.85	8447.98	33.68	288.53	40.97	220.67	3785.55	38864.23	1.80
10	South Central	30412.88	4.26	2.29	143.62	48.45	18.98	1382.80	32013.28	42.42
11	South East Central	17475.65	337.30	374.05	377.10	95.28	48.88	2847.69	21555.95	0.04
12	South Eastern#	36392.61	4024.44	0.00	498.93	568.59	163.11	466.01	42113.69	179.91
13	South Western	10007.41	1169.96	0.00	169.99	0.00	43.88	2112.30	13503.54	1.16
14	Southern	20072.00	2644.00	107.00	343.00	22.00	62.00	2300.00	25550.00	40.00
15	West Central	19098.10	3006.73	47.32	107.14	15.51	40.86	939.85	23255.51	215.34
16	Western	26612.00	3336.73	43.89	291.93	171.15	59.53	5877.24	36392.47	0.00
17	Railway Production Unit (DLW/BSB)	205.86	77.00	0.00	16.56	0.00	0.29	0.00	299.71	0.00
TOTAL		338356.65	40781.24	3854.77	3777.64	4302.11	1126.79	42202.92	434403.88	1177.78
Percentage to total land		77.89	9.39	0.89	0.87	0.99	0.26	9.72	100.00	0.27
(*) NOTE: It may please be examined in audit whether the Railway Administration has identified the surplus land for commercial development/ utilization only after assessing its feature operational needs such as construction of new lines, doubling, gauge conversion, yard extension and remodeling etc.										
# Except Chakradharpur Division										

Annexure XXVII (Para 3.1.5.2)																
Irregularities in licensing leasing of railway land																
Rupees in crore																
S. No.	Railway	Total No. of cases of licensing Railway land	No. of licencee who had paid of the licence fee fully as of 31 March 2011	Licencee who had not paid the licence fee at all as of 31 March 2011		Licencee who had paid the licence fee partially as of 31 March 2011		No. of cases wherein bills were not preferred or *outstanding amount of licence fee could not be ascertained from the records of Zonal Rlys.		Total amount of Licence fees outstanding		percentage of cases on				
				No. of cases	Outstanding amount	No. of cases	Outstanding amount	No. of cases	Outstanding amount, if workable in Audit	No. of cases	Amount outstanding	paid in full	no-recovery	partial recovery		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
1	CR	821	190	9	2.98	601	30.12	12	0.02	610	33.12	23.14	1.10	73.20		
2	ECR	3771	73	17	0.17	3660	3.26	*21	0	3677	3.43	1.94	0.45	97.06		
3	ECoR	1730	16	11	4.06	1694	2.67	*9	0	1705	6.73	0.92	0.64	97.92		
4	ER	522	486	36	2.14	0	0	0	0	36	2.14	93.10	6.90	0.00		
5	NCR	540	255	71	2.87	32	4.09	182	0	285	6.96	47.22	13.15	5.93		
6	NER	6988	0	6988	17.57	0	0	0	0	6988	17.57	0.00	100.00	0.00		
7	NWR	350	141	194	5.11	13	2.09	2	0.01	212	7.21	40.29	55.43	3.71		
8	NFR	6107	874	42	6.52	5191	32.78	0	0	5233	39.3	14.31	0.69	85.00		
9	NR	302	55	0	0	98	508.82	*149	0	98	508.82	18.21	0.00	32.45		
10	SCR	199	174	0	0	25	1.81	0	0	25	1.81	87.44	0.00	12.56		
11	SECR	1349	38	7	21.44	1125	15.24	*179	0	1132	36.68	2.82	0.52	83.40		
12	SER	5944	6	274	1.95	5664	66.65	0	0	5938	68.6	0.10	4.61	95.29		
13	SWR	223	172	23	1.88	21	7.63	7	1.07	51	10.58	77.13	10.31	9.42		
14	SR	471	0	178	3.91	293	5.18	0	0	471	9.09	0.00	37.79	62.21		
15	WCR	91	58	28	0.85	4	4.41	1	0.0018	33	5.2618	63.74	30.77	4.40		
16	WR	771	344	339	18.26	59	2.29	29	0	398	20.55	44.62	43.97	7.65		
17	RPU(DLW)	705	37	4	0.02	662	0.23	*2	0	666	0.25	5.25	0.57	93.90		
TOTAL		30884	2919	8221	89.73	19142	687.27	356+*360	1.1018	27558	778.1018	9.45	26.62	61.98		
Percentage to total			9.45	26.62	11.53	61.98	88.33		0.14	89.23	100.00					

Annexure XXVIII (Para 3.1.5.2)										
Non-execution of agreements										
S. No.	Railway	Total No. of cases of licensing of Railway land	Total No. of licence of agreements executed	No. of cases not available with the Railway	No. of cases not executed at all	No. of agreements due for renewal but not renewed as of 31 March 2011 (out of col. 4)	Period of expiry of agreements as of 31 March 2011 (range in months)	No. of cases in which period of expiry is not known (out of col. 4)	Percentage of cases where agreements were not available	Percentage of cases where agreements were available
1	2	3	4	5	6	7	8	9	10	11
1	CR	821	521	178	122	4	492 to 728	502	36.54	63.46
2	ECR	3771	587	931	2253	14	NA	0	84.43	15.57
3	ECoR	1730	620	973	137	581	1 to 681	0	64.16	35.84
4	ER	522	416	48	58	212	2 to 120	0	20.31	79.69
5	NCR	540	251	0	289	185	4 to 331	0	53.52	46.48
6	NER	6988	2995	0	3993	1731	NA	0	57.14	42.86
7	NWR	350	188	1	161	89	8 to 10	0	46.29	53.71
8	NFR	6107	152	0	5955	11	10 to 224	0	97.51	2.49
9	NR	302	121	30	151	114	2 to 708	0	59.93	40.07
10	SCR	199	124	75	7	68	2 to 36	0	41.21	62.31
11	SECR	1349	1322	0	27	1047	4 to 240	0	2.00	98.00
12	SER	5944	780	0	5164	0	0	0	86.88	13.12
13	SWR	223	85	70	68	1	0	70	61.88	38.12
14	SR (*)	471	445	2	24	33	13 to 72	99	5.52	94.48
15	WCR	91	86	5	0	0			5.49	94.51
16	WR	771	260	453	58	30	1 to 180	72	66.28	33.72
17	RPU (DLW-BSB)	705	701	1	3	696	12 to 360		0.57	99.43
TOTAL		30884	9654	2767	18470	4816		743	68.76	31.26
(*) In SR 178 agreements were under litigation towards revision of license fee, land rent etc.										

Annexure XXIX

(Para 3.1.5.2)

Statement showing non-depositing of earnings received from renting of vacant grounds, community hall, sports grounds, Manoranjan sadan etc. in Railway

S/No.	Railway	Rent charged(₹)	Rent deposited with Railway (₹)	Rent not deposited with Railway (₹)
1	2	3	4	5
1	Central	1699808	95937	1603871
2	East Central	937000	41000	896000
3	East Coast	5234006	0	5234006
4	Eastern	21400000	0	21400000
5	North Central	0	0	0
6	North Eastern	7211471	212181	6999290
7	North Western	16278007	0	16278007
8	Northeast Frontier	5650844	2648277	3002567
9	Northern	1083399	0	1083399
10	South Central	4577936	1414312	3163624
11	South East Central	5505257	0	5505257
12	South Eastern	NA	NA	NA
13	South Western	3800307	0	3800307
14	Southern	NA	NA	NA
15	West Central	16139308	79596	16059712
16	Western	NA	NA	NA
17	Railway Production Unit	NA	NA	NA
	TOTAL	89517343	4491303	85026040

Annexure XXX												
(Para 3.1.5.2)												
Statement showing the cases wherein licensed Railway land was being utilized for purpose other than for which it was licensed/sub-leased without Railways prior permission												
Railways	Name of Licensee	Area of land licensed	Date of licensing	Original Purpose of licensing	Purpose for which land was	Area of land sub-leased and name of the party	Purpose of sub-lease	Rates of license fee applicable for the purpose mentioned in	Whether Railways permission	Amount of license fee (Rupees)		
										Should be recovered	Actually recovered	Difference
1	2	3	4	5	6	7	8	9	10	11	12	13
North Western	Railwaymen's consumer coop. association, Ajmer	5388.06	1925	Functioning of coop. stores	Subletting to private parties	1288.04	Subletting to private parties which were not welfare organisation.	15% cost of land as per Board's letter, dated 17/9/85, 20% cost of land as per Board's letter, dt. 10/2/05 & 8/6/05	No	25869933	52034	25817899
South East Central	1. Shyam Lal	240 sqft	1965	Gen. Shop	0	R.N. Chaurashiya	Cycle Shop	0	0	0	0	0
	2. Smt. R.P. Bai	241 sqft	1965	Gen. Shop	0	S.N. Gupta	Cloth Shop					
	3. Om Parkash	242 sqft	1966	Cloth Shop	0	R.S. Bagga	Gen. Shop					
	4. Arvind Kumar	243sqft	1967	Cloth Shop	0	R.S. Bagga	Gen. Shop					
	5. J.L. Barai	244 sqft	1965	Gen. Shop	0	P. Ingle	Cycle Shop					
	6. Yasoda Bai	13.47	1969	Pan Shop	0	S. Sahu	Cycle Repair					
	7. V.K. Pandey	210 sqft	1968	Auto Shop	0	D.K. Rai	Hardware					
Southern	ONGC	11241 sqm	1990	Laying of oil pipe line	Laying of oil pipe line. But ONGC stopped oil transportation on 31-3-94	11241 sqm BPCL	Storm water disposal system	4.3 crore	No	4.3 crore	0	4.3 crore

Annexure XXXI (Para 3.2.5.2)

Statement Showing the Installed capacity of Workshops

Railway	Workshop	Installed Capacity in Equated units/MT	Remarks
Central	Manmad	13783.92 EU	Fixed in 1991-92 when last modernisation work was done. No further assessment was done even though new plant & Machinery costing ` 4.50 crore was procured on replacement/additional account
East Central	Mughalsarai	3609(2007-08) 4359(2008-09) 4579(2009-10) 4626(2010-11) (in MTs)	In all the years the target for production has been taken as installed capacity. Due to increase in demand, the target was revised upwardly.
Northern	Jalandhar	4100 EU	There has been no change in the installed capacity during the last ten years
Northern	Lucknow	2500 EU	There has been no change in the installed capacity during the last ten years
North Eastern	Gorakhpur	1250 MT	Installed capacity fixed in 1952 was not fixed shop wise but calculated on item wise
North Frontier	Bongaigaon	Installed capacity not fixed	The annual target has been fixed as 750 MT during 2010-11.
Southern	Arakkonam	6456 MT(2007-08) 6396MT(2008-09) 5666MT(2009-10) 4560MT(2010-11)	Installed capacity was injudiciously reduced citing reduced manpower and change in demand.
South Central	Lallaguda	Installed capacity not fixed	The annual target for each shop is fixed by Headquarters and the targets were revised/reviewed every year depending upon the complexity of the work involved.
South Eastern	Sini	Installed capacity not fixed	Installed capacity not fixed. Capacity of different shop is evolved by workshop authority on practical experience as per type and nature of work load, plans, design and drawing of items manufactured.
Western	Sabarmati	Installed capacity not fixed	Installed capacity has not been assessed for a longer period.

Annexure XXXII (Para 3.2.5.2)

Statement showing under utilisation of Capacity

Railway	Workshop	Unit	2007-08				2008-09				2009-10				2010-11				Total loss of production capacity	Total capacity for four years	Capacity utilised	Shortfall	% utilisation
			Actual Capacity	Capacity utilised	Capacity under utilised	Loss of Production Capacity in crore	Actual Capacity	Capacity utilised	Capacity under utilised	Loss of Production Capacity in crore	Actual Capacity	Capacity utilised	Capacity under utilised	Loss of Production Capacity in crore	Actual Capacity	Capacity utilised	Capacity under utilised	Loss of Production Capacity in crore					
Central	Manmad	EU	13784	13582	202		13784	12064	1720		13784	7510	6274		13784	6486	7298		0	55136	39642	15494	71.90
East Central	Mughalsarai	MT	3609	3839	0	0	4359	3606	753	8.81	4579	3997	582	5.79	4626	3762	864	5.11	19.70	17173	15204	2199	88.53
Northern	Jalandhar	MT	2900	2885	15	0.15	2900	3355	0	0	2900	3116	0	0	2900	2464	436	3.51	3.66	11600	11820	451	101.90
Northern	Lucknow	MT	2500	2251	249	2.49	2500	2853	0	0	2500	2815	0	0	2500	2620	0	0	2.49	10000	10539	249	105.39
North Eastern	Gorakhpur	MT	1650	1432	218	2.18	1600	1520	80	0.40	1700	1565	135	1.39	1700	1668	32	0.27	4.24	6650	6185.744	464	93.02
North Frontier	Bongaigaon	MT	1150	613	537	3.88	1150	597	553	6.22	1150	754	396	3.97	1150	603	547	5.58	19.65	4600	2567	2033	55.80
Southern	Arakkonam	EU	7186	5917	1269	12.69	6557	5040	1517	15.17	6470	5026	1444	14.44	6031	4993	1038	41.52	83.82	26244	20976	5268	79.93
South Central	Lallaguda				0				0				0				0		0	0	0	0	0
South Eastern	Sini				0				0				0				0		0	0	0	0	0
Western	Sabarmati				0				0				0				0		0	0	0	0	0
																			133.56	utilisation during 2010-11			
																				47.05			
																				81.32			
																				84.97			
																				104.80			
																				98.11			
																				52.43			
																				82.79			

- Note :
- 1 - In respect of Manmad, since the value of outturn was not available, the loss of production capacity could not be calculated
 - 2 - In respect of Gorakhpur, the estimated capacity was adopted for arriving the underutilisation of capacity
 - 3 - In respect of Bongaigaon, the capacity has been taken as per the work study report, since installed capacity was not fixed.
 - 4 - In respect of Sini, Sabarmati and Lallaguda, installed capacity was not fixed

Annexure XXXIII (Para 3.2.5.2)

Statement showing total outturn in Equated Units

Railway	Workshop	2007-08		2008-09		2009-10		2010-11	
		Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
Central	Manmad	13496	13581.54	13955	12064	7469	7510	10000	6486
East Central	Mughalsarai	5222.54	5263.619	6405.2	6289.15	7301.2	5489.87	6782.2	5501.64
Northern	Jalandhar	3600	3566.38	4263.5	4298.84	4568.5	4511.46	5148.5	3745.95
Northern	Lucknow	2227.3	2287.35	2636.8	3211.596	2919.3	2921.693	2796.88	2532.495
North Eastern	Gorakhpur	1650	1432.133	1600	1520.206	1700	1565.461	1700	1667.944
North Frontier	Bongaigaon	820	728	729	703	639	767	800	661
Southern	Arakkonam	7185.66	5916.544	6556.76	5039.683	6469.57	5025.804	6030.68	4993.197
South Central	Lallaguda	4070	2400.704	3198	3442.74	2351.2	2379.75	2445.2	2717.397
South Eastern	Sini	2330	2358	2650	1521.26	3000	2778.79	3200	3000.27
Western	Sabarmati	1995	2111	1990	2049	2400	2847	2100	2494
Total		42596.5	39645.27	43984.26	40139.475	38817.77	35796.828	41003.46	33799.893

Note - In respect of Lucknow & Jalandhar workshops, out put in equated unit is not calculated. Hence, audit has assessed the out put in equated units based on Sabarmati formula (1990) for comparison purpose.

Annexure XXXIV (Para 3.2.5.2)

Statement showing the pending workorders over 6 months

Railway	Workshop	6 months to 1 year	1 year to two years	2 to 3 years	3 to 4 years	over 4 years	Total	Value in crore	Oldest WO pending from
Central	Manmad	25	42	56	89	116	328	95.76	Aug-97
East Central	Mughalsarai	3	1	4	5	17	30	40.52	Jan-04
Northern	Jalandhar	3	3	0	2	0	8	44.59	Oct-07
Northern	Lucknow	4	0	1	2	1	8	3.84	Feb-07
North Eastern	Gorakhpur	7	8	9	14	39	77	58.55	Feb-99
North Frontier	Bongaigaon	0	2	5	1	6	14	7.64	May-06
Southern	Arakkonam	21	27	31	26	85	190	116.77	Jun-98
South Central	Lallaguda	9	9	6	3	3	30	10.1	Sep-06
South Eastern	Sini	30	13	1	4	0	48	14.56	Aug-07
Western	Sabarmati	0	29	17	10	26	82	26.27	Nov-00
Total		102	134	130	156	293	815	418.6	

Annexure XXXV (Para 3.2.5.3)

Statement showing the Manufacturing cost versus Trade cost for Switches and Joints

Railway	Workshops	Description of item	Quantity Manufactured	Average cost of manufacture in Workshops	Quantity procured from trade	Average cost of procurement from trade	Difference in cost	Excess cost of Manufacture	Manufacturing cost as a percentage of trade cost
Central	Manmad	Switch Expansion Joints 52 Kg, glued joints and curved switches'	Not available		There are no items having cost of Manufacture more than the trade cost in Manmad Workshop				
East Central	Mughalsarai	Switch Expansion Joints 52 Kg	318	104056	195	29411	74645	23737234	4
		Glued Joints 60 Kg	3873	30618	3784	6706	23912	92611176	5
		Glued Joints 52 Kg	3821	27506	1950	6220	21286	81333806	4
Northern	Jalandhar	Glued Joints 52 Kg	680	37249	2468	8795	28454	19348720	4
Northern	Lucknow	Switch Expansion Joint 52 Kg	252	146438	130	35392	111046	27983592	4
North Eastern	Gorakhpur	Switch Expansion Joints 52 Kg, glued joints and curved switches'	NIL	Nil	0		0	0	
North Frontier	Bongaigaon	Switch Expansion Joints 52 Kg,	Not manufactured	Not manufactured	0		0	0	
		Glued Joints 60 Kg					0	0	
		Glued Joints 52 Kg					0	0	
		Curved Switches					0	0	
Southern	Arakkonam	Switch Expansion Joints 52 Kg	666	69303	117	25650	43653	29072632.25	3
		Glued Joint 60 Kg	1218	18326	1020	7315	11011	13411377	3
		Glued Joint 52 Kg	4365	19406	3234	5546	13860	60498956	3
		Curved Switches-T 4866	294	211086	518	58274	152812	44926780.51	4
		Curved Switches-T 4966	27	258557	167	68332	190225	5136076.353	4
		Curved Switches T-4733	73	328369	862	90612	237757	17356259.64	4
		Curved Switches T-4219	117	389644	250	104362	285282	33377996.94	4
		Curved Switches T-5692	28	370829	25	112394	258435	7236192	3
South Central	Lallaguda	Switch Expansion Joints 60/52 Kg,	Manufacturing cost was less than the trade cost for 60/52 Kg SEJs						0
		Curved Switches	Nil	Nil	0.00	Nil	0	0	0
South Eastern	Sini	Switch Expansion Joints 52 Kg,		Nil	0		0	0	0
		Glued Joints 52 Kg	8370.0	6800.0	0		0	0	0
		Curved Switches	Nil	Nil	0		0	0	0
Western	Sabarmati	Switch Expansion Joints 52 Kg,	Out Sourced					0	0
		Glued Joints 60 Kg						0	0
		Glued Joints 52 Kg						0	0
		Curved Switches				Not manufactured					0	0
								456030799	
Say								45.60 crore	

Annexure XXXVI (Para 3.2.5.3)

Statement showing the Manufacturing cost versus Trade cost for Girders

Figures in units of Rupees								
Railway	Workshops	Year	Quantity Manufactured in MT	Manufacturing cost per MT	Trade cost per MT	Difference	Difference in cost per MT	
Northern	Jalandhar	2007-08 to 2010-11	4725	117913	98895	89860050	19018.0	19.23
	Lucknow	2007-08 to 2010-11	2395	118156	98895	46130095	19261.0	19.48
North Eastern	Gorakhpur	2007-08	402.772	90873	58671	12970185	32202.3	54.89
		2008-09	616.749	94522	66429	17326150	28092.7	42.29
		2009-10	830.025	126575	79078	39423514	47496.8	60.06
		2010-11	783.853	133868	74472	46557562	59395.8	79.76
North Frontier	Bongaigaon	2010-11	95	127077	69574	5462777	57502.9	82.65
						257730333	0.0	0.00
East Central	Mughalsarai	2007-08	3062.004	64212	58671	16966564	5541.0	9.44
		2008-09	5028.87	75293	66429	44575904	8864.0	13.34
		2009-10	4216.48	85331	79078	26365649	6253.0	7.91
		2010-11	1328.816	114181	74472	52765955	39709.0	53.32
Southern	Arakkonam	2007-08	514.2	88384	58671	15278425	29713.0	50.64
		2008-09	634.25	114961	66429	30781421	48532.0	73.06
		2009-10	802.4	140895	79078	49601961	61817.0	78.17
		2010-11	809.619	142967	74472	55454853	68495.0	91.97
South Central	Lallaguda	2010-11	186.1	234752	74472	29828108	160280.0	215.22
South Eastern	Sini	2007-08	297.5	76866	58671	5413013	18195.0	31.01
		2008-09	428.5	87965	66429	9228176	21536.0	32.42
		2009-10	190	85000	79078	1125180	5922.0	7.49
		2010-11	27	86888	74472	335232	12416.0	16.67
Western	Sabarmati	2007-08 to 2010-11	8061	90250	69663	165955838	20587.5	29.55
Central	Manmad	2007-08 to 2010-11	There are no items having cost of Manufacture more than the trade cost in Manmad Workshop			0		
						503676278		
Grand Total						761406611		
Say						76.14 crore		

Note:(1) For Mughalsarai, Arakkonam, Sini, Lallaguda & Sabarmati workshop the trade cost is not available. There the rate available for all the four years in respect of Gorakhpur Workshop has been adopted for assessing the excess cost of manufacture.

Annexure XXXVII (Para 3.2.5.4)

Statement showing payment of overtime allowane Vs out turn

Railway	Workshop	2007-08		2008-09		2009-10		2010-11		Total OTA paid
		Out turn in EU	OTA in crore	Out turn in EU	OTA in crore	Out turn in EU	OTA in crore	Out turn in EU	OTA in crore	
Central	Manmad	13581.54	0.71	12064	0.75	7510	0.36	6486	0.17	1.99
East Central	Mughalsarai	5263.619	0.8	6289.15	1.86	5489.87	2.37	5501.64	1.98	7.01
Northern	Jalandhar	3566.38	0.11	4298.84	0.16	4511.46	0.21	3745.95	0.3	0.78
Northern	Lucknow	2287.35	0.13	3211.596	0.16	2921.693	0.07	2532.495	0.17	0.53
North Eastern	Gorakhpur	1432	0	1520	0	1565	0	1668	0	0.00
North Frontier	Bongaigaon	728	0.12	703	0.06	767	0.05	661	0.08	0.31
Southern	Arakkonam	5916.544	0.45	5039.683	0.14	5025.804	0.17	4993.197	0.12	0.88
South Central	Lallaguda	2401	0.36	3443	0.37	2380	0.39	2717	0.64	1.76
South Eastern	Sini	2358	0.05	1521.26	0.07	2778.79	0.06	3000.27	0.14	0.32
Western	Sabarmati	2111	1.64	2049	1.78	2847	2.58	2494	2.15	8.15
Total			4.37		5.35		6.26	33799.552	5.75	21.73

Sabarmati Workshop accounts for 37 % of total OTA paid

Mughalsari workshop account for 32% of total OTA paid

Annexure XXXVIII (Para 3.2.5.5)

Statement showing inactive Stores lying idle				
Railway	Workshops	No. of inactive items	Value (in crore)	Remarks
Central	Manmad	4	0.23	Items became in active due to change
East Central	Mughalsarai	16	0.08	
Northern	Jalandhar	17	0.15	
North Frontier	Bongaigaon	19	0.04	Items not required
Southern	Arakkonam	29	1.18	Items not required
South Central	Lallaguda	19	0.11	Suitable work orders not received
South Eastern	Sini	3	0.01	Items not required
Western	Sabarmati	1	0.03	Items not required
Total		108	1.83	

Annexure XXXIX (Para 3.2.5.5)

Statement showing over stocked materials as on 31st March 2011			
Railway	Workshops	No. of items	Value (in crore)
Northern	Jalandhar	30	0.10
North Frontier	Bongaigaon	10	0.02
Southern	Arakkonam	17	0.08
South	Sini	8	0.06
Western	Sabarmati	10	0.11
Total		75	0.37

Annexure XL (Para 3.2.5.6)

Statement showing excess WMS balance over and above the prescribed percentage

Railway	Workshops	Credit/Outturn during		WMS balance as on		WMS balance to be maintained @ 6% of credit/outturn as per norms		Excess WMS balance	
		2009-10	2010-11	31st March 2010	31st March 2011	2009-10	2010-11	2009-10	2010-11
East Central	Mughalsarai	397625000	222297000	85164000	78080000	23857500	13337820	61306500	64742180
North Eastern	Gorakhpur	190608000	188415000	78808000	101806000	11436480	11304900	67371520	90501100
North Frontier	Bongaigaon	75550376	61484655	24945925	54546410	4533023	3689079	20412902	50857331
Southern	Arakkonam	538264352	454529955	89274000	54405000	32295861	27271797	56978139	27133203
South Central	Lallaguda	98409562	129765394	33730532	70277662	5904574	7785924	27825958	62491738
South Eastern	Sini	102951731	99545824	145740000	185909000	6177104	5972749	139562896	179936251
								373457916	475661802

Avoidable Payment of Dividend @ 6% 22407475 28539708

Say **2.24 cr.** **2.85 cr.**

Annexure XLI (Para 3.3.5.1)
Railway Safety Fund account year by year since 2001-02

(In Crore of Rupees)

Year	Balance as on 31st March	TWFA	Balance as on 1st April	Appropriation from Surplus	Appropriation to fund	By transfer from Major head 3005	Total (Col. 5 to 7)	Withdrawal	Closing Balance	Percentage of utilisation w.r.to availability of funds
1	2	3	4	5	6	7	8	9	10	11
2001-02	0	226.84	226.84	0	301.73	2.74	304.47	139.27	392.04	61%
2002-03	392.03	0	392.03	0	265.85	0	265.85	163.19	494.69	42%
2003-04	494.69	0	494.69	0	432.70	2.74	435.44	165.82	764.31	34%
2004-05	764.31	0	764.31	132.46	400.78	2.57	535.81	201.15	1098.97	26%
2005-06	1098.96	-60.37	1038.59	67.54	710.30	2.57	780.41	261.73	1557.27	25%
2006-07	1557.26	0	1557.26	0	710.39	2.57	712.96	359.48	1910.74	23%
2007-08	1910.75	0	1910.74	0	724.69	2.57	727.26	533.35	2104.65	28%
2008-09	2104.66	0	2104.65	0	773.90	2.61	776.51	565.08	2316.08	27%
2009-10	2316.08	0	2316.08	0	1068.75	2.61	1071.36	805.24	2582.20	35%
2010-11	2582.2	-0.01	2582.19	0	932.81	2.61	935.42	1100.27	2417.34	43%
							6545.49	4294.58		

[Source: Indian Railways Appropriation Accounts Part-II Detailed Appn Accts]

OB	226.84	
Accretions	6545.49	
TWFA	-60.38	
Total	6711.95	
Withdrawal	4294.58	64%
CB	2417.37	

PH 29 : 2006-07 to 2010-11 (All Rlys except SECR)

Railway	BG	Actuals	Surrender of funds- BG less Actuals	%-age of surrender with reference to BG
CR	186.10	91.03	95.07	51%
ECoR	119.92	40.56	79.36	66%
ECR	166.47	66.19	100.28	60%
ER	36.64	39.41	-2.77	-8%
NCR	118.69	34.48	84.21	70.95%
NER	123.55	54.40	69.15	56%
NFR	135.10	98.43	36.67	27%
NR	257.30	192.12	65.18	25%
NWR	206.84	77.08	129.76	63%
SCR	247.93	216.26	31.67	13%
SER	100.63	34.10	66.53	66%
SR	184.60	86.64	97.96	53%
SWR	149.16	42.68	106.48	71.39%
WCR	139.86	55.60	84.26	60%
WR	144.29	95.09	49.20	34%
Grand Total	2317.07	1224.06	1093.01	

PH 30 : 2006-07 to 2010-11 (All Rlys except SECR)

Railway	BG	Actuals	Surrender of funds- BG less Actuals	%-age of surrender with reference to BG
CR	99.44	39.47	59.97	60%
ECoR	205.96	55.32	150.63	73%
ECR	554.34	264.30	290.04	52%
ER	154.98	58.14	96.84	62%
NCR	205.55	67.42	138.13	67%
NER	76.33	35.29	41.04	54%
NFR	50.51	34.47	16.04	32%
NR	493.23	496.18	-2.95	-1%
NWR	175.58	108.67	66.91	38%
SCR	308.43	204.16	104.27	34%
SER	92.33	44.94	47.39	51%
SR	365.49	259.16	106.33	29%
SWR	248.28	96.02	152.26	61%
WCR	134.56	61.00	73.56	55%
WR	157.78	86.83	70.95	45%
Grand Total	3322.79	1911.38	1411.41	

Chapter 3 Engineering - Open Line and Construction

Annexure XLII (Para 3.3.5.2) Manned LCs provided with Interlocking as on 1st April 2010					Annexure XLIII (Para 3.3.5.2) Manned LCs provided with Lifting Barriers, Telephones, FOBs and TAWD as on 31.03.2011							
Railway	Total Manned LCs requiring Interlocking (TVU > 25000)	No. of LCs Interlocked (out of Col. 2)	No. of Manned LCs where interlocking work is in progress (Out of Col.2)	Balance Manned LCs yet to be interlocked	Number of Manned LCs	No. of LCs where LB has been provided	Number of Manned LCs still required to be provided with LB	No. of Manned LCs where Telephone has been provided	Number of Manned LCs still required to be provided with	No. of LCs identified for provision of FOB during the	No. of LCs where FOB has been provided (Out of Col. 7)	
1	2	3	4	5	2	3	4	5	6	7	8	
CR	327	241	42	44	904	904	0	904	0	Nil	Nil	
ECOR	189	147	18	24	535	535	0	535	0	Nil	Nil	
ECR	416	320	54	42	1029	910	119	983	46	Nil	Nil	
ER	397	338	NotAv	NotAv	938	834	104	889	49	Nil	Nil	
NCR	385	311	48	26	1035	593	0	1035	0	Nil	Nil	
NER	630	582	30	18	1065	963	102	1065	0	Nil	Nil	
NFR	266	227	0	39	806	806	0	806	0	Nil	Nil	
NR	1057	697	56	304	2661	2281	380	2536	125	14	1	
NWR	410	290	17	103	1406	1242	5	1202	204	Nil	Nil	
SCR	489	421	11	57	1257	1257	0	1188	69	Nil	Nil	
SECR	316	273	15	43	509	193	316	522	0	Nil	Nil	
SER	379	337	42	0	489	489	0	484	5	Nil	Nil	
SR	668	574	25	69	1774	551	117	1774	0	2	Nil	
SWR	243	241	10	2	681	338	0	624	57	Nil	Nil	
WCR	211	188	26	2	851	851	0	851	0	1	Nil	
WR	1016	954	62	42	1745	1008	737	1745	0	Nil	Nil	
Total	7399	6141	456	815		13755	1880	17143	555	17	1	
Note: In respect of SECR, SWR, WCR and WR the figures shown under Col.4 and 5 also includes LCs having TVU less than 25000.							15635					

Chapter 3 Engineering - Open Line and Construction

Annexure XLIV (Para 3.3.5.3)						
Continued operation of LC as a result of non commencement/non completion of ROB/RUB work						
Railway	Number of ROB/RUB	Period sanctioned	Estimated Cost (₹ in Crore)		Period of delay from ___ months to ___ months	Total delay in completion (as of 31/03/2011 in all works in months)
			Railway	State Government		
1	2	3	4	5	6	7
CR	12	1996-97 to 2006-07	60.33	60.27	24 to 144	708
ECOR	3	2006-07	14.61	16.13	24	72
ECR	33	1997-98 to 200708	303.83	397.95	12-132	1581
ER	26	1992-93 to 2005-06	116.24	163.54	36 - 133	2182
NCR	9	1998-99 to 2007-08	71.76	79.49	12-120	360
NER	7	1998-99 to 2006-07	49.54	54.68	24-120	348
NFR	5	1995-96 to 2005-06	63.30	78.73	36-156	396
NR	30	1999-00 to 2007-08	238.35	372.88	12-132	1164
NWR	8	2001-02 to 2007-08	49.13	77.57	2 to 42	138
SCR	41	1990-91 to 2007-08	327.01	526.30	12 to 216	1440
SECR	4	2003-04 to 2006-07	21.14	28.52	24-60	144
SER	13	2000-01 to 2007-08	94.80	112.17	12 to 96	1116
SR	132	2000-01 to 2007-08	804.02	813.97	12-108	5316
SWR	3	2006-07 to 2007-08	14.65	14.80	12 to 24	60
WCR	5	1996-97 to 2007-08	20.47	43.16	24-96	313
WR	7	1986-87 to 2007-08	31.25	49.49	12-264	552
Total	338		2280.43	2889.65		15890
Pay Band for Gatekeepers: ₹ 5200-20200						
Mean Pay					12700	
Grade Pay: ₹1800						1800
Mean Pay+GP per month per person					14500	
Mean Pay+GP per month for 3 person (3 shifts)					43500	
				691215000	69.12 Crore	

Annexure XLV (Para 3.3.5.3)

Statement showing the details of abnormal increase in the cost of the project due to time overrun (Rupees in crore)

Railway	Name of the ROB/RUB WORK	Year of Sanction	Cost as per Abstract Estimate	Date of sanction of Abstract Estimate	Cost as per Detailed Estimate	Date of sanction of Detailed Estimate	Expenditure Incurred upto 31.03.11	Cost over run - Difference between Detailed Estimate and Abstract Estimate (Col. 6 - Col.4)	Time over run, in months (Diff. bet. Col.7 & 5)*
1	2	3	4	5	6	7	8	9	10
Works sanctioned during the review period									
CR	Mangalwari-Amla- ROB in lieu of L Xing no.297/A. Kms 1041/3-5. ET-NGP sec. NGP Div.	2006-07	8.67	2006-07	11.66	15/12/2006	3.43	2.99	8
CR	Warora ROB in lieu of L-xing No. 28 B. Kms 831/13-15. near Warora WR-BPQ sec. NGP Divn.	2006-07	8.31	2006-07	10.15	15/12/2006	1.78	1.84	8
CR	Kalamboli ROB in lieu of level Xing No.14 at Km61/4-5 between Diva-Panvel section.BB divn.	2008-09	7.71	3/13/2008	GAD approved by Railways				
CR	Khanda -ROB in lieu of level xing No. 16 at km.66/ 1-2-betDivapanel section.BB Divn.	2008-09	10.79	2008-09	Entire work to be executed CIDCO				
CR	Kharigaon ROB near Rly- Xing No.28C at Km.36/5-6 between Kalwa - Mumbra sta.	2008-09	3.38	2008-09	Detailed estimate not available				
CR	Nargaoon ROB in lieu of LC Gate No. 32 (Lonavla ROB)	2010-11	7.74	2010-11	New Work				
CR	Rajapath ROB in lieu of L Xin no. S-5	2010-11	11.1	2010-11	New Work				
ECOR	ROB (1) Bobbili-Sithanagaram ROB in lieu of level crossing at Km.402/4-5, LC No.294 on NH-43	2006-07	4.8915	NA	Detailed estimate not available		4.3228		
ECOR	ROB (2) Gomda-Parvathipuram:ROB in lieu of level crossing at Km.387/7-8, L.C.No.RV-281 on MDR	2006-07	3.8529	NA	Detailed estimate not available		2.7191		
ECOR	ROB (3) Kantakapalli - Almunda ROB in lieu of levelcrossing No.ML-475 between Km.843/3-5 on MDR	2006-07	5.867	NA	Detailed estimate not available		4.2167		
ECOR	RUB (1)Rayagada-Ladda:RUB in lieu of existing unmanned level crossing No.RV-251	2006-07	0.2995	NA	Detailed estimate not available		0.41		
ECOR	(2) RUB in lieu of closin of cabin operated LC at Km. 332/10-11 in bet. THV-SPRD stationed at RV Line (TVU 9865)	2007-08	0.4351	NA	Detailed estimate not available		0.4999		
ECOR	(3) RUB in lieu of closing of cabin operated LC at Km.424/4 in bet VBL-DNV stations on RV line (TVU-7770)THV-SPRD stations on RV line (TVU-9865)	2007-08	0.4772	NA	Detailed estimate not available		0.7567		
ECR	ROB at LC No. 22 special- NKE yard	2007-08	12.66	NA	Detailed estimate yet to be prepared		NIL		
ECR	ROB at LC No 50 Bugha yard	2007-08	12.23	NA	Detailed estimate yet to be prepared		NIL		
ECR	ROB at LC No.159-A spl.-Jivdhar-Motihari	2007-08	12.23	NA	Detailed estimate yet to be prepared		NIL		
ECR	ROB at LC No.31-NKE-Harinagar	2007-08	12.23	NA	Detailed estimate yet to be prepared		NIL		
ECR	ROB at LC No.23-B-Khagaria	2007-08	17.44	NA	Detailed estimate yet to be prepared		NIL		
ECR	ROB at LC No. 3/Spl-Hajipur-MFP	2008-09	13.8	NA	Detailed estimate yet to be prepared		NIL		
ECR	ROB at LC No. 47-B-Begusarai - Tilrath	2008-09	13.8	NA	Detailed estimate yet to be prepared		NIL		
ECR	ROB at LC No. 35-Phulwarisarif-Danapur	2008-09	30.91	NA	Detailed estimate yet to be prepared		NIL		
ECR	ROBat LC No. 53A-Kauria halt-Bibia	2008-09	29.89	NA	Detailed estimate yet to be prepared		NIL		
ECR	ROB at LC No. 50-Spl./T-Chota ambana- Pradhankhunta	2010-11	16.37	NA	Detailed estimate under preparation		NIL		
ECR	ROB at LC No. 2/Spl.-Bhuli-Tetulmari	2010-11	19.97	NA	Detailed estimate under preparation		NIL		
ECR	ROB at LC No. 3-B/2 T Katrasgarh-Nichitpur	2010-11	15.76	NA	Detailed estimate not sanctioned		NIL		
ECR	ROB at LC No. 1-B/2E-Katrasgarh-Nichitpur	2010-11	15.49	NA	Detailed estimate under finance vetting		NIL		
ECR	LHS/ROB at LC No. 61-Barauni-Tilrath	2010-11	21.72	NA	Detailed estimate yet to be prepared		NIL		
ER	Miyapur ROB in replacement of existing L-xing no. 23/B/T near Jangipur Road	2007-08	13.7	08.04.2010	13.7	17.06.2010	2.16	0	2
ER	SDAH division- New ROB No. 66A (BARODA Bridge) with composite	2007-08	Only Part estimate has sanctioned.						

Railway	Name of the ROB/RUB WORK	Year of Sanction	Cost as per Abstract Estimate	Date of sanction of Abstract Estimate	Cost as per Detailed Estimated	Date of sanction of Detailed Estimate	Expenditure Incurred upto 31.03.11	Cost over run - Difference between Detailed Estimate and Abstract Estimate (Col. 6 - Col.4)	Time over run, in months (Diff. bet. Col.7 & 5)*
1	2	3	4	5	6	7	8	9	10
ER	Howrah Replacement of Chandmari Road Over Bridge	2009-10	Only Part estimate has sanctioned.						
ER	Howrah Division- Replacement of Benaras Road over bridge by cable	2010-11	Detailed estimate has not yet been sanctioned.						
ER	BARDHMAN- Rebuilding of bridge No. 213 in platform vard area	2009-10	Detailed estimate has not yet been sanctioned.						
ER	Brace Bridge Santoshppur- ROB in lieu of L.Xing No.5/A/T in Sealdah	2010-11	No estimate has yet been sanctioned.						
ER	SDAH Divn. 2 lane ROB in	2010-11	No estimate has yet been sanctioned.						
NCR	Allahabad-Kanpur-ROB in lieu of L.Xing no. 48.	2006-07	14.44	31/1/06	17.48	17/3/08	4.03	3.04	25
NCR	Allahabad-Kanpur-ROB in lieu of L.Xing no. 81-D.	2006-07	12.52	1/2/2006	11.75	17.10.2007	4.93	Nil	20
NCR	Mathura-Palwal-ROB in lieu of L.Xing no. 532	2006-07	14.07	NA	5.03(R)	25.6.2008	4.16	NA	26
NCR	Chunar- Mughalsarai- ROB in lieu of L.Xing no. 119-B	2007-08	22.04	16/3/07	33.2	4/8/2008	6.79	11.16	12
NCR	Allahabad-Kanpur- ROB in lieu of L.Xing no. 62-A	2007-08	19.18	26/9/06	22.53	1/2/2008	12.99	3.35	15
NCR	Tundla Yard- ROB in lieu of L.Xing no. 72	2007-08	13.3	5.5.2010	12.83	31.01.2011	0.94	Nil	8
NCR	Agra- Jhansi- ROB in lieu of L.Xing no. 463	2007-08	13.16	18.10.2006	14.17	26.3.2008	1.41	1.01	16
NCR	Shyamnagar- ROB in lieu of L.Xing no. 77	2008-09	15.47	15/2/08	13.2	13/8/08	3.35	Nil	5
NCR	Manzurgarhi- Harduaganj- ROB in lieu of L.Xing no. 86-B	2008-09	16.86	26.5.2008	19.42	8.6.2010	0.086	2.56	24
NCR	Mirzapur- Vindyalchhal-ROB in lieu of L.Xing No.7B	2008-09	25.53	26.5.2008	Detailed estimate not available		0	Nil	
NCR	Shikohabad- Baitkeshwar Road- ROB in lieu of L.Xing No.51 Spl	2008-09	29.23	28/5/08	16.03(R)	12/7/2010	0.0002	NA	30
NCR	Fatehpur-Bindki Road- ROB in lieu of L.Xing No.55-A	2008-09	17.18	28/5/08	25.55	11/1/2010	0.62	8.37	29
NCR	Mathura City- ROB in lieu of L.Xing No.528	2008-09	6.56(R)	29.6.2009	9.33(R)	3.6.2010	0.02	2.77	11
NCR	Sikandra- ROB in lieu of L.Xing No. 503	2008-09	14.12	3.5.2008	26.6	3.6.2010	0	12.48	24
NCR	Hathras City- Jaleshar City- ROB in lieu of L.Xing No.90-C	2008-09	8.51	25.5.2008	12.4	9.9.2010	0.0094	3.89	27
NCR	Sasni- Vijaygarh- ROB in lieu of L.Xing No.99-B	2008-09	17.7	26.5.2008	17.2	8.6.2010	0.013	Nil	24
NCR	Aligarh Jn- Bareilly Jn- ROB in lieu of L.Xing no. 83-C	2008-09	Not available		Detailed estimate not available				
NCR	Gwalior- Agra Cantt. - ROB in lieu of L.Xing No. 477-A	2008-09	14.52	NA	15.27	7.7.2010	0	0.75	27
NCR	Hanuman Chowki- Nadoni- ROB in lieu of L.Xing no.102-C	2008-09	17.7	26.5.2008	17.57	8.6.2010	0.0072	Nil	24
NCR	Jhansi- Kanpur- ROB in lieu of L.Xing No. 147	2008-09	12.3	28.1.2008	22.91	19.3.2010	0	10.61	25
NCR	Jhansi- Agra- ROB in lieu of L.Xing No. 492-C	2008-09	6.38(R)	NA	6.42(R)	19.7.2010	0	0	27
NCR	Wair- Dankaur- ROB in lieu of L.Xing No. 139-B	2008-09	17.44	26.5.2008	20.76	21.4.2010	0.89	3.32	22
NCR	Manzurgarhi- Harduaganj- ROB in lieu of L.Xing No. 84	2008-09	16.42	3.1.2008	19.94	8.6.2010	0	3.52	28
NCR	Manzurgarhi- Harduaganj- ROB in lieu of L.Xing No. 85-B	2008-09	Not available		Detailed estimate not available				
NCR	Dadanagar- ROB in lieu of L.Xing No. 240-A	2008-09	16.05	9/5/2008	19.44	12/7/2010	0.63	3.39	26
NCR	Khapra Mohal- ROB in lieu of L.Xing No. 83-D	2008-09	25.5	26/5/08	8.36(R)	12/7/2010	0	NA	30
NCR	Phaphund- ROB in lieu of L.Xing No. 8-B	2008-09	21.36	28/5/08	11.43(R)	12/7/2010	0	NA	30
NCR	Mirzapur- ROB in lieu of L.Xing No. 6-A	2008-09	23.62	28/5/08	24.09	11/6/2010	0	0.47	29
NCR	Naini- ROB in lieu of L.Xing No. 35-B	2008-09	22.08	12/5/2008	23.97	11/6/2010	0.23	1.89	22
NCR	Agra- Jhansi- ROB in lieu of L.Xing No. 472-C	2008-09	15.19	NA	15.19	5.8.2010	0	0	28
NCR	Mathura- Palwal- ROB in lieu of L.Xing No. 553.	2009-10	6.6(R)	NA	8.32(R)	21.6.2010	0.02	1.72	14
NCR	Banda- ROB in lieu of L.Xing No. 454-A	2009-10	31.06	21.4.2009	40.08	20.7.2010	0.0057	9.02	14
NCR	Agra- ROB in lieu of L.Xing No. 502 near Guru Ka Tal.	2009-10	11.17	1.9.2008	13.97	10.9.2009	0.43	2.8	11
NCR	Rohta- Runkata Road- ROB in lieu of L.Xing No. 491-C	2009-10	12.02	18.4.2009	11.39	5.3.2010	0.0064	Nil	10
NCR	Aligarh- Mehrawal- ROB in lieu of L.Xing No. 111-A	2010-11	Not available		Detailed estimate not available				

Railway	Name of the ROB/RUB WORK	Year of Sanction	Cost as per Abstract Estimate	Date of sanction of Abstract Estimate	Cost as per Detailed Estimated	Date of sanction of Detailed Estimate	Expenditure Incurred upto 31.03.11	Cost over run - Difference between Detailed Estimate and Abstract Estimate (Col. 6 - Col.4)	Time over run, in months (Diff. bet. Col.7 & 5)*
1	2	3	4	5	6	7	8	9	10
NCR	Khurja- Sikandarpur- ROB in lieu of L.Xing No.129-B	2010-11	20.22	15.4.2009	Detailed estimate not prepared		0	0	
NCR	Jigna- Manda Road- ROB in lieu of L.Xing No. 15-C	2010-11	22.36	15.4.2009	27.98	29.9.10	0	5.62	16
NCR	Wair- Dankaur- ROB in lieu of L.Xing No.136-B	2010-11	20.07	15.4.2009	23.41	13.9.2010	0.015	3.34	16
NCR	Sikandarpur- Chola- ROB in lieu of L.Xing No. 131-B	2010-11	20.01	15.4.2009	23.29	13.9.2010	0	3.28	16
NCR	Kulwa- Somna- ROB in lieu of L.Xing No. 120-B	2010-11	21.9	15.4.2009	Detailed estimate not prepared		0	0	
NCR	Kulwa- Somna- ROB in lieu of L.Xing No. 119-B	2010-11	21.9	15.4.2009	22.61	11.1.2011	0	0.71	20
NCR	Shikohabad- Makhanpur- ROB in lieu of L.Xing No. 56B	2010-11	23.18	21/4/09	Detailed estimate not prepared		0	0	
NCR	Runkata- Kitham- ROB in lieu of L.Xing No. 509	2010-11	14.12	23.6.2008	Detailed estimate not prepared		0	0	
NCR	Sasni- Mandrak- ROB in lieu of L.Xing No. 100-C	2010-11	23.05	14.6.2009	23.19	10.6.2011	0	0.14	23
NCR	Hathras- Sasni- ROB in lieu of L.Xing No. 96-C	2010-11	17.7	26.5.2008	Detailed estimate not prepared		0	0	
NCR	Mitawali- Barhan- ROB in lieu of L.Xing No. 78-C	2010-11	19.58	27.5.2008	Detailed estimate not prepared		0	0	
NCR	Barhan- Chamraula- ROB in lieu of L.Xing No. 81-C	2010-11	23.18	19.4.2009	Detailed estimate not prepared		0	0	
NCR	Kulwa- Somna- ROB in lieu of L.Xing No. 115-C	2010-11	17.13	15.4.2009	20.1	11.3.2011	0	2.97	22
NCR	Hathras City- Ladpur Road- ROB in lieu of L.Xing No. 94-C	2010-11	17.84	18.4.2009	Detailed estimate not prepared		0	0	
NCR	Bhandai- Agra Cantt.- ROB in lieu of L.Xing No. 490-C	2010-11	6.76(R)	NA	6.42(R)	19.07.2010	0	0	3
NER	ROB in lieu of LC No. 29 between Azamgarh Sarai Rai Road	2006-07	12.04	13.04.2007	9.23	29.09.2009	0.78		28
NER	ROB in lieu of LC No. 161 between Gorakhpur Domingarh	2006-07	20.51	21.11.2007	19.47	11.06.2009	2.87		18
NER	ROB in lieu of LC No. 163 between Gorakhpur Domingarh	2006-07	20.8	10.09.2007	19.7	11.06.2009	0.0009		20
NER	ROB in lieu of LC No. 8C between Saleempur-Lar road	2008-09	10.43	29.03.2007	16.18	29.09.2009	2.87		29
NER	ROB in lieu of LC No. 42 between Baharaich-Risia	2008-09	11.23	19.03.2009	18.24	19.11.2009	0		7
NER	ROB in lieu of LC No. 169 Spl between Sahjanwah-Maghar	2008-09	11.06	08.02.2011	Detailed estimate not prepared		0		
NER	ROB in lieu of LC No. 213-B between Tinich-Gaur	2008-09	11.01	14.01.2008	15.43	19.03.2008	0		1
NER	ROB in lieu of LC No. 139-A between Gauri Bazar-Chauri Chaura	2008-09	10.63	14.01.2008	Detailed estimate not prepared		0		
NER	ROB in lieu of LC No. 192-Spl between Orwar-Basti	2008-09	11.5	19.03.2009	Detailed estimate not prepared		0		
NER	ROB in lieu of LC No. 178 A Maghra-Khalilabad	2008-09	10.01	19.08.2009	Detailed estimate not prepared		0		
NER	ROB in lieu of LC No. 201 between Basti	2008-09	11.51	19.03.2009	Detailed estimate not prepared		0		
NER	ROB in lieu of LC No. 120 Sp between Lakhimpur-Khri	2008-09	10.88	14.01.2008	19.48	25.03.2011	0.01		37
NER	ROB in lieu of LC No. 199 A between Basti-Gorakhpur	2009-10	12.89	15.09.2009	Detailed estimate not prepared		0		
NER	ROB in lieu of LC No. 102 between Ziridei-Mairwa	2006-07	9.26	07.01.2011	Detailed estimate not prepared		0		
NER	45-A-B Chhapra Kachhery-Golden Gang	2008-09	12.35	17.02.2008	Detailed estimate not prepared		0		
NER	ROB in lieu of LC No. 17-C between Hatuwa-Thawe	2008-09	12.67	18.02.2008	Detailed estimate not prepared		0		
NR	Bhatinda - Road over bridge in lieu of level crossing No.242	2006-07 (Suppl.)	20.77	Dec.06	24.19	Jun-08	8.34	3.42	17
NR	Hapur - ROB in lieu of L-xing No.41 Spl & 74-Spl.	2006-07	18.4	01.04.06	32.11	13.05.08	4.16	13.71	24
NR	Ghaziabad-ROB in lieu of L-xing No.4-C	2006-07	17.8	01.04.06	20.26	21.09.07	3.29	2.46	16
NR	Rampur-Road over bridge at level crossing No.413-A (2 lane)	2007-08	12.85	1.4.07	17.52	Dec.10	0	4.67	43
NR	Delhi-Ambala - ROB in lieu of LC No. 88 Spl near Kurukshetra	2008-09 Suppl.	46.35	19.11.08	49.48	Jan-10	0.55	3.13	13
NR	Delhi-Ambala - Road over bridge in lieu of LC No. 21 near Sonapat	2009-10	40.8	01.12.08	62.96	Jan-11	N.A.	22.16	25
NR	Delhi-Ambala - Road over bridge in lieu of LC No.29-C near Sonapat	2009-10	24.86	01.04.09	35.69	Jan-11	N.A.	10.83	21
NR	Budhlada - Road over bridge in lieu of L-xing No.194	2009-10	29.87	01.04.09	44.56	Apr-10	0.3	14.69	11

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1	2	3	4	5	6	7	8	9	10
NR	Mohri-Ambala Cantt. - Road under Bridge in lieu of Level Crossing no.103-A	2010-11	3.56	12.10.09	6.07	Feb-11	0	2.51	15
NR	Ludhiana-Dhuri - Road Over Bridge in lieu of Level Crossing no.40-B near Maler Kotla	2010-11	20.76	01.04.10	50.06	Apr-11	0	29.30	11
NR	Meerut City - ROB in lieu of LC No.26A (30138)	2006-07	21.60	01.04.2006	26.47	19.09.2007	3.98	4.87	16
NR	ROB in lieu of LC No. 30-A near MTC Yard	2006-07	17.35	01.04.2006	25.3	05.03.2008	4.65	7.95	22
NR	Tohana- ROB in lieu of LC No.162-C (2 lane) (30158)	2007-08	18.09	01.04.2007	19.89	12.06.2008	7.09	1.80	13
NR	Nandnagari - Shahdara- ROB in lieu of LC No.1-C (30198)	2008-09	42.75	01.04.2008	49.4	05.06.2009	11.01	6.65	13
NR	Kirti Nagar RUB in lieu of LC No. 8-C	2008-09	11.11	01.04.2008	22.54	1.10.2010	11.89	11.43	29
NR	Badkhal Road - Widening of ROB	2008-09	9.05	01.04.2008	10.99	26.06.2009	4.82	1.94	13
NR	Mukerian - ROB in lieu of LC No.B110	2009-10	26.73	01.04.2009	31.36	05.07.2010	4.52	4.63	14
NR	FD- Yard- ROB at Xing No. 120-A at Km.967/080	2006-07	5.61	1/4/2006	6.42	25/02/08	4.9	0.81	24
NR	RBL- ROB at XingNo. 176-A, at Km.1026/7-8	2006-07	5.85	1/4/2006	5.85	16/12/08	5	0.00	34
NR	SLN-PBH- ROB at crossing No. 84-B near Chibila	2007-08	5.79	1/4/2007	5.79	21/12/08	6.06	0.00	22
NR	RBL- ROB at XingNo. 150-A,	2008-09	5.67	1/4/2008	8.86	5/6/2009	3.33	3.19	15
NR	LKO- CNB central- ROB at Xing No. 42 near Ganga Ghat, Kanpur.	2009-10	3.31	1/4/2009	4.98	28/03/11	0	1.67	25
NR	SLN-ZBD: ROB at XingNo.74-B(2 lane).	2010-11	3.06	1/4/2010	4.38	27/04/11		1.32	14
NR	SLN-ZBD: ROB at Xing No.75-B, near Sultanpur (2 lane)	2010-11	4.94	1/4/2010	7.81	27/4/11	0	2.87	14
NWR	Sirsa - ROB in lieu of LC No. 143 at km 223/14-15	2006-07	6	2006-07	16.687	15.05.08	6.82	10.687	25
NWR	Palanpur-Ajmer - ROB in lieu of LC No.134-B at KM 601/7-8	2007-08	4.608	2007-08	8.032	29.07.10	4.14	3.424	39
NWR	Jaipur-Ajmer - ROB in lieu of LC No.28 at Km. 266/8-9	2007-08	5.382	2007-08	6.588	03.07.07	3.73	1.207	3
NWR	Jaipur-Bandikui- ROB in lieu of LC No.181-B at Km. 179/10-11	2007-08	5.037	2007-08	1.68	03.05.07	1.43	Nil	1
NWR	RE-HSR - ROB in lieu of LC No. 53-C at Km 82/13-14	2007-08	6.39	2007-08	7.507	27.07.09	1.79	1.117	27
NWR	Ajmer-Chittaurgarh- ROB in lieu of LC No.63-C at Km. 135/2-3	2007-08	4.84	2007-08	6.692	08.04.08	3.80	1.852	12
NWR	RE-SDLP- ROB in lieu of LC No. C 100/2 at km 133/11-12 (MHRG)	2007-08	6.802	2007-08	10.23	15.07.08	7.34	3.428	15
NWR	RE-HSR- ROB in lieu of LC No. 33 km. 54/13-14 (CKD)	2007-08	7.06	2007-08	10.932	01.12.08	7.28	3.872	20
NWR	BKN-LGH- ROB in lieu of LC No. 138 at KM 321/12-13 (BKN)	2007-08	7.18	2007-08	10.154	11.09.08	9.52	2.974	17
NWR	Ajmer-Sardhana - ROB in lieu of LC No.5-A/2E at KM 306/9-10	2007-08	4.18	2007-08	7.571	17.07.08	3.51	3.391	15
NWR	RE-HSR-BTI - ROB in lieu of LC No.19-C (2 lane) at km 20/1-2 (Kosli)	2008-09	8.839	2008-09	9.831	13.03.09	4.61	0.993	11
NWR	Nagaur-Basani Road - ROB in lieu of LC No.63-C (2 lane) at KM 578/1-2	2008-09	4.39	2008-09	6.047	11.02.09	5.84	1.657	10
NWR	KMNC-makrana - ROB in lieu of LC No.36-C (2 lane) at KM 64/1-2	2008-09	4.405	2008-09	5.74	07.01.09	4.90	1.335	9
NWR	Alwar - ROB in lieu of LC No.111-C (4 lane) at KM 71/3-4	2008-09	3.684	2008-09	5.898	08.09.08	1.81	2.214	5
NWR	JU-Samdari-Barmar - ROB in lieu of LC No.325-C at Km. 834/118	2008-09	5.857	2008-09	9.125	17.06.10	0.01	3.268	26
NWR	BKN - ROB in lieu of LC No.139 (2 lane) at KM 322.30 (BKN)	2008-09	5.559	2008-09	7.31	29.10.09	0.06	1.751	18
SCR	NANDED station yard Rebuilding of ROB No.356A at Shivaji nagar bet. MUE - NED sec. LC No.356-A	06-07	9.28	2005	16.32	2009	6.51	7.04	48
SCR	KAKINADA - KAKINADA PORT bet.CO.A - SLO sec. LC No.9	06-07	18.45	2007	18.75	2008	5.41	0.3	12
SCR	DORNAKAL - PAPATA-PALLI bet.KZJ- BZA sec. LC No.92	06-07	NA	2007	Detail not available		7.29	NA	
SCR	RAJAMPET YARD bet.RU - GTL sec. LC No. 103T	06-07	NA	2005	Detail not available		5.01	NA	
SCR	BAYYA-VARAM - ANAKA-PALLI bet.BZA - VSKP sec. LC No. 483E	06-07	NA	2005	Detail not available		6.03	NA	

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1	2	3	4	5	6	7	8	9	10
SCR	BIKKA VOLU bet.BZA - VSKP sec. LC No.417	06-07	NA	2005	Detail not available		5.15	NA	
SCR	CHERLA PALLI- GHATKESAR bet.SC - KZJ sec. LC No.13	06-07	NA	2005	Detail not available		5.48	NA	
SCR	RAJAHMUNDY - KADIYAM bet.BZA - VSKP sec. LC No.398	06-07	NA	2005	Detail not available		3.32	NA	
SCR	TENALI - DUGGIRALA bet. BZA - GDR sec. LC No.293	06-07	NA	2005	Detail not available		5.91	NA	
SCR	BALAHAR-SHAH - MANIKGARH bet.BPQ - KZJ sec. LC No.96	06-07	NA	2005	Detail not available		0.28	NA	
SCR	BHONGIR- RAIGIR bet.SC - KZJ sec. LC No.32	06-07	10.24	2005	14.19	2007	5.47	3.95	24
SCR	DHONE - BOGOLU & DHONE MALAKA-PURAM bet.SC - DNC sec. LC No.166 and 150	06-07	21.07	2007	Detail not available		0.13	NA	
SCR	HUPPU-GUDA - FALAK NUMA bet.SC - DNC sec. LC No.6	06-07	7.21	2007	Detail not available		0.00	NA	
SCR	KADAPA - KRISHNAPURAM bet.RU - GTL sec. LC No.122	06-07	NA	2007	18.39	2011	0.03	NA	48
SCR	RENIGUNTA-TIRUPATI bet.RU - TPTY sec. LC No.111	06-07	20	2007	57.51	2010	2.63	37.51	36
SCR	STUARTPURAM - BAPATLA bet.BZA - GDR sec. LC No.255	06-07	14.83	2007	Detail not available		2.91	NA	
SCR	TADIPATRI bet.GY - RU sec. LC No.161	06-07	6.88	2007	31.32	2009	0.04	24.44	24
SCR	TSUNDURU- TENALI bet.BZA - GDR sec. LC No.288	06-07	NA	2007	Detail not available		0.04	NA	
SCR	TUNI - GULLIPADU bet.BZA - VSKP sec. LC No.449	06-07	13.87	2007	Detail not available		4.37	NA	
SCR	WANGAPALLI- ALER bet.SC - KZJ sec. LC No.37	06-07	NA	2007	Detail not available		0.00	NA	
SCR	(RUB) YAKUTPURA - HUPPU-GUDA bet.SC - DNC sec. LC No.5	06-07	NA	2007	Detail not available		0.00	NA	
SCR	YERRAGUDI-PADU- YERRA-GUNTALA bet. GY - RU sec. LC No.138	06-07	14.05	2007	Detail not available		3.45	NA	
SCR	KAKINADA TOWN-KAKINADA PORT bet.COA - SLO sec. LC No.11	07-08	NA	2008	Detail not available		3.35	NA	
SCR	AURANGA-BAD - CHIKAL THANA bet.PAU - MMR sec. LC No.54	07-08	NA	2008	Detail not available		0.00	NA	
SCR	BAYYA-VARAM - ANAKA-PALLI bet.BZA - VSKP sec. LC No.485	07-08	NA	2008	Detail not available		0.12	NA	
SCR	DWARAPUDI - ANAPARTHI bet.BZA - VSKP sec. LC No.410	07-08	21.69	2008	31.87	2009	1.75	10.18	12
SCR	GANNAVARAM - MUSTA-BADA bet.BZA - VSKP sec. LC No.320	07-08	NA	2008	20.91	2009	6.62	NA	12
SCR	KAZIPET WARANGAL bet.KZJ - BZA sec. LC No. 62-T	07-08	NA	2008	Detail not available		0.00	NA	
SCR	KESAMUDRAM bet.KZJ - BZA sec. LC No.77 & 78	07-08	NA	2008	Detail not available		0.71	NA	
SCR	LINGAMPALLI (STATION YARD) bet.SC - WD sec. LC No.25	07-08	31.72	2008	47.88	2010	0.96	16.16	24
SCR	MADHIRA - TONDALAGOPAVARAM bet.KZJ BZA sec. LC No. 125- B	07-08	19.46	2008	31.19	2010	4.14	11.73	24
SCR	(RUB) MEHBOOBABAD bet.KZJ - BZA sec. LC No.81	07-08	NA	2008	Detail not available		0.00	NA	
SCR	NALLAPADU - PHIRANGI-PURAM bet.GNT - GTL sec. LC No. 305-E	07-08	15.24	2008	Detail not available		1.64	NA	
SCR	VATLUR-POWERPET bet.BZA - VSKP sec. LC No.343	07-08	NA	2008	Detail not available		0.01	NA	
SCR	VATLURU-ELURU bet.BZA - VSKP sec. LC No.347	07-08	NA	2008	Detail not available		0.00	NA	
SCR	ADONI-ISIVI bet. GTL-WADI sec. LC No.197	08-09	11.6	2009	6.19	2010	0.54	NA	12
SCR	BONAKALLU YARD bet. KZJ-BZA sec. LC No.117	08-09	NA	2009	Detail not available		2.43	NA	
SCR	ELLAMAN-CHILI - NARSING-PALLI bet. BZA-VSKP sec. LC No.475-A	08-09	NA	2009	Detail not available		0.00	NA	
SCR	GHATKESAR - BIBINAGAR bet. SC- KZJ sec. LC No.15-T	08-09	NA	2009	Detail not available		0.00	NA	

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1	2	3	4	5	6	7	8	9	10
SCR	GULLAGUDA - SANKAR-PALLI bet. SC-WADI sec. LC No.20	08-09	NA	2009	Detail not available		2.87	NA	
SCR	GOOTY-PATHA-KOTHA-CHERUVU bet. RU- GTL sec. LC No.179 A	08-09	NA	2009	Detail not available		0.00	NA	
SCR	GUDUR-MANUBOLU bet. GDR-BZA sec. LC No.103	08-09	NA	2009	Detail not available		0.00	NA	
SCR	KAVALI-YARD bet. GUDUR-BZA sec. LC No.158	08-09	NA	2009	Detail not available		0.00	NA	
SCR	MADHIRA-YERRUPALEM bet. KZI-BZA sec. LC No.128	08-09	19.87	2009	Detail not available		0.00	NA	
SCR	MUDDANURU-MANGAPATANAM bet. RU-GTL sec. LC No.145	08-09	NA	2009	Detail not available		0.03	NA	
SCR	NANDYAL-PANYAM bet. GNT-NANDYAL sec. LC No.183	08-09	NA	2009	Detail not available		0.02	NA	
SCR	RECHNI ROAD- BELLAM-PALLI bet. BPO - KZJ sec. LC No.61	08-09	NA	2009	Detail not available		0.00	NA	
SCR	SAMALKOT-KAKINADA bet. SLO-KAKINADA sec. LC No.7	08-09	NA	2009	Detail not available		0.00	NA	
SCR	(RUB) SANKAR-PALLI-NAGULA-PALLI bet.SC- WADI sec. LC No.21	08-09	NA	2009	Detail not available		0.00	NA	
SCR	SATULURU-NARSARAOPET bet. GNT-DONAKONDA sec. LC No.286	08-09	19.67	2009	22.46	2010	1.44	2.79	12
SCR	TELAPROLU-NUZVIDU bet.BZA-VSKP sec. LC No.334-E	08-09	NA	2009	Detail not available		0.00	NA	
SCR	VIJAWADA - RAMAVARAPPADU bet. BZA-GUDI-VADA sec. LC No.8	08-09	NA	2009	Detail not available		0.00	NA	
SCR	MAHABUBNAGAR - JADCHERLA .stns. bet. SC -DNC sec. LC No.55	08-09	17.61	2009	Detail not available		0.59	NA	
SCR	Pagidipalli - Bhongir LC No.28	09-10	NA	2010	Detail not available		0.00	NA	
SCR	GHATKESAR - BIBINAGAR bet. SC- KZJ sec. LC No.22	09-10	NA	2010	Detail not available		0.00	NA	
SCR	NDD station yard LC No.381	09-10	NA	2010	Detail not available		0.00	NA	
SCR	Ammuguda at MLY (RUB LC No.BP-8	10-11	NA	2011	Detail not available		0.00	NA	
SCR	Ammuguda at MLY (RUB LC No.BP-11	10-11	NA	2011	Detail not available		0.00	NA	
SCR	Devarakadra - Kawkuntla LC No.73	10-11	NA	2011	Detail not available		1.00	NA	
SCR	Kadapa - Kamalapuram LC No.120	10-11	NA	2011	Detail not available		0.03	NA	
SCR	Khammam - Pandillapalli LC No.106	10-11	NA	2011	Detail not available		0.00	NA	
SCR	SLO-CCT ROB LC No.13 & 1	10-11	60.49	2011	Detail not available		NA	NA	
SECR	LHS in lieu of DD 3 km 182 (201/01 marde Risma	2008-09	0.2218	May'08	0.2556	07.11.2008	0.2177	0.0338	5
SECR	Do-DD18 Km 888/2-3 MXA RMA	2008-09	0.1763	May'08	0.2063	07.11.2008	0.2035	0.03	5
SECR	LHS at KM. 890/7-6 DD-20	2008-09	0.1777	May'08	0.2079	07.11.2008	0.218	0.0302	5
SECR	LHS at KM 891/6-6 DD-21 at DUG-DRZ	2008-09	0.1821	May'08	0.2126	07.11.2008	0.2138	0.0305	5
SECR	LHS at KM 829/2-3 DD-22 at Risama	2008-09	0.1876	May'08	0.2078	07.11.2008	0.2138	0.0202	5
SECR	LHS at KM No. 940/2-3 at DD-56-Balod - Kusam	2008-09	0.1972	May'08	0.229	07.11.2008	0.2079	0.308	5
SECR	LHS at KM No. 943/1-2 at DD-58-Balod - Kusam	2010-11	0.3273	June'10	0.322	28.09.2010	0.2079	0	2
SECR	LHS at Km.908/1-2 LC No.DD-38 GDZ-LBX	2010-11	0.3979	June '10	0.3917	28.9.10	0	0	2
SECR	RUB at Km 845/15-17 LC-432 aqt KMI cabin	2010-11	1.676	June '10	1.76	28.10.10	0	0.084	3
SECR	LHS at LC No.417 at Km.826/12-14	2010-11	1.501	June '10	1.59	28.9.10	0	0.089	3
SECR	LHS near/at manned level crossing No.416 at Km.825/21-23	2010-141	1.39	June ,10	0.9166	28.9.10	0	0	3
SECR	RUB near level crossing No.431 up Ura level crossing at Km.844/23-25 of Raipur Division	2010-11	0.855	June '10	1.48	28.9.10	0	0.625	2
SR	MAS Division - Basin Bridge - Korukkupet & Korukkupet - Vyasarpadi - 4 lane ROB in lieu of 2 lane ROB No.NE-21 and 11 R respectively.	09-10	15.897	09-10	39.815	7-Jan-11	0.03	23.92	21

Railway	Name of the ROB/RUB WORK	Year of Sanction	Cost as per Abstract Estimate	Date of sanction of Abstract Estimate	Cost as per Detailed Estimated	Date of sanction of Detailed Estimate	Expenditure Incurred upto 31.03.11	Cost over run - Difference between Detailed Estimate and Abstract Estimate (Col. 6 - Col.4)	Time over run, in months (Diff. bet. Col.7 & 5)*
1	2	3	4	5	6	7	8	9	10
SR	MAS Division - Proposed 1x27.00m PSC "I" Girders with deck slab ROB in lieu of LC.No.14 (Veppampattu) at km. 32/10 - 12 in between Thiruniravur - Tiruvallur in MAS - AII section.	06-07	10.958	2006-07	11.2474	16-Nov-07	1.80	0.29	19
SR	MAS Division - Proposed ROB in lieu of LC.No.33 @ km. 44/28 - 30 between Kavarapettai - Gummidipundi stations in MAS - GDR section.	07-08	12.336	2007-08	14.218	31-May-10	1.88	1.88	37
SR	MAS Division - Proposed ROB in lieu of LC.No. 37 @ km. 49/4 - 6 between Gummidipundi - Elavur stations in MAS - GDR section.	07-08	10.804	2007-08	13.8874	13-May-10	2.21	3.08	37
SR	MAS Division - Proposed ROB in lieu of LC.No.45A & 45B @ km.101/18 - 21 in between Marudhalam and Walaja Road stations in MAS - JTI section.	06-07	18.871	2006-07	28.8805	21-Jul-08	16.69	10.01	27
SR	MAS Division - Proposed ROB in lieu of L.C.No.54 @ km 61/3 - 4 in between Chengalpattu and Thirumani stations in MS - VM section.	06-07	12.114	2006-07	17.633	15-Oct-09	0.81	5.52	42
SR	SA Division - Proposed ROB in lieu of L.C. No 89 @ km. 218/32 -219/2 in between Jolarpettai - Tirupatthur stations in JTI - SA section.	08-09	12.153	2008-09	12.283	27-Oct-10	0.01	0.13	30
SR	MAS Division - Proposed ROB in lieu of L.C.No.92 @ km 121/10 - 11 in between Panchalam and Tindivanam stations in MS - VM section.	06-07	10.744	2006-07	12.469	15-Oct-09	3.44	1.73	42
SR	MDU Division - Proposed 1x32.50m Box girder ROB in lieu of L.C. No118 @ km 120/7 - 8 in between Gomangalam and pollachi PTJ - DG section.	06-07	11.004	2006-07	12.9504	30-Jan-08	1.41	1.95	21
SR	SA Division - Proposed ROB in lieu of LC.No. 133 (Kongu Nagar Gate)@ km. 441/10 -12 between Uthukuli - Thirupur stations in ED - CBE - PTJ section.	07-08	10.95	2007-08	17.931	9-Dec-10	0.03	6.98	44
SR	SA Division - Proposed ROB in lieu of LC.No.143 (Sulur Road yard) @ km 468/18 - 20 in Sulur yard ED - CBE - PTJ section.	06-07	13.834	2006-07	14.286	18-May-10	1.91	0.45	49
SR	PGT Division - Proposed ROB in lieu of LC.No. 150 @ km. 488/30-489/2 between Podanur - Madukkarai stations in CBE - SRR section.	08-09	11.424	2008-09	13.065	10-May-09	0.38	1.64	1
SR	PGT Division - Proposed ROB in lieu of LC.No. 151 (Sundarapuram) @ km. 490/10-12 between Podanur - Madukkarai stations in CBE - SRR section.	07-08	11.614	2007-08	12.816	10-May-10	0.21	1.20	37
SR	TPJ Division - Proposed ROB in lieu of LC.No. 156 @ km. 198/8-9 between Ulundurpet - Puvanur stations in VM - TPJ section.	07-08	11.924	2007-08	12.9098	3-May-10	0.29	0.99	37
SR	TPJ Division - Proposed ROB in lieu of LC.No.181 @ Km.236/100-200 in between Pennadam - Mathur stations in VM - TPJ section.	07-08	11.588	2007-08	15.1387	22-Feb-10	3.32	3.55	34
SR	TPJ Division - ROB in lieu of L.C.No 228 at km 313/2 -3 in between Kattur - Lalgudi stations in VM - TPJ section.	07-08	11.924	2007-08	15.7213	22-Mar-10	0.92	3.80	35
SR	MDU Division - proposed 1x17.00m SK "I" girder ROB in lieu of L.C.No 279 at km 375/800 -900 in between Samudram - Manapara stations in TPJ - DG section.	07-08	10.948	2006-07	12.4991	22-Mar-10	0.29	1.55	47

Railway	Name of the ROB/RUB WORK	Year of Sanction	Cost as per Abstract Estimate	Date of sanction of Abstract Estimate	Cost as per Detailed Estimated	Date of sanction of Detailed Estimate	Expenditure Incurred upto 31.03.11	Cost over run - Difference between Detailed Estimate and Abstract Estimate (Col. 6 - Col.4)	Time over run, in months (Diff. bet. Col.7 & 5)*
1	2	3	4	5	6	7	8	9	10
SR	MDU Division - ROB in lieu of L.C.No 281 at km 377/100 - 200 in between Manapparai - Chettipatti stations in TPI - DG section.	08-09	10.928	2007-08	14.3109	27-Aug-10	0.01	3.38	40
SR	TPJ Division - Proposed ROB in lieu of L.C. No.309 @ km 372/7-8 in between Budalur and Solamgampatti stations in TPJ - TJ - KMU section.	06-07	12.464	2006-07	14.6038	19-Apr-10	2.44	2.14	48
SR	MDU Division - Proposed ROB in lieu of LC No.325 @ Km.406/13-14 in between Tiruchchappalli - Kumaramangalam stations in TPJ - PDKT - KKDJ section.	08-09	11.324	2007-08	18.6995	1-Oct-10	0.03	7.38	42
SR	MDU Division - Proposed 1x36.00m SK girder ROB in lieu of L.C. No 366 @ km 496/16 - 497/1 in between Tiruparankundram and Madurai stations in MDU - VPT section.	06-07	15.17	2006-07	19.2026	15-Sep-08	3.54	4.03	29
SR	MDU Division - Proposed ROB in lieu of LC No 502 @ km 660/ 8 - 9 in between Tenkasi and Sengottai stations in VPT - TSJ section.	06-07	10.914	06-07	14.138	4-May-10	2.70	3.22	49
SR	MAS Division - Proposed ROB in lieu of L.C.No.15 @ km. 35/30 - 32 between Tiruvallur - Tiruniravur stations in MAS - AJJ section.	07-08	13.708	2007-08	15.9837	19-Jun-10	0.02	2.28	38
SR	MAS Division - Proposed ROB in lieu of L.C.No.18 @ km. 16/8 - 10 between Guindy - St. Thomas Mount stations in MSB - TBM section.	07-08	11.028	2007-08	Detailed Estimate not Sanctioned		0.00	0.65	
SR	MAS Division - Proposed ROB in lieu of L.C.No. 36 @ km. B.36/12 - 14 between Vandalur - Guduvancheri stations in MS - VM section.	07-08	10.804	2007-08	14.063	10-Nov-10	0.02	3.26	43
SR	MAS Division - Proposed ROB in lieu of L.C.No. 66 @ km. 158/26 - 28 between Vellore - Melalathur stations in MAS - JJJ section.	07-08	14.644	2007-08	Detailed Estimate not Sanctioned		0.02	1.64	
SR	MAS Division - Proposed ROB in lieu of L.C.No. 69 @ km. 163/15 - 17 in Valathur yard in MAS - JJJ section.	07-08	10.948	2007-08	13.742	25-Feb-11	0.39	2.79	46
SR	MAS Division - Proposed ROB in lieu of L.C.No. 81 @ km. 197/36 - 198/2 in Vaniyambadi yard station in MAS - JJJ section.	07-08	10.908	2007-08	Detailed Estimate not Sanctioned		0.46	5.73	
SR	MAS Division - ROB in lieu of L.C.No 93 at km 124/2 - 3 in between Olakkur - Tindivanam stations in MS - VM section.	07-08	10.948	2007-08	14.62	17-May-10	0.07	3.67	37
SR	SA Division - Proposed ROB in lieu of L.C.No. 132 (SRC Mill Gate) @ km. 440/26 - 28 between Uthukuli - Thirupur stations in ED - CBE - PTJ section.	07-08	11.898	2007-08	12.386	7-Dec-10	0.02	0.49	44
SR	SA Division - Proposed ROB in lieu of L.C.No. 134 @ km. 450/13 - 15 in Vanjipalayam Yard in ED - CBE - PTJ section.	07-08	12.69	2007-08	13.1927	26-Aug-10	0.02	0.50	40
SR	SA Division - Proposed ROB in lieu of L.C.No. 146 (Vellalore Gate) @ km. 479/22-24 between Irugur - Podanur stations in ED - CBE - PTJ section.	07-08	11.964	2007-08	13.948	11-Oct-10	0.03	1.98	42
SR	TPJ Division - Proposed ROB in lieu of L.C.No.168 @ Km.215/9 - 216/0 in between Pavanur - Vridhachalam stations in VM - TPJ section.	07-08	12.174	2006-07	15.568	1-Nov.2010	0.00	3.39	55
SR	TPJ Division - ROB in lieu of L.C.No 304 at km 354/8 -9 in Thanjavur yard in TPJ - MV section.	07-08	10.868	2007-08	14.211	8-Feb-11	0.02	3.34	46

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1	2	3	4	5	6	7	8	9	10
SR	MDU Division - Proposed ROB in lieu of L.C.No 370 at km 500/300 - 400 1x20203 SQ (27000 (SK) clear span with composite girder in Madurai - Tiruparankundram stations in MDU - VPT section.	07-08	11.396	2007-08	21.72	24-Mar-11	0.00	10.32	47
SR	MAS Division - Proposed 1 x 2681sq (33000) clear span with composite girder ROB in lieu of L.C.No 1 at km 0/700 - 800 in between Chengelpet - Palayasevaram stations in AJJ - CGL section.	08-09	11.044	2007-08	Detailed Estimate not Sanctioned		0.01	29.36	
SR	MDU Division - Proposed 1x19924 (SQ) [20000 (SK)] clear span with composite girder ROB in lieu of LC No.4 @ km 4/ 8 - 9 in between Tirunelveli and Seydunganallur stations in VPT - TSI section.	08-09	10.604	2008-09	15.562	19-Feb.11	0.00	4.96	34
SR	MDU Division - ROB in lieu of L.C.No 5 at km 3/1-2 in between Dindigul - Akkaraiipatti stations in DG - POY section.	08-09	11.984	2007-08	20.2697	21-Apr.11	0.00	8.29	48
SR	MDU Division - ROB in lieu of L.C.No 29 @ km 30/8-9 in Akkarapatti - Ottanchattram stations in PTJ - DG section.	08-09	10.994	2007-08	13.9845	14-Feb.11	0.00	2.99	46
SR	MAS Division - Proposed ROB in lieu of L.C.No. 38 @ km. 52/ 8 - 10 in between Elavur - Akkampet stations in MAS - GDR section.	08-09	10.958	2006-07	16.7504	7-Jan-11	0.02	5.79	57
SR	MAS Division - Proposed ROB in lieu of L.C.No. 82 @ km. 198/34 - 36 in between Vaniyambadi - Kettandapatti stations in MAS - JTJ section.	08-09	10.744	2006-07	13.425	6-Jul-10	0.57	2.68	51
SR	SA Division - Proposed ROB in lieu of L.C. No 98 @ km. 247/17 - 19 in between Samalpatti - Dasampatti stations in JTJ - SA section.	08-09	12.316	2008-09	13.8532	15-Dec-10	0.01	1.54	32
SR	MDU Division - ROB in lieu of L.C.No 371 at km 501/400 -500 in Madurai - Tiruparankundram stations in MDU - VPT section.	08-09	11.324	2007-08	12.825	26-Aug-10	0.00	1.50	40
SR	SA Division - Proposed ROB in lieu of LC. No. 7 @ km. 8/1 - 3 in between Irugur - Pilamedu stations in Irugur - Coimbatore section.	10 -11	18.335	2010-11	21.711	11-Feb-11	0.00	3.38	10
SR	MAS Division - Proposed ROB in lieu of LC.No.5 @ km 13 /4-6 in between Korattur - Pattaravakkam stations in MAS - AJJ section.	06-07	10.958	2006-07	15.555	10-Sep-10	0.04	4.60	43
SR	MAS Division - Proposed ROB in lieu of LC No.21 at Km 47/14 - 16 in between Tiruvalangadu and Kadambathur stations in MAS - AJJ section.	06-07	13.77	2006-07	21.21	1-Feb-11	0.05	7.44	58
SR	SA Division - Proposed ROB in lieu of L.C. No 88 @ km. 217/8 - 10 in between Jolarpettai - Tirupatthur stations in JTJ - SA section.	06-07	10.964	2006-07	13.454	29-Oct-08	6.04	2.49	30
SR	SA Division - Proposed ROB in lieu of LC No.105 at km 288/ 8 - 10 in between Buddireddipatti - Bommidli in JTJ - SA section.	06-07	13.434	2006-07	13.482	7-Apr.-11	2.10	0.05	60
SR	SA Division - Proposed ROB in lieu of LC No.144 (Irugur yard) @ km 475/22 - 24 in ED - CBE - PTJ section.	06-07	10.514	2006-07	20.23	8-Jun-10	0.04	9.72	50
SR	MAS Division - Proposed ROB in lieu of L.C.No. 58 @ km. 111/10 -12 between Puttur - Taduku stations in AJJ - RU section.	07-08	14.699	2007-08	30.326	1-Aug-08	8.31	15.63	16

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1	2	3	4	5	6	7	8	9	10
SR	SA Division - Proposed ROB in lieu of LC.No. 9 (Avarampalayam) @ km. 10/19 - 21 between Pilamedu - Coimbatore North stations in ED - CBE - PTJ section.	07-08	10.948	2007-08	25.75	9-Dec-10	0.03	14.80	44
SR	SA Division - Proposed ROB in lieu of LC.No. 11 (Rathinapuri Gate) @ km.12/19 - 21 between Pilamedu - Coimbatore North stations in ED - CBE - PTJ section.	07-08	10.948	2007-08	12.748	15-Feb-11	0.02	1.80	46
SWR	Hubli- Chikajur Bangalore- ROB at Haveri Town in lieu LC.No. 237	2007-2008	10.79	2007-08	20.38	8.1.10	1.15	9.59	33
SWR	Whitefield-KJM (SBC-JTJ section) ROB at LC No.133 @ km 337/300-400	2009-2010	11.24	2009-2010	15.81	6.9.10	0.00	4.57	17
SWR	YPR_YNK section proposed RUB @LC No.11at Allalandra 3/800-900	2009-2010	6.38	2009-2010	22.16	19.5.10	0.03	15.78	13
WCR	Kota-RTA and KTT-COR sec RUB in lieu of 10 LC	2006-07	2.87	2006-07	3.37	23.5.2006	2.68	0.50	1
WCR	ROB in lieu of LC No 82/B	2007-08	6.29	2007-08	8.44	4.8.2008	1.16	2.15	16
WCR	ROB in lieu of LC No 87	2008-09	7.69	2008-09	8.96	17.4.2009	0.56	1.27	12
WCR	ROB in lieu of LC No 180	2007-08	4.43	2007-08	5.89	28.11.2008	2.49	1.46	19
WCR	ROB in lieu of LC No 244	2008-09	6.84	2008-09	6.89	30.3.2009	1.82	0.05	11
WCR	ROB in lieu of LC No 252	2007-08	4.46	2007-08	5.12	25.01.2008	3.44	0.66	9
WCR	ROB in lieu of LC No 106	2008-09	6.15	2008-09	6.49	16.7.2008	5.38	0.34	3
WCR	Maihar-ROB in lieu of L.C.no 379	2007-08	5.16	2007-08	22.23	17.03.2011	Nil	17.07	47
WCR	Bina -Maksi 13 RUB	2006-07	2.99	Apr-06	3.63	03.07.2006	3.37	0.64	2
WCR	ROB MDDP	2008-09	19	Apr-08	21.89	05.01.2010	0.00	2.89	20
WCR	ROB Salamatpur	2009-10	24.44	Apr-09	21.74	09.02.2010	4.75	0.00	9
WCR	ROB-LC 63 Guna Bajrangnagarh Road	2010-11	20.62	Apr-10	19.98	30.09.2010	0.00	0.00	4
WCR	ROB-LC 237 Budhani phatak	2010-11	27.5	Apr-10	Detailed Estimate not				
WR	ADI-PNU ROB in lieu of L.C.No.2 at Km.507/18-19	06- 07	5.25	06- 07	17.06	18.4.07	6.84/7.61	11.81	1
WR	RTM-KNW ROB in lieu of L.C.No.245	06- 07	7.44	06- 07	9.74	19.10.07	1.96/3.76	2.30	6
WR	ADI-VG ROB in lieu of L.C.No.8	06- 07	5.51	06- 07	16.73	18.4.07	7.09/7.48	11.22	1
WR	ADI-PNU ROB in lieu of L.C.No.200 A near Unjha Town	08-09	3.97	08-09	9.29	5.10.09	0.76/4.56	5.32	6

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1	2	3	4	5	6	7	8	9	10
Works sanctioned prior to 2006-07									
ER	LILUAH ROB -ROB in lieu of LC No. 1/1A at Km 4/1A at Liluah	1998-99	11.12	29.09.2000	Detailed Estimate not Sanctioned		4		
ER	BONDEL GATE ROB - ROB in lieu of LC No. 3/S/T at Km 4/3-5 on SDAH-BLN section near Bondel Gate.	1992-93	11.94	21.05.1998	11.94	04.02.1999	4.49(Rly)	0	8
ER	BHAGALPUR ROB -Replacement of existing ROB No.153	1999-2000	4.59	11/4/2001	14.66	2/8/2002	730.34	0.01	2
ER	BIRATI ROB - 2 lane ROB in lieu of LC No. 5/A/T at Km 13/5-7.	1999-2000	10.65	19.06.2000	12.01	19.12.2000	370.42	0.66	5
ER	DUM DUM - BARASAT ROB - Dum Dum - Barasat ROB in lieu of LC No. 12/T at Km 21/25-27.	2000-01	9.95	10.12.2002	9.95	12.11.2003	3.49	0	10
ER	MADHYAMGRAM ROB - 2 lane ROB in lieu of LC No. 9/T at Km 17/25-27 at North 24 Paraganas.	2000-01	14.84	03.02.2000	10.19	17.03.2004	4.86	3.1	48
ER	THAPARNAGAR-KALUBATHAN ROB-ROB in lieu of LC no. 8A at Km. 243/17-19	2002-03	11.44	24.04.2002	11.44	21.07.2003	5.84	0	14
ER	SULTANGANJ ROB - ROB in lieu of LC No. 10/B/T at Km. 330/4-5 between Sultangani - Ganganivan.	2005-06	26.58	NA	26.58	22.12.06	15.9	0	20
ER	DANKUNI ROB - ROB in lieu of LC No. 8 Spl at Km 15/5-7.	01-02	10.52	2004-05	13.99	24.09.2008	4.31	1.92	53
ER	Durgapur - ROB in lieu of LC no. 113 B/T at Km 169/39	00-01	7.92	NA	Detailed Estimate not Sanctioned		3.59	4.25	
ER	Baruipur - ROB in lieu of LC no. 21-B/T at Km 24/39-25/1	00-01	20.23	11.05.2006	20.23	05.02.2007	184.1	0	8
ER	BARIYARPUR ROB - ROB in lieu of LC No. 15/B/T at Km. 347/11-12 between Karanpurato - Bariyarpur	05-06	14.55	2004-05	24.18	22.12.2006	12.03	3.34	32
ER	Baghajatin- Garia -ROB in lieu of LC no. 9/A/E at Km 10/5-7	00-01	15.26	NA	38.01	02.09.2010	0.05	10.98	125
ER	Memari-ROB in lieu of LC no. 33 at Km 82/9-11	00-01	Part estimate sanctioned.						0
ER	Rasulpur-ROB in lieu of LC no. 38 at Km 87/1-3	00-01	Part estimate sanctioned.						0
ER	Nalikul-ROB in lieu of LC no. 14 at Km 15/12-13	00-01	Part estimate sanctioned.						0
ER	JAUGRAM - MASAGRAM ROB - ROB in lieu of LC No. 59 at Km 70/19-21.	01-02	Part estimate sanctioned.						0
ER	SAMUDRAGARH - NABADWIPDHAM ROB - ROB in lieu of LC No. 14 at Km. 64/12-13.	01-02	Part estimate sanctioned.						0
ER	BARUIPARA - KAMARKUNDU ROB - ROB in lieu of LC No. 27 at Km 33/5-7.	01-02	Detailed estimate has not yet been sanctioned.						0
ER	SOPEPUR -KHARDAH ROB-ROB in lie of LC No. 9-B/3T at Km 18/11-	00-01	Work executed under Metro Railway.						0
ER	Barrackpore-ROB in lieu of LC no. 15A/3T at Km 23/5-7	00-01	Workis being executed under Metro Railway.						0
ER	Simlagarh- ROB in lieu of LC no. 19 at Km 66/5-7	00-01	Only Part estimate has sanctioned.						0
ER	Barddhaman-ROB in lieu of LC no. 50 at Km 104/27-29	00-01	Cost sharing yet not agreed by State Govt.						0
ER	Ranaghat-ROB in lieu of LC no. 57/T at Km 73/33-35	00-01	Cost sharing yet not agreed by State Govt.						0
ER	Baruipara - ROB in lieu of LC no. 21/B-T at Km 25/23-25	00-01	Cost sharing yet not agreed by State Govt.						0
ER	RISHRA - SRIRAMPUR ROB - ROB in lieu of LC No. 4	01-02	Cost sharing yet not agreed by State Govt.						0
ER	BALLYGUNJ - JADAVPUR ROB - ROB in lieu of LC No. 7-A/E at Km	01-02	Cost sharing yet not agreed by State Govt.						0
ER	BELGHARIA - AGARPARA ROB - ROB in lieu of LC No. 2-B/2-T.	01-02	Cost sharing yet not agreed by State Govt.						0
NER	ROB in lieu of LC No. 129 Abetween Deoria-Noonkhar	1998-99	7	5/1/2000	16.15	18.05.2008	3.38		95
NER	ROB in lieu of LC No. 244 between Bareilly city-Izatnagar	2002-03	14.64	30.01.2004	17.4	06.03.2009	5.25		61
NER	ROB in lieu of LC No. 4 A Manduadih Station Yard	2003-04	9.6	30.06.2003	13.5	11.05.2009	3.16		70
NFR	Purnia-Con struction of ROB in liu of LC No.KJ15 near khuskibagh	2002-2003	9.37	PB/2002-03	Detailed Estimate not Sanctioned		36.43	29.9	
NFR	KNE-Construction of ROB in lieu of LC No SK315	2005-06	8.5	PB/2005-06	Detailed Estimate not Sanctioned		33.68	28.6	
NFR	KNE-Construction of ROB in lieu of LC No SK316	2005-06	8.5	PB/2005-06	Detailed Estimate not Sanctioned		34.75	30.01	

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1	2	3	4	5	6	7	8	9	10
NR	Bijnor- Najibabad Road- ROB in lieu of L-xing No.484-A	2002-03	10.53	1.4.02	15.62	10.11.08	1.94	5.09	79
NR	Sirhind ROB in lieu of LC No.145-B connecting GT Road	2003-04	10.47	1.4.03	26.09	27.4.09	6.65	15.62	72
NR	Saharanpur-Ambala - Road over bridge in lieu of level crossing No.110-B near Barara	2005-06 (Suppl.)	10.09	1.10.05	27.9	Aug-08	6.04	17.81	33
NR	Sharda Nagar - ROB in lieu of LC No. 86-B.	2005-06	8.73	Mar-05	15	May-07	5.68	6.27	25
NR	Kaithal-Road over bridge in lieu of level crossing No.32-B	2005-06 (Suppl.)	9.76	1.04.2005	23.66	22.06.07	8.87	13.90	25
NR	Sonipat-Road over bridge at level crossing NO.27-B (2 lane)	2003-04 & 2007-08	17.5	01.04.03	27.74	Apr-08	0.00	10.24	59
NR	AkabarPur- ROBIN in lieu of existing L Xing No. 83-A	2002-03	5.94	1/4/2002	5.94	6/5/2003	5.87	0.00	12
NR	ROB at Xing 1-B(Kanpur Xing) and 218-A(HardoiXsing) at Lucknow	2004-05	10.49	1/4/2004	16.87	14/01/08	11.18	6.38	56
SCR	Jamaosmania bet.SC-DNC LC No.2E	90-91	NA	NA	Detailed Estimate not Sanctioned		NA	NA	
SCR	SITAPHAL-MANDI bet.SC - DNC sec. LC No.1	96-97	NA	1997	Detailed Estimate not Sanctioned		3.25	NA	
SCR	GUNTUR - TENALI bet. GNT - TEL sec. LC No.250	98-99	NA	1999	Detailed Estimate not Sanctioned		4.79	NA	
SCR	ANAKAPALLI-TADI bet.BZA-VSKP sec. LC No.487	00-01	3.93	2001	Detailed Estimate not Sanctioned		5.82	5.76	
SCR	TADI - DUVVADA bet.BZA - VSKP sec. LC No.490-E	01-02	8.89	2002	30.66	2008	7.05	21.77	72
SCR	(RUB) BUDVEL- UMDA-NAGAR RUB bet.SC - DNC sec. LC No.9-T	01-02	7.4	2002	17.34	2007	12.90	9.94	60
SCR	BAPATLA -APPKATLA bet. BZA GDR sec. LC No.257	02-03	10.56	2003	Detail not available		4.19	NA	
SCR	AYYAPPA-GUDI (Nellore) bet.BZA - GDR sec. LC No.110	02-03	0.71	2003	10.25	2006	4.54	9.54	36
SCR	NELLORE (Kovvur Gate) bet.BZA - GDR sec. LC No.119	02-03	NA	2003	26.08	2006	10.24	NA	36
SCR	MATWADA (Warangal) CHINTA-PALLI bet.KZJ - BZA sec. LC No.63	02-03	12.27	2003	12	2005	4.03	NA	24
SCR	TANUKU-KALDHARI BVRM - NDD sec. LC No.152	02-03	8.32	2003	10.39	2006	3.96	2.07	36
SCR	NALGONDA bet.BNRB - NDKD sec. LC No.44	05-06	14.02	2006	Detail not available		3.08	NA	
SCR	PALAKOLLU - GORINTADA bet. BVRM - Narsapur sec. LC No. 23	90-91	NA	1991	Detail not available		4.78	NA	
SCR	PITHAPURAM bet.BZA - VSKP sec. LC No.429	99-00	2.45	2000	Detail not available		0.40	18.96	
SCR	GUDUR - ODURU bet.BZA - GDR sec. LC No.99A & B	00-01	NA	2001	Detail not available		0.00	NA	
SCR	ANAPARTHI station yard bet.BZA - VSKP sec. LC No.412	01-02	NA	2002	Detail not available		3.77	NA	
SCR	Ananthapur Yard bet.GTL-DMM LC No.128-A	01-02	NA	NA	Detail not available		NA	NA	
SCR	(RUB) SAFILGUDA bet.SC - BMO sec. LC No.254	01-02	NA	2002	Detail not available		0.00	NA	
SCR	SIRPUR KAGAZNAGAR yard bet.KZJ - BPQ sec. LC No.77	01-02	14.46	2002	18.85	2008	4.34	4.39	72
SCR	GHANAPUR - NASHKAL bet.SC - KZJ sec. LC No.49	05-06	NA	2006	Detail not available		0.00	NA	
SCR	POWERPET-ELURU bet.BZA - VSKP sec. LC No.349	05-06	7.7	2006	Detail not available		6.89	13.44	
SCR	RAYANAPADU ROAD bet.KZJ - BZA sec. LC No.315A & 315B	05-06	NA	2006	Detail not available		40.65	NA	
SER	Balichak - Road over bridge in lieu of level crossing.	2000-01	3.8	Mar'2000	14.84	15.04.2011	0.00	11.04	132
SER	KGP - ROB in lieu of level crossing at IIT KGP - PURI Gate	2003-04	6.44	Mar'2003	8.88	19.04.2007	1.52	2.44	48
SER	Chakradharpur - ROB in replacement of existing level crossing.	1993-94	0.99	Mar'1993	1.99	25.08.2011	1.69	1.00	220
WCR	ROB in lieu of LC No 109	1996-97	5.57	1996-97	5.65	9.9.1997	5.26	0.08	17
WCR	RUB in lieu of LC No 108/A	2004-05	1.8	2004-05	5.78	31.3.2005	5.85	3.98	11
WCR	KTE-ROB Khirani Phatak in lieu of LC.No 356-A	2003-04	15.96	2003-04	19.77(Revise d)	12.07.2006	1.43	3.81	39
WCR	ROB/2RUB Chhola Raoad	2001-02	17.39	Apr-01	22.49	30.04.2007	6.43	5.10	71

Annexure XLVI (Para 3.3.5.3)

ROB/RUBs constructed on cost sharing basis involving extra lane/width - Additional financial burden to Railways

Railway	Details of ROB/RUB	Length of Extra cause way (in Mtrs)	Cost of additional width to be realised from State Govt. (₹ in Crore)	Amount for which bill raised	Amount realized	Amount for which bill is yet to be realized (as on 31.03.2011)	Amount yet to be realized out of bills realized (as on 31.03.2011)
1	2	3	4	5	6	7	8
ER	Bondel Gate	3030.00	2.12	2.12	2.12	Nil	Nil
ER	Lake Gardens	3937.500	2.76	2.76	2.76	Nil	Nil
NR	4 lane ROB in lieu of LC No. B-30 at Malour	7.3	2.51	0.00	2.04	0.47	0.47
NR	B-240 at Bathinda	7.5	10.50	0.00	0.00	10.50	10.50
NR	RUB 17 at Narela	4.5	1.44	1.44	0.00	1.44	1.44
NR	RUB 245-A at Bathinda	Not Av	0.40	0.40	0.00	0.40	0.40
SCR	ROB at Safilguda , LC no.254	4 lane bridge(2 lanes cost sharing & 2 lanes deposit work)	Nil	Nil	Nil	Nil	Nil
SCR	ROB bet. Shankarpalli & Nagulapalli LC no.21	4 lane bridge(2 lanes cost sharing & 2 lanes deposit work)	Nil	Nil	Nil	Nil	Nil
SCR	ROB bet. Lingampalli & Nagulapalli LC no.25	4 lane bridge(Deck width-20.55m)(Fully sharing)	Nil	Nil	Nil	Nil	Nil
SCR	ROB bet. huppuguda & Falaknama, LC no.6	4 lane bridge(2 lanes cost sharing & 2 lanes deposit work) Deck width-20.30m	Nil	Nil	Nil	Nil	Nil
SCR	ROB bet. Kadapa & Krishnapuram, LC no.122	4 lane bridge(2 lanes cost sharing & 2 lanes deposit work) Deck width-20.30m	Nil	Nil	Nil	Nil	Nil
SCR	ROB bet. Renigunta & Tirupati, LC no.111	4 lane bridge(Fully sharing) Deck width-23.00m	Nil	Nil	Nil	Nil	Nil
SCR	ROB bet.Thadi & Duvvada, LC no.490	Deck width-19.80m	Nil	Nil	Nil	Nil	Nil
SECR	ROB/Bhatapara	12.10 m	0.60	0.60	0.60	Nil	Nil
SECR	ROB/Durg Main line	12.10 m	0.62	0.62	0.62	Nil	Nil
SECR	ROB/Amanaka Raipur	12.10 m	0.97	0.97	0.97	Nil	Nil
SECR	ROB/MOWA	12.10 m	0.54	0.54	0.54	Nil	Nil
SECR	ROB-DURG (Depot) Y shape	--	22.64	22.64	22.64	Nil	Nil

12.81

Annexure XLVII (Para 3.3.5.3)

LCs not closed even after completion of ROB/RUB at the behest of State Government

Railway	No. and details of LCs which were not closed even after completion/commissioning of ROB/RUB at the behest of State Government	Date of completion/Commissioning of ROB/RUB	Whether MOU exists with State Govt. to bear the cost of manning of LC (Yes/No)	Total number of months LCs are kept open subsequent to commissioning of ROB/RUB	Expenditure booked as on 31.03.2011 (Rupees in Crore)
1	2	3	4	5	6
ECOR	ROB in lieu of LC No.140 at Km.336/19-21 bet. Korai-JJKR of KUR division	1996	No	180	
ECOR	RUB in lieu of LC No.176 at Km.397/10-11 between Kapilas Road-Neergundi of KUR division	1986	No	300	
ECOR	ROB in lieu of LC No.ML-494 at Km.877/15-17 between VSKP-GPT of WAT division	June'99	No	142	3.01
ECR	LC No.14A/T (Parasnath-Nimiaghat)	Mar-10	No	12	
ECR	LC No.6/B/T (Ray-Khelari)	Nov./2009	No	17	11.08
ER	L.C. No. 60/A which was sanctioned in the year 83-84	10.04.1990	No	252	
NER	LC No. 246 Bareilly-Izatnagar	1984	Yes	253	
NER	LC No. 162 Gorakhpur-Domingarh	1982	Yes	277	
NER	LC No. 4 ML Badshah Nagar-Daliganj (Nishatgan)	1994	Yes	204	
NER	LC No. 7 ML Badshan Nagar-Daliganj (Raidas Mandir)	2002	Yes	108	
NER	LC No. 3A Aishbag-Lucknow (Mayaiya)	2005	Yes	72	
NER	LC No. 2ML malhaur-Badshahnagar	2011	Yes		
NER	LC No. 2A Varanasi-Manduadih	1987	Yes	263	
NFR	KIR Division-LC No.NS-2B at km 4/6-7 between NJP-Siliguri	2007	Yes	48	
NFR	TSK Division-LC No.DD-48 at km 47/7-8 at TSK Yard	1987	No	287	NA
NR	12 - DEE-RE	1982	NO	339	NA
NR	15 - DEE-RE	2005	NO	63	NA
NR	3 Spl. - GZB- GUH	NA	NO		NA
NR	21 - GZB-SRE	NA	NO		NA
NR	25 - GZB-SRE	NA	NO		NA
NR	40 - GZB-SRE	NA	NO		NA
NR	58 - DLI-BTI	Oct., 2009	NO	17	10.26
NR	59 DLI-BTI	Jun-09	NO	21	10.54
NR	63 DLI-BTI	Mar-08	NO	36	12.53
NR	1-B ROK-PNP	Oct., 2009	NO	21	10.26

Railway	No. and details of LCs which were not closed even after completion/ commissioning of ROB/RUB at the behest of State Government	Date of completion/ Commissioning of ROB/RUB	Whether MOU exists with State Govt. to bear the cost of manning of LC (Yes/No)	Total number of months LCs are kept open subsequent to commissioning of ROB/RUB	Expenditure booked as on 31.03.2011 (Rupees in Crore)
1	2	3	4	5	6
NR	45 DEE-RE	2010-11	NO		NA
NR	34- At SLN South Yard	30.09.2000	NO	126	1.35
SCR	LC No14 @ Km 12/3-4 at Nidamanuru Yard	1985	NA	312	2.22
SCR	LC No 118 @ 108/6-7 at Bhimavaram yard	1989	NA	264	0.69
SCR	LC no.106 @ Km. 91/10-12 bet. Renigunta - Tirupathi	1982	No	348	
SCR	LC no.192 @ Km 459 bet. SC -MUE	1996	No	180	
SCR	LC no.120 at Km. 289/4-5 bet. Pergaon-Parbhani	2003	No	96	
SCR	LC no.77 @ Km 174/8-9 bet., BDU-Jalna	1994	Yes	204	
SCR	LC no.52 @ Aurangabad yard	1998	Yes	156	
SCR	LC no.121 @ Km 289/11-12 bet. Parbhani-Pergaon	2003	Yes	96	
SECR	ROB at KM 864/23-25 near LC No.444 Raipur Naka-Bhilai Nagar Durg(Sanctioned 2003-04)	2008	Agreement exists but no clause towards payment of maintenance charges in case of non-closure of the LC	36	3.79
SECR	ROB at KM 763/17-19 LC at Nipania-Bhatapara(Sanctioned 2003-04)	Apr-08	Agreement exists and relevant clause for payment of maintenance charges incase of non-closure of LC embodied	33	3.55
SECR	ROB at LC 420 near Amanaka at KM 832/32-34 Raipur-Sarona (Sanctioned 2006-07)	Oct-09	Agreement exists and relevant clause for payment of maintenance charges incase of non-closure of LC embodied	14	5.17
SECR	ROB at KM 704/18-19 on Champa-Dari Road LC on Korba-GVA Line (Sanctioned 2003-04)	Aug-07	Agreement exists and relevant clause for payment of maintenance charges incase of non-closure of LC embodied	40	3.71
SECR	ROB at KM 722/4-5 in lieu of LC BK2 on BSP-Katni line Tifra(Sanctioned 2003-04)	Jul-09	Agreement exists and relevant clause for payment of maintenance charges incase of non-closure of LC embodied	18	7.36
SECR	ROB at LC 365 at km 717/27 BSP	Mar-05	Agreement exists.	72	NA
SECR	ROB at LC 29 at km 704/36-38	Aug-07	Agreement exists.	43	
SECR	ROB at LC 569 at km 1126/28 at KAV	Aug-06	Agreement exists.	55	
SECR	ROB at km 1070/11-12 BRD Yard in lieu of MLC No.540	1997	-NA-		NA
SECR	ROB at km 1128/31 on KAV-NGP Section in lieu of MLC No 570	1993	-NA-		NA
SECR	ROB at km 1128/6 on KAV-ITR-NGP Section in lieu of MLC No 572	1993	-NA-		NA

Railway	No. and details of LCs which were not closed even after completion/ commissioning of ROB/RUB at the behest of State Government	Date of completion/ Commissioning of ROB/RUB	Whether MOU exists with State Govt. to bear the cost of manning of LC (Yes/No)	Total number of months LCs are kept open subsequent to commissioning of ROB/RUB	Expenditure booked as on 31.03.2011 (Rupees in Crore)
1	2	3	4	5	6
SR	LC No.10 in MAS-GDR section (MAS Dn)	May-08	Yes	34	8.31
SR	LC No.440 in between Virudunagar and Vanchimanivachi(MDU Dn)	Mar-06	Yes	60	3.08
SR	LC No.406 between Virudhunagar and Sankaralingapuram (MDU Dn)	Apr-01	Yes	119	2.49
SWR	KUPPAM - ROB in lieu of existing LC No.101 @ km251/13-14	Aug-06	Yes	56	0.81
WCR	ROB in lieu of LC No.316-A	Jan 1999 (26.01.99)	Yes	146	1.37
WCR	ROB in lieu of LC No.23-A	Oct-06	Yes	53	1.46
WCR	ROB/ASKN L-xing no 41	22.04.1995	Yes	193	NA
WCR	ROB Chetak-L-Crossing no 248	30.06.1987	Yes	287	NA
WCR	ROB/BHS L.Xing no 270	08.03.1994	Yes	236	NA
WR	Kandivali-Malad L.C.No.31	22.11.08	Yes	1	4.56
WR	Julasan-Kalol L.C.No.231A	31.10.08	Yes	2	7.27
WR	ADI-Palanpur L.C.No.2	30.11.10	Yes	1	6.84
WR	RTM-Jaora Road ROB in Lieu of L.C. No.192	June 2007	Yes	45	1.51
WR	NAD-ROB in Lieu of L.C.No.1B	Apr-99	Yes	143	1.11

6381 124.33

277573500

Pay Band for Gatekeepers: ₹ 5200 - 20200

Mean Pay 12700

Grade Pay: ₹ 1800 1800**Mean Pay+GP per month per person 14500****Mean Pay+GP per month for 3 person (3 shifts) 43500**

Expenditure on mining level crossing 27.76 crore

CR, NCR, NWR, SER - Nil

Annexure XLVIII (Para 3.3.5.3)
ROB/RUBs completed during 2006-07 to 2010-11 (Rupees in crore)

Railway	Details of ROB/RUB	Year of sanction	Month of Completion of ROB/RUB	Due date for CR	Delay in months (till March 11)	Estimated Cost	Railway's Share	Non Railway Share	Expenditure booked as on 31.03.2011	Whether Completion Report drawn (Yes/No)	Excess over est cost
1	2	3	4	5	6	7	8	9	10	11	12
CR	Hinganghat ROB span 2x12.52 m. in lieu of LC no 13-A at Kms 790/34-36 on WR-BPQ sec.	2000-01	Dec/06	Mar-2010	12	8.33	4.35	3.98	2.30	No	
ECR	ROB LC No.1/B/T Dhanbad-Bhuli	2002-03	March-2007	Mar-2010	12	15.08	7.54	7.54	12.60	No	5.06
ER	BONDEL GATE ROB - ROB in lieu of LC No. 3/S/T at Km 4/3-5 on SDAH-BLN section near Bondel Gate.	1992-93	2006(May)	Mar-2010	12	11.77	4.28		4.49	No	
ER	BHAGALPUR ROB -Replacement of existing ROB No.153	1999-2000	2006(May)	Mar-2010	12	14.62	3.45	11.17	7.30	No	3.85
NCR	Hathras-ROB L.Xing No. 95-A	1996-97	March-2007	Mar-2010	12	8.50	3.85	4.65	3.21	No	
NCR	CNB-Widening of ROB at Tat Mill Chauraha.	2003-04	March-2007	Mar-2010	12	12.88	3.95	8.93	2.40	No	
NCR	Meja Road-ROB L.Xing no. 25-B	1999-00	Mar/07	Mar-2010	Nil	7.8	3.63	4.17	3.70	Yes	0.07
NWR	RE-Alwar - ROB in lieu of LC No. 58-A	2003-04	31.7.06	Mar-2010	12	17.99	3.56	14.43	2.96	No	
SCR	ROB in lieu of LC 257 between Bapatla - Appikatta on GDR-BZA section	2002-03	Oct.06	Mar-2010	12	8.76	4.33	4.43	4.19	No	
SER	Burmpur - Asansol : Rebuilding of BNR bridge at Km. 322/13	1995-96	Sept'2006	Mar-2010	12	3.78	2.27	1.51	3	No	0.73
SER	Tatanagar - ROB in lieu of ROB No. 29A at Km. 249.638	1999-00	Mar'2007	Mar-2010	12	7.51	3.87	3.64	4.61	No	0.74
SR	SA Division - Proposed 1 X 30 m PSC Box girder ROB in lieu of LC No.37 (Vengamedu) @ km 64/100- 200 in between Murthipalayam and Karur stations in ED - KRR section.	98-99	Dece'06	Mar-2010	12	12.37	4.23	8.14	1.77	No	
SR	TPJ Division - Proposed 1 X 30m PSC Box ROB in lieu of existing LC No.85 (Palakkarai) at km.139/2-3 in between TPJ - TP Section. (TPJ Fort stn - TPJ Town Road)	98-99	Nov'06	Mar-2010	12	17.02	7.24	9.78	4.63	No	
SR	SA Division - Proposed 1 30m PSC Box girder ROB in lieu of L.C.No.90 (Tirupattur) @ km 222/8-10 in between Tirupattur and Molakarampatti stations in JTJ - SA section.	00-01	Aug'06	Mar-2010	12	7.69	3.87	3.82	0.39	No	
SR	MDU Division - Proposed 1 x 32 m PSC Box girder ROB in lieu of L.C. No.437 (Kovilpatti - Loyal mill) @ km.586/000 -100 in between Nalli - Kovilpatti stations in VPT - MEJ section.	00-01	Octo'06	Mar-2010	12	10.79	5.42	5.37	2.03	No	
SR	TVC Division - Proposed 1 x 30m & 2 x 20m PSC Box girder ROB in lieu of LC No.17 (Mundoor road) @ km 28/10-11 in between Mulagunathukavu - Punkunnam in SRR - CHTS section.	00-01	May'06	Mar-2010	12	6.56	3.28	3.28	1.82	No	
SR	TVC Division - Proposed 1 x 25 m PSC voided slab ROB in lieu of L.C. No.43 (Kalletumkara) @ Km.56/500 - 600 in between Pudukad and Irinjagaluda stations in SRR - CHTS section.	98-99	April'06	Mar-2010	12	10.38	5.19	5.19	2.02	No	
SR	PGT Division - Proposed 1 x 25m & 2 X 15m PSC Box girder ROB in lieu of L.C.No.196 (Vengalam) at km.675/1-2 in between Elattur and Quilandi stations in SRR - MAQ section	99-00	June'06	Mar-2010	12	9.98	4.99	4.99	2.08	No	
SWR	Hindupur-Malagur ROB in lieu of LC No.58 A at Km/99/600-700	2002-2003	2006-2007	Mar-2010	12	2.10	1.05	1.05	1.45	No	0.40
WCR	ROB in lieu of LC No.23-A	1997-98	Oct-06	Mar-2010	12	5.08	1.88	3.21	1.46	No	
WR	IND-Rajendranagar ROB in lieu of L.C.No.252	2003-04	March'06	Mar-2009	24	13.63	2.85	10.78	2.48	No	

Annexure XLIX (Para 3.3.5.3)
Status of LUS/LHS work sanctioned Between 2006-07 to 2010-11

Description	Railway	2006-07	2007-08	2008-09	2009-10	2010-11	Total
1	2	3	4	5	6	7	8
Total Number of LCs Identified for provision of LUS/LHS	CR	...	20	9	10	9	48
	ECOR	1	15	...	...	22	38
	ECR	...	...	1	...	13	14
	ER	...	4	20	...	10	34
	NCR	...	3	10	2	3	18
	NER	...	5	12	...	...	17
	NFR	...	16	6	9	4	35
	NR	...	13	...	9	105	127
	NWR	...	5	6	33	94	138
	SCR	...	...	...	120	22	142
	SECR	...	1	6	21	85	113
	SER	...	3	1	...	20	24
	SR	78	99	33	1	7	218
	SWR	12	19	30	13	61	135
	WCR	10	23	17	8	40	98
	WR	...	7	10	6	6	29
Total		101	233	161	232	501	1228
Work completed but LC not closed for various reasons (Reasons to be specified)	CR	...	...	...	...	...	...
	ECOR	...	4	...	...	...	4
	ECR	...	...	...	...	...	...
	ER	...	...	...	...	...	...
	NCR	...	...	...	...	...	...
	NER	...	3	...	...	...	3
	NFR	...	...	...	...	...	...
	NR	...	1	...	...	...	1
	NWR	...	...	...	...	...	...
	SCR	...	...	...	...	...	...
	SECR	...	...	...	...	...	...
	SER	...	...	...	...	...	...
	SR	...	...	...	...	...	...
	SWR	2	...	3	2	5	12
	WCR	...	...	...	...	...	...
	WR	...	...	...	...	...	...
Total		2	8	3	2	5	20
Work completed and LC Closed	CR	...	5	7	3	...	15
	ECOR	1	6	...	...	...	7
	ECR	...	...	...	...	...	...
	ER	...	...	...	1	3	4
	NCR	...	1	3	...	...	4
	NER	...	...	...	...	...	...
	NFR	...	8	2	1	...	11
	NR	...	1	...	...	...	1
	NWR	...	...	5	...	...	5
	SCR	...	...	...	29	31	60
	SECR	...	...	...	...	5	5
	SER	...	...	...	...	1	1
	SR	...	...	...	...	...	...
	SWR	8	12	21	...	...	41
	WCR	8	5	11	1	9	34
	WR	...	1	...	6	...	7
Total		17	39	49	41	49	195

Description	Railway	2006-07	2007-08	2008-09	2009-10	2010-11	Total
1	2	3	4	5	6	7	8
Work dropped due to non-feasibility (Reasons to be specified)	CR	...	8	...	...	...	8
	ECOR	...	1	...	...	...	1
	ECR	...	...	...	...	...	...
	ER	...	...	...	...	...	...
	NCR	...	...	...	...	...	...
	NER	...	...	...	...	...	...
	NFR	...	...	2	1	...	3
	NR	...	7	3	...	1	11
	NWR	...	4	1	1	3	9
	SCR	...	...	...	...	...	...
	SECR	...	...	...	...	4	4
	SER	...	...	...	...	...	6
	SR	16	82	9	...	...	107
	SWR	2	1	...	...	...	3
	WCR	...	...	...	...	...	...
	WR	...	2	8	...	1	11
Total		18	105	23	2	9	163
Work in progress	CR	...	7	2	7	9	25
	ECOR	...	4	...	...	8	12
	ECR	...	...	1	...	...	1
	ER	...	...	...	...	...	1
	NCR	...	1	6	2	3	12
	NER	...	2	12	...	...	14
	NFR	...	8	2	7	4	21
	NR	...	1	...	...	2	3
	NWR	...	1	...	32	91	124
	SCR	...	...	...	17	34	51
	SECR	...	...	...	...	19	19
	SER	...	...	...	...	1	1
	SR	60	12	12	1	7	92
	SWR	...	6	6	11	56	79
	WCR	2	...	...	32	11	45
	WR	...	4	2	...	5	11
Total		62	46	43	109	250	511
Work transferred to Construction organisation for execution under GC/Doubling project	CR	...	...	...	...	...	...
	ECOR	...	...	...	...	...	...
	ECR	...	...	...	...	...	...
	ER	...	...	...	...	...	...
	NCR	...	...	...	...	...	...
	NER	...	...	...	...	...	...
	NFR	...	...	...	...	...	...
	NR	...	3	...	4	1	8
	NWR	...	...	...	...	...	...
	SCR	...	...	...	15	...	15
	SECR	...	...	...	15	31	46
	SER	...	...	...	...	...	...
	SR	2	5	12	...	...	19
	SWR	...	...	...	...	...	...
	WCR	...	...	...	...	...	...
	WR	...	...	...	...	...	...
Total		2	8	12	34	32	88

Annexure I(a) (Para 3.3.5.4)
Works sanctioned in the LCs where accident had occurred (TVU greater than 6000)

Railway	Year	Details of LC No. Where Accident had occurred	No. of fatalities (deaths)	Outcome of the investigation report of the accident	Whether the LC had been identified for Manning (prior to accident) respect of	If Yes, the year of sanction for Manning/ROB	Present position	If the work (Col.6) had not been executed, the reasons therefor	TVU at the time of accident	
									No. of TVUs	Date of census
1	2	3	4	5	6	7	8	9	10	11
CR	2009-10	Truck dashed with Loco of goods train at UM LC no 3 bet Jara and INPT of Mumbai Div.		Negligent driving of Road vehicle driver.	No	NO	Unmanned	NIL	6846	2002
CR	2007-08	Engine of Train no 1347 dashed with truck at UM LC No 28 bet Pandharpur and Boboli stn of Solapur Div.		Due to negligence of Road truck driver.	YES	2007-08	Manned	NIL	10953	2006
ECOR	2008-09	UMLC No. JB-18, Km. 175/10-11, JKPR-SKND		Road user responsible	No	-	Unmanned	NIL	13996	Oct-06
ER	2008-09	L.C. No. 18'C betwn. Agradip-Patuli of Bandel-Karwa secn. In HWH Divn.	Not furnished	Violation of Motor vehicle Rules by the car Driver.	Yes	-	Manned	NIL	23966	May-09
ER	2006-07	24/A/1 between Chamagram-Khalitpur in Malda Divn.	Not furnished	Violation of Motor vehicle Rules by the truck Driver.	Yes	2010-11	Unmanned	work will start soon.	41833	Aug-10
NCR	2006-07	48C (MNQ-BHOGAON)	3	Negligence of road user	No	--	Unmanned	NIL	13450	2002
NCR	2006-07	216A (LALPUR-PAMAN)		Negligence of road user	No	--	Manned	NIL	9230	Apr-05
NER	2006-07	UM Lxing No. 304C at Km. 720/6-7 between Bindaura and Barwal stations on L/N Division.	4	Violation of rules by road users.	YES	2009-10	Unmanned	Work in Progress	6100	Oct-09
NER	2008-09	UM L-Xing No. 65'C at km 144-5 between Ramnathpur-Jhus stations of BSB Div	5	Violation of rules by road users.	NO	-	Unmanned	NIL	6988	Jun-10
NER	2006-07	UM Lxing No. 235'C at Km. 501-12 between Chilwaria and Bahraich stations on L/N Division.	3	Violation of rules by road users.	YES	2009-10	Unmanned	Work in Progress	8160	Mar-09
NER	2008-09	UM L-Xing No. 235'C at km 613/3-4 between Maskanwa and Swaminarain Chappia stations L/N Div	3	Violation of rules by road users.	YES	2009-10	Unmanned	Work in Progress	8160	Mar-09
NER	2006-07	UM Lxing No. 83'C at Km. 375/15 between Duraandha-Pachrukhi stations on BSB Division.	9	Violation of rules by road users.	YES	2007-08	Manned	NIL	9359	May-10
NER	2007-08	UM Lxing No. 29'C at Km. 183-4 between Chamara and Bilaspur stations on IZN Division.	-	Violation of rules by road users.	NO	-	Unmanned	-	11715	Oct-07
NER	2008-09	UM L-Xing No. 80'C at km 372/12-13 between Duraandha Pachrukhi Station of BSB Div	3	Violation of rules by road users.	NO	-	Unmanned	-	16240	May-10
NER	2008-09	Level Crossing Gate No. 14C between Chappra Kachery and Golakganj Station on BSB Division.	7	Violation of rules by road users.	NO	-	Unmanned	-	16588	Mar-10
NER	2008-09	UM L-Xing No. 66'C at km 791-2 between Bara Jalapur and Khairabad Awadh stations L/N Div	4	Violation of rules by road users.	No	-	Unmanned	-	19996	Mar-09
NER	2009-10	UM L-Xing No. 318'C at km 316/5-6 between Haltras City-Muram stations on IZN Division.	3	Violation of rules by road users.	No	-	Unmanned	-	34240	Apr-09
NER	2008-09	UM L-Xing No. 7C at km 214/2-3 between Mandandh and Hardatpur stations BSB Div	2	Violation of rules by road users.	No	-	Unmanned	-	55840	Mar-10
NER	2009-10	UM L-Xing No. 7C at km 179/6-7 between Rajwari-Kadipur stations on BSB Division.	3	Violation of rules by road users.	No	-	Unmanned	-	55840	Mar-10
NFR	2006-07	TSK - DD-54	2	Road User	Yes	-	Manned	NIL	6073	N/A
NFR	2006-07	APDJ - NN-141	2	Road User	Yes	2006-07	Manned	NIL	28035	N/A
NFR	2006-07	APDJ - NN-144	2	Road User	Yes	2006-07	Manned	NIL	16191	N/A
NFR	2008-09	TSK-LC 700	NIL	Road User	Yes	2009	Manned	NIL	8721	2009
NFR	2008-09	KIR - KJ-72	1	Road User	No	2008-09	Manned	NIL	9458	2006
NFR	2009-10	RNY - NN-192	NIL	Not available	Yes	2010	Manned	NIL	9563	2010
NFR	2009-10	TSK-LC 700	2	Road User	Yes	2009-10	Manned	NIL	8721	2009
NFR	2009-10	KIR - NC-98	NIL	Road User	Yes	2010-11	Manned	NIL	6021	2007
NFR	2010-11	KIR - KM/5	9	Road User	Yes	2009-10	Manned	NIL	27835	2010
NFR	2010-11	APDJ - NN/93.	3	Road User	Yes	2010-11	Unmanned	Work in progress	8977	2010
NR	2007-08	C-37(IGN-A/L)	6	Road users responsible	No	-	Unmanned	-	6210	2003
NR	2010-11	C-40(GSP-DHW)	1	Road users responsible	Yes	2009-10 (Manning)	Unmanned	Proposal under consideration	6216	2009
NR	2009-10	UM LC No.167C bet.HGH-TEG	NIL	Accident occurred due to negligence of Tractor trolley driver	Yes	2009-10 (Manning)	Unmanned	Proposal under consideration	6634	11/1/2009
NR	2009-10	84-C (KOL-SMQL)	0	Road users responsible	No	-	Unmanned	-	6634	2006
NR	2009-10	13.02.2010.C-28.DBN-PTA(UM)	2	Road user responsible	Yes	2010-11	Manned	NIL	6800	Nov-09
NR	2009-10	UM LC No.70C bet.SLN-PKX	NIL	Accident occurred due to negligence of Vikram driver	Yes	2009-10	Manned	NIL	6822	10/1/2009
NR	2006-07	C-63 (LNK-MQS)	1	Road users responsible	No	-	Unmanned	-	6828	2006
NR	2010-11	C-52(CGH-BPRS)	3	Road users responsible	Yes	2009-10 (Manning)	Unmanned	Proposal under consideration	7140	2009
NR	2008-09	84-C (KHV-KZH)	1	Road users responsible	No	-	Unmanned	-	7155	2008
NR	2009-10	UM LC No.165C bet.TEG-HGH	NIL	Car driver was held responsible for accident.	Yes	2010-11(Manning)	Manned	NIL	7289	11/1/2009
NR	2006-07	C-57 (BTU-KPKI)	0	Road users responsible	No	-	Unmanned	-	8322	2007
NR	2010-11	C-59(GSP-DNN)	2	Road users responsible	Yes	2009-10 (Manning)	Unmanned	Proposal under consideration	8505	2009
NR	2006-07	6-C (DSA-NO)	1	Road users responsible	No	-	Unmanned	-	8927	2007
NR	2009-10	12.11.2009.C-63 PJK-HMK(UM)	3	Road user responsible	yes	2008-09(RUB/ROB)	Manned	NIL	9020	Feb-08
NR	2008-09	6-C (ROK-GHNA)	0	Road users responsible	No	-	Unmanned	-	9770	2006
NR	2007-08	C-42 (PRA-BTU)	9	Road users responsible	No	-	Unmanned	-	9971	2007
NR	2007-08	C-49 (KHZ-ABO)	0	Road users responsible	No	-	Unmanned	-	10524	2005
NR	2008-09	186-C (MSZ-TPZ)	0	Road users responsible	No	-	Unmanned	-	10447	2008
NR	2006-07	C-7 (LDH-BWZ)	3	Road users responsible	No	-	Unmanned	-	12222	2003
NR	2006-07	31.12.2006.29-C-MOT(UM)	2	Road user responsible	Yes	2006-07 (ROB/RUB)	Manned	NIL	16384	4/6/2006
NR	2009-10	C-133 (GSD-Yd)	0	Road users responsible	No	-	Unmanned	-	19149	2008
NR	2007-08	93-C (DHZM-DPP)	1	Truck driver	No	-	Unmanned	-	23774	2007

Railway	Year	Details of LC No. Where Accident had occurred	No. of fatalities (deaths)	Outcome of the Investigation report of the accident	Whether the LC had been identified for Manning (prior accident/in respect of)	If Yes, the year of sanction for Manning/ROB/	Present position	If the work (Col 6) has not been executed, the reasons therefor	TVU at the time of accident	No. of TVUs	Date of census
1	2	3	4	5	6	7	8	9	10	11	
NR	2008-09	91-C (JNA Yard)	1	Road users responsible	No	-	Unmanned	-	24508	2008	
NR	2009-10	42 (KURN-MLDE)	1	Road users responsible	No	-	Unmanned	-	24741	2007	
NR	2006-07	C-292E(GZS-FDK)	1	Road users responsible	No	-	Unmanned	-	30948	2006	
NR	2009-10	C-12 (MDNR-MUD)	0	Road users responsible	No	-	Unmanned	-	62724	2008	
NR	2010-11	39-C(SFZ Yard)	1	Road users responsible	No	-	Unmanned	-	77782	2005	
NR	2006-07	50-A (MUT)	1	Road users responsible	No	-	Unmanned	-	160521	2009	
NR	2006-07	26-C(MTC)	0	Road users responsible	No	-	Unmanned	-	285923	2009	
NR	2008-09	167-C (DBD-THJ)	1	Road users responsible	No	-	Unmanned	-	504354	2006	
NWR	28.05.06/ 16.25 hrs.	UMLC-139 C at km. 216/2-3 between Susa and Suchan Kofli stations of Bikaner Division	1	Negligence of Tractor driver.	No	-	Unmanned	-	6457	Dec-04	
NWR	15.04.08/ 18.05 hrs.	UMLC-66 C at km. 126/3-4 between Mandal and Bhiwara (MDL-BHL) stations of Ajmer Division.	5	Negligence of road user and had condition of road surface at UMLC-66C.	No	2009-10	Unmanned	Work in Progress	8109	Nov-07	
NWR	05.08.06/ 09.55 hrs.	UMLC-20 C at km. 22/9 between Laxmangarh and Sikar stations of Jaipur Division.	5	Negligence of Bus driver.	Yes	2006-07	Manned	NIL	9350	Mar-05	
NWR	19.09.06/ 15.50 hrs.	UMLC-208C at km. 632/7-8 between Basni and salawas stations of Jodhpur Division.	1	Negligence of loading taxi driver.	Yes	-	Manned	NIL	12472	Mar-06	
NWR	30.06.06/ 19.15 hrs.	UMLC-91 C at km. 140/4 between Dahar Ka Balaji and Nindhar Benar stations of Jaipur Division.	1	Negligence of Truck driver.	Yes	2005-06	Manned	NIL	14588	Oct-04	
NWR	06.07.08/ 07.08 hrs.	UMLC-128C at km. 563/4-5 between Umed and Sathin Road (UMD-SWF) stations of Jodhpur Division.	-	Negligent driving by the driver of the truck.	-	-	Manned	NIL	26556	Nov-07	
NWR	20.08.08/ 16.18 hrs.	UMLC-128C at km. 563/4-5 between Umed and Sathin Road (UMD-SWF) stations of Jodhpur Division.	1	Gross negligence on the part of truck driver.	-	-	Manned	NIL	26556	Nov-07	
NWR	26.05.08/ 10.55 hrs.	UMLC-4C at km. 2/11-12 between Lahli and Rohak (LHLL-ROK) stations of Bikaner Division.	1	Negligence of Indica car driver.	No	-	Manned	NIL	67200	Apr-08	
SCR	2006-07	UMLC No.207 Eranagalu-Mantralayam	4	Negligence of the Auto Driver for failing to follow 131 of MV Act	Yes	-	Unmanned	Proposed in 2013-14	7018	2006	
SCR	2006-07	UMLC No.88 Pampakam-Chandragiri	1	Road user lapses.	Yes	2009-10	Unmanned	-	8352	2007	
SCR	2006-07	UMLC No.189/A. Jankampet-Navipet	2	Road user lapses.	Yes	2011-12	Unmanned	-	11267	2/25/2007	
SCR	2009-10	UMLC NO:189/A. Jankampet-Navipet	1	Negligence of the road user in not observing safety precautions while crossing the unmanned LC in the face of the approaching train	Yes	2011-12	Unmanned	-	11267	2/25/2007	
SER	2010-11	UMLC 148		The UMLC Accidents occurred due to failure of road users	NO	2010-11	Unmanned	-	12726	Jan-09	
SER	2010-11	UM LC 40		The UMLC Accidents occurred due to failure of road users	NO	2010-11	Unmanned	-	6156	Jan-08	
SR	2007-08	MDU - LC No.264 at Km.353/700-800 - Kolatur and Punggudi 16.8.07 at 18.35 hrs	1	Negligence of road user	Yes	-	Unmanned	Work awarded	6707	31/01/2010	
SR	2006-07	TVC - LC 81 at Km.63/800-900 - Alappuzha and Pannipra - 29.10.06 at 20.10 hr.	1	Negligence of road user	No	-	Manned	NIL	6815	20/03/2005	
SR	2007-08	TVC - LC No.26 at Km.27/600-700 - Tharavur and Cherthala - 29.6.07	1	Negligence of road user	No	-	Manned	NIL	8474	7/1/2007	
SR	2007-08	TVC - LC No.26 at Km.27/600-700 - Tharavur and Cherthala - 02.3.08	1	Negligence of road user	No	2008	Manned	NIL	8474	7/1/2007	
SR	2008-09	TVC - LC No.7 at Km.233/800-900 - Neyyatinkara - Nenam - 11.10.08 at 12.50 hr.	0	Negligence of road user	No	-	Manned	NIL	10741.94	9/1/2006	
SR	2006-07	TVC - LC No.142 at Km.95/200-300 - Cheppad and Kayankulam - 09.7.06 at 09.03 hr	1	Negligence of road user	No	-	Manned	NIL	14110	7/1/2006	
SWR	2009-10	47 at Km.80/400-500 between TK-ASK.	1	Railway is not responsible	No	-	Unmanned	-	28875	Dec-09	
WCR	2008-09	LC No 6	Nil	Carelessness of road users.	Yes	-	Manned	NIL	9589	2006	
WCR	2007-08	LC No 11B	Nil	Carelessness of bus driver.	Yes	-	Manned	NIL	10945	2006	
WR	2007-08	155-C-RJT-OKHA	1	ORS	Yes	09-10	Manned	NIL	6364	Dec-07	
WR	2009-10	155-B-RJT-HAPA	11	ORS	No	09-10	Manned	NIL	6364	Dec-07	
WR	2010-11	240-C-RTM-KNW	1	ORS	Yes	2010-11	Unmanned	Work is in progress	8800	Dec-09	

Annexure L(b) (Para 3.3.5.4)
Works sanctioned in the LCs where accident had occurred (TVU less than 6000)

Railway	Year	Details of LC No. Where Accident had occurred	No. of fatalities (deaths)	Outcome of the Investigation report of the accident	Whether the LC had been identified for Manning (prior accident) in respect of Unmanned LC or identified for provision of ROB/RUB in respect of Manned LC. (YES/NO)	If Yes, the year of sanction for Manning/ROB/RUB/LUS	Present position	If the work (Col.6) has not been executed, the reasons therefor	TVU at the time of accident	
									No. of TVUs	Date of census
1	2	3	4	5	6	7	8	9	10	11
CR	2007-08	Engine of Train no 1006 dashed with road trolley of tractor at UM LC no 47 of Solapur Div between Dhoki and Ansar sta.		Due to Innegligence of Road truck driver.	No	2008-09	Manned	Nil	948	2007
ECR	2008-09	48		Negligence of road user	Yes	NA	Unmanned			
ECR	2008-09	19		Negligence of road user	Yes	NA	Unmanned			
ECR	2009-10	35		Negligence of road user	Yes	NA	Unmanned			
ECR	2009-10	23		Negligence of road user	Yes	NA	Unmanned			
ECR	2010-11	35		Negligence of road user	Yes	NA	Unmanned			
ECR	2010-11	2		Negligence of road user	Yes	NA	Unmanned			
ECR	2010-11	152		Negligence of road user	Yes	NA	Unmanned			
ECR	2007-08	125C		Negligence of road user	Yes	NA	Manned			
ECR	2007-08	1C		Negligence of road user		2007-08	Manned			
ECR	2007-08	118C		Negligence of road user		NA	Manned			
ECR	2007-08	21C		Negligence of road user		NA	Manned			
ECOR	2008-09	(1)UM LC No.JB-17,Km.442/24-26,NDR-BRAG	21	Road user responsible		2008-09	Manned		0	Oct-06
ECOR	2006-07	(3)UMLC RV-13, Km.21/11-12,MNDH-LAR		Road user responsible		2006-07	Manned		4770	Sep-04
NCR	2006-07	65C (NADBAI-KHERLI)		Negligence of road user		--	Manned		1344	2005
NCR	2007-08	2C (JK-KNS) 1084/11-13 KM		Negligence of road user/tractor driver		--	Manned		2405	2004
NCR	2008-09	10C (SANICHARA-BIRLA NAGAR)	3	Negligence of tractor driver		--	Manned		273	Jun-07
NCR	2009-10	29C	2	Negligence of jugad/ tempo drive		--	Unmanned		180	2007
NCR	2009-10	29C		Negligence of jugad/ tempo drive		--	Unmanned		180	2007
NER	2006-07	UM Lxing No. 85/C at Km. 378/6-7 between Pachrukhi and Duranda stations on BSR Division.	1	Violation of article 161 and 154 of Railway Act and Article 131 of MV Act, 1988 by road users.	Yes	2010-11	Unmanned	Work in progress	3528	May-10
NER	2007-08	UM Lxing No. 283/C at Km. 687/13-14 between Sarju and Colonelganj stations on LJM Division.	6	Violation of article 161 and 154 of Railway Act and Article 131 of MV Act, 1988 by road users.		2009-10	Manned	-	3834	Apr-08
NER	2007-08	UM Lxing No. 267/C between Majapur Gonda Kachery stations on LJM Division.	1	Violation of article 161 and 154 of Railway Act and Article 131 of MV Act, 1988 by road users.		2009-10	Manned	-	4640	May-10
NER	2006-07	UM Lxing No. 66/C at Km. 217/2-3 between Rainmathpur and Jhusion stations on BSR Division.	30	Violation of article 161 and 154 of Railway Act and Article 131 of MV Act, 1988 by road users.		2008-09	Manned	-	5488	May-07
NFR	2006-07	TSK - DD-46	NIL	Road User			Manned		4833	N/A
NFR	2006-07	KIR - NN-11	NIL	Road User		2010-11	Manned		1890	2006
NFR	2007-08	TSK - DD-13	1	Road User		2010	Manned		2790	N/A
NFR	2007-08	TSK - SM-8	NIL	Road User		2010	Manned		1445	N/A
NFR	2007-08	LMG - ST - 39	2	Road User		2009-10	Manned		2334	2007
NFR	2008-09	TSK - DD-14	1	Road User		2009	Manned		4695	2009
NFR	2009-10	RNY - RM-115	NIL	Not available		2010	Manned		4596	2010
NFR	2009-10	RNY - RM-141	NIL	Not available		2010	Manned		4386	2010
NFR	2009-10	RNY - NN-217	NIL	Not available		2010	Manned		1670	2010
NFR	2009-10	APDJ - NN/113.	1	Road User		2010-11	Manned		2385	2007
NFR	2009-10	TSK - DD-46	1	Road User		2009-10	Manned		4833	2009
NFR	2009-10	TSK - DD-14	3	Road User		2009-10	Manned		4695	2009
NFR	2009-10	TSK - ST/75	1	Road User		2009-10	Manned		968	2008
NFR	2009-10	KIR - SK/290	1	Road User		2010-11	Manned		5478	2006
NFR	2010-11	RNY - RM/259	1	Road User	Yes	2010	Unmanned	CRS sanction received tender yet to be finalised	5485	2010
NFR	2010-11	RNY - NN/198	1	Road User	Yes	2010	Unmanned	CRS sanction received tender yet to be finalised	663	2010
NFR	2010-11	RNY - NN/164	NIL	Road User	Yes	2010	Unmanned	CRS sanction received tender yet to be finalised	1740	2010
NR	2007-08	C-26(AWL-KKL)	6	Road users responsible	Yes	2009-10	Unmanned	Proposal under consideration	3339	2006
NR	2008-09	44-C (KLE-BHWR)	1	Road users responsible		-	Unmanned		380	2006
NR	2009-10	44-C (KLE-PHWR)	0	Road users responsible		-	Unmanned		380	2006
NR	2008-09	18-C (ROK-GNNA)	0	Road users responsible		-	Unmanned		451	2006
NR	2009-10	C-18 (GHNA-ROK)	0	Road users responsible		-	Unmanned		451	2006
NR	2007-08	C-51 (BTU-KPKI)	0	Road users responsible		-	Unmanned		1015	2007
NR	2008-09	51 (BTU-KPKI)	0	Road users responsible		-	Unmanned		1015	2007
NR	2009-10	C-57(DNN-GSP)	7	Road users responsible	Yes	2009-10	Unmanned	Proposal under consideration	1508	2003
NR	2010-11	C-67 (KPKI-KOL)	0	Road users responsible		-	Unmanned		2020	2007

Railway	Year	Details of LC No. Where Accident had occurred	No. of fatalities (deaths)	Outcome of the Investigation report of the accident	Whether the LC had been identified for Manning (prior to accident) in respect of Unmanned LC or identified provision of ROB/RUB in respect of Manned LC. (YES/NO)	If Yes, the year of sanction for Manning/ROB/RUB/LUS	Present position	If the work (Col.6) has not been executed, the reasons therefor	TVU at the time of accident	
									No. of TVUs	Date of census
1	2	3	4	5	6	7	8	9	10	11
NR	2010-11	67-C (KPKI-KOL)	0	Road users responsible		-	Unmanned	-	2020	2007
NR	2006-07	16-C (KEX-FAP)	0	Road users responsible		-	Unmanned	-	2201	2007
NR	2008-09	16-C (NO-KDO)	0	Road users responsible		-	Unmanned	-	2201	2007
NR	2009-10	C-16 (NO-KEX)	0	Road users responsible		-	Unmanned	-	2201	2007
NR	2009-10	C-51(FZR-KBU)	0	Road users responsible		2009-10	Manned	-	2452	2008
NR	2009-10	UM LC No. 111C bet.AHZ-MFKA	NIL	Accident occurred due to negligence of Tractor trolley driver.	Yes	2009-10	Unmanned		2470	9/1/2009
NR	2007-08	C-16(JNT-KNG)	5	Road users responsible	Yes	2009-10	Unmanned	Proposal under consideration	2581	2003
NR	2007-08	C-33 (SPL-ASE)	0	Road users responsible		-	Unmanned	-	2657	2005
NR	2009-10	C-33 (ASE-SPZ)	0	Road users responsible		-	Unmanned	-	2657	2005
NR	2010-11	33-C (ASE-SPZ)	2	Road users responsible		-	Unmanned	-	2657	2005
NR	2008-09	C-50 (BTU-KPKI)	0	Road users responsible		-	Unmanned	-	2814	2008
NR	2009-10	C-50 (BTU-KPKI)	0	Road users responsible		-	Unmanned	-	2814	2008
NR	2010-11	UM LC No.79C bet.RRS-LLJ	NIL	Accident occurred due to negligence of Tractor trolley driver.	Yes	2010-11	Unmanned	Proposal under consideration	2819	1/1/2009
NR	2009-10	10-C (PKDE-JCY)	0	Road users responsible		-	Unmanned	-	3335	2008
NR	2010-11	10-C (JCY-PKTE)	0	Road users responsible		-	Unmanned	-	3335	2008
NR	2009-10	C-15(NRM-BZG)	0	Road users responsible		2009-10	Manned	-	3784	2008
NR	2006-07	10/08.2006.44-C.MET-HMI(UM)	1	Road user responsible		2006-07	Manned	-	4080	Dec-04
NR	2009-10	C-72 (KPKI-KOL)	0	Road users responsible		-	Unmanned	-	4363	2007
NR	2010-11	72-C (KPKI-KOL)	0	Road users responsible		-	Unmanned	-	4363	2007
NR	2006-07	C-92 (SMQL-HID)	0	Road users responsible		-	Unmanned	-	4568	2008
NR	2007-08	C-92 (SMQL-HID)	1	Road users responsible		-	Unmanned	-	4568	2008
NR	2009-10	92-C (SMQL-HID)	1	Road users responsible		-	Unmanned	-	4568	2008
NR	2007-08	C-110 (THBN-NNX)	0	Road users responsible		-	Unmanned	-	4812	2006
NR	2010-11	110-C (THBN-NNX)	0	Road users responsible		-	Unmanned	-	4812	2006
NR	2008-09	127-C (J50-JCA)	0	Road users responsible		-	Unmanned	-	5704	2008
NR	2009-10	C-127 (JCA-G50)	0	Road users responsible		-	Unmanned	-	5704	2008
NR	2008-09	45-C (JSKA-PTRD)	1	Road users responsible		-	Unmanned	-	5773	2008
NR	2009-10	45-C (JSKA-PTRD)	0	Road users responsible		-	Unmanned	-	5773	2008
NWR	23.05.07/11.10 Hrs.	UMLC-104C at km. 137/6-5 between Malwara and Marwar Kori stations of Jodhpur Division.	1	Negligence of Tractor driver.	No	-	Unmanned	Work in progress	204	Jul-04
NWR	15.07.09/08.50 hrs.	UMLC-125 C at km. 176/3-4 between Loharu and Parvezpur stations on RE-SDLP section of Bikaner Division.	3	Negligence of Pickup driver.	Yes	2009-10	Unmanned	Work in progress	960	Oct-08
NWR	10.05.06/12.20 Hrs.	UMLC-50 C at km. 44/12-11 between Bhiwani and Bamla stations of Bikaner Division.	2	Negligence of Tractor driver.	No	-	Manned	-	1080	Feb-05
NWR	07.12.06/13.02 hrs.	UMLC-123 C at km. 475/1 between Degana and Ratangarh stations of Jodhpur Division.	7	Negligence of Jeep driver.	No	2009-10	Unmanned	Work in progress	1474	Dec-04
NWR	13.10.08/16.15 hrs.	UMLC-40C at km. 67/9-10 between Khimaniyan and Nohar (KNNA-NHR) stations of Bikaner Division.	1	Negligence of three wheeler tempo driver.	No	2009-10	Unmanned	Work in progress	1830	Apr-08
NWR	14.06.09/08.00 hrs	UMLC 39-C at km. 50/3 between Bhupal Sagar and Fateh Nagar stations on COR-UDZ section of Ajmer Division.	1	Negligence of Tempo driver.	Yes	2009-10	Unmanned	Work in progress	2024	Mar-09
NWR	16.05.10/15.40 Hrs.	UMLC 21C at Km. 22/10-11 between Bagwali and Sangat stations of LGH-BTL section on Bikaner Division.	1	Violation of section 131 of Motor Vehicle Act 1988 by the driver of Maruti Car No. HR- 01 J-4405.	Yes	2009-10	Unmanned	Work in progress	2117	Dec-07
NWR	14.05.07/11.20 hrs.	UMLC-80C at km. 104/4-5 between Marwar Bhanmal and Bheempura stations of Jodhpur Division.	3	Negligence of Indica Car driver.	No	2009-10	Manned	-	2238	Jul-04
NWR	13.03.11/18.50 Hrs.	UMLC 168-C at Km. 221/8-9 between Jenal and Bihidi stations on SMR-BLDI section of Jodhpur Division.	6	Gross negligence and violation of M.V.Act by the loading tempo driver.	Yes	2009-10	Unmanned	Work in progress	2717	Mar-10
NWR	02.04.09/17.10 hrs.	UMLC 137-C at Km. 573/4-8 between Sathin Road and Pipar Road stations on MTD-JU section of Jodhpur Division.	10	Negligence of Jeep driver.	Yes	2009-10	Manned	-	2805	Jun-08
NWR	04.08.06/11.10 Hrs.	UMLC-37 C at km. 59/12-13 between Mardhera and Charahi Dadri stations of Bikaner Division.	1	Negligence of Tractor driver.	No	2008-09	Manned	-	2873	May-04
NWR	04.06.08/16.25 hrs.	UMLC-53C at km. 114/8-9 between Marwar Lohawar and Shaitan Singh Nagar (MWT-STSN) stations of Jodhpur Division.	1	Gross Negligence on the part of the driver of the tractor.	No	2009-10	Manned	-	3080	Jun-07
NWR	03.06.08/14.07 hrs.	UMLC-27C at km. 38/5-6 between Barwasa and Bandawara (JWS-BDW) stations of Ajmer Division.	1	Negligence of Metador driver.	No	2009-10	Unmanned	Work in progress	3287	Jun-06

Railway	Year	Details of LC No. Where Accident had occurred	No. of fatalities (deaths)	Outcome of the Investigation report of the accident	Whether the LC had been identified for Manning (prior to accident) in respect of Unmanned LC or identified provision of ROB/RUB in respect of Manned LC. (YES/NO)	If Yes, the year of sanction for Manning/ROB/RUB/LUS	Present position	If the work (Col.6) has not been executed, the reason therefor	TVU at the time of accident	
									No. of TVUs	Date of census
1	2	3	4	5	6	7	8	9	10	11
NWR	22.06.07/13.48 Hrs.	UMLC-25C at km. 31/13-14 between Outer and Home signal of Marwar Mathania station of Jodhpur Division.	2	Negligence of Jeep driver.	No	2009-10	Unmanned	Work in progress	3309	Sep-04
NWR	19.05.06/11.37 Hrs.	UMLC-229 C at km. 287/9-10 between Dundlod Mukundgarh and Nawalgarh stations of Jaipur Division.	1	Negligence of Truck driver.	Yes	2005-06	Manned	—	3430	Oct-04
NWR	03.07.10/12.10 Hrs.	UMLC C 323-B at Km. 829/7-8 between Utarlai and Barmer stations of SMR-BME section of Jodhpur Division.	3	Gross negligence and violation of section 131 of existing Motor Vehicle Act by Bolero Jeep driver.	Yes	2009-10	Unmanned	Work in progress	4779	Feb-10
NWR	24.04.08/11.30 hrs.	UMLC-17C at km. 27/0 between Chauth Ka Barwara and Isarda (CKB-ISA) stations of Jaipur Division.	2	Negligence of tractor driver.	No	2009-10	Unmanned	Work in progress	4844	Dec-07
NWR	09.04.09/07.25 hrs	UMLC 152-C at Km. 239/3-4 between Sirsa and Bada Gudhab stations on SSA-BTI section of Bikaner Division.	2	Negligence of Car driver.	Yes	2009-10	Manned	—	5051	Oct-07
NWR	12.11.09/18.35hrs.	UMLC 8 at km. 9/6-7 between Khorai and Rewari stations on FL-RE section of Jaipur Division.	1	Negligence of tempo driver.	Yes	2009-10	Manned	—	5070	Aug-08
NWR	27.10.08/10.18 hrs.	UMLC 14-C at km. 678/8-9 between Rohat and Kairla (RT-KAD) stations of Ludhiana Division.	1	Negligence on the part of the driver of Auto Rickshaw.	No	2009-10	Manned	—	5302	Jun-07
NWR	20.11.07/15.00 hrs.	UMLC-164C at Km 616/0-615/9 between Rai Ka Bagh and Banar stations of Ludhiana Division.	-	Negligent driving by unknown Auto Rickshaw driver.	-	—	Manned	—	5540	Nov-05
NWR	08.07.08/11.36 hrs.	UMLC-27C at km. 31/7-8 between Mandi Dalwali and Bagwali (MBY-BW) stations of Bikaner Division.	1	Negligence of Indica car driver.	No	2008-09	Manned	—	5736	2007-08
SCR	2007-08	UMLC No.267: Vemalkonda-Savalbaran.	1	Road user lapses violation of Section 131MV Act.	Yes	Not yet sanctioned	Unmanned	-	351	Mar-07
SCR	2008-09	UMLC 137A Karnool Town-Dupadu	1	Road user lapses:Tipper driver failed to observe the rules before passing through UMLC.	Yes	Not yet sanctioned	Unmanned	Manning of the LC Proposed for 2013-14.	648	Apr-07
SCR	2009-10	UMLC No.69: Devarakadra-Manyankonda	2	Negligence of car driver in not observing safety precautions while crossing the unmanned LC in the face of the approaching train	Yes	Not yet sanctioned	Unmanned	Manning of the LC Proposed for 2012-13	746	Dec-06
SCR	2010-11	UMLC No.8: Vikanarad-Sadesivpet	1	Negligence of Car Driver in not observing safety precautions while crossing the unmanned LC in the face of the approaching train	Yes	2011-12	Unmanned	Manning of the LC Proposed for 2011-12	756	Oct-06
SCR	2008-09	UMLC LC No.9 Valigonda-Nagreddipali	1	Negligence of the car driver in not observing safety precautions while crossing the UMLC in the face of approaching train;	Yes	Not yet sanctioned	Unmanned	Manning of the LC Proposed for 2012-13	1152	Jun-07
SCR	2010-11	UMLC No:131: Mirkhal-Purna	3	Negligence of Tipper Driver not observing safety precautions while crossing the unmanned LC in the face of the approaching train	Yes	Not yet sanctioned	Unmanned	Manning of the LC Proposed for 2012-13	1200	Sep-09
SCR	2009-10	UMLC No.101/E: Ikiyal-Gadwal	1	Tractor driver not observing safety precautions while crossing the unmanned LC in the face of the approaching train	Yes	2011-12	Unmanned	-	1365	Jan-10
SCR	2008-09	UMLC No.215: Inkiyal-Manopad	3	Auto Rickshaw driver failed to observe the rules before passing through UMLC.	Yes	Not yet sanctioned	Unmanned	Manning of the LC Proposed for 2013-14	1946	11/5/2005
SCR	2006-07	UMLC No.60: Miryalguda-Thiniparthi	1	Due to negligence of the Maruti van driver.	Yes	2011-12	Unmanned	-	2124	2/18/2007
SCR	2009-10	UMLC NO:117/E: Chigicherla-Dharamavaram	1	Negligence of tractor driver in not observing safety precautions while crossing the unmanned LC in the face of the approaching train	Yes	Not yet sanctioned	Unmanned	Manning of the LC Proposed for 2013-14	2420	Oct-07
SCR	2008-09	UMLC No.134: Tadicherla-Garladinne	3	Road user lapses Auto driver failed observe safety measures while crossing UMLC.	Yes	2011-12	Unmanned	-	2772	Oct-06
SCR	2008-09	UMLC No.109E : Pangaon-Ghatmandar	5	Auto driver failed to observe the rules before passing through the UMLC.	Yes	2010-11	Unmanned	-	3675	Sep-06
SCR	2008-09	UMLC NO.59: Chikalhan-Karmad	4	Road user lapses	Yes	Not yet sanctioned	Unmanned	Manning of the LC Proposed for 2012-13	3888	May-06

Railway	Year	Details of LC No. Where Accident had occurred	No. of fatalities (deaths)	Outcome of the Investigation report of the accident	Whether the LC had been identified for Manning (prior to accident) in respect of Unmanned LC or identified if provision of ROB/RUB in respect of Manned LC. (YES/NO)	If Yes, the year of sanction for Manning/ROB/RUB/LUS	Present position	If the work (Col.6) has not been executed, the reason therefor	TVU at the time of accident	
									No. of TVUs	Date of census
1	2	3	4	5	6	7	8	9	10	11
SCR	2010-11	UMLC No.81: Akola-Sivangaon	2	Negligence of Auto Driver not observing safety precautions while crossing the unmanned LC in the face of the approaching train	Yes	2011-12	Unmanned	-	4096	May-09
SCR	2010-11	UMLC No 73: Jalna-Badnapur	0	Road user lapses	Yes	Not yet sanctioned	Unmanned	Manning of the LC Proposed for 2013-14	4640	Mar-09
SCR	2010-11	UMLC No.144.E: Dupadu-Ulindakonda	5	Negligence of Auto Driver not observing safety precautions while crossing the unmanned LC in the face of the approaching train	Yes	Not yet sanctioned	Unmanned	-	1874	May-08
SER	2007-08	CM 36	0	Failure of the Road users	Yes	2010-11	Unmanned	Work in progress	3075	Oct-09
SER	2008-09	68	2	Failure of the Road users	Yes	2010-11	Unmanned	Work in progress	3069	Apr-09
SER	2009-10	RJ-247		Failure of the Road users	Yes	2010-11	Unmanned	Work in progress	5353	Oct-09
SER	2009-10	BG-09		Failure of the Road users	Yes	2010-11	Manned		4244	Aug-09
SER	2009-10	72		Failure of the Road users	Yes	2010-11	Unmanned	Work in progress	2047	May-09
SER	2010-11	IC-13		Failure of the Road users	Yes	2010-11	Unmanned	Work in progress	3558	Aug-09
SR	2009-10	MDU - LC No. 379 at Km.513-400-500 - Kaligudi and Tirumangalam block station 20.8.09 at 10.20 hrs.	1	Negligence of road user	Yes	-	Limited Use Subway made	--	1231.86	31/10/2007
SR	2006-07	SA - LC 81 at Km.134/000 - Tiruchappalli Fort and Mutharasanalur - 18.8.06 at 13.23 hrs	4	Negligence of road user	Yes	-	Manned	--	1696	9/1/2006
SR	2008-09	SA - LC No.3 at Km.7/100-200 - Karur and Velliyani - 01.8.08 at 13.35 hrs	0	Negligence of road user	Yes	-	Unmanned	Work in progress	1885	8/1/2008
SR	2007-08	MAS - LC No.36 at Km.47/100-200 - Chengalpatu and Tirumalpur - 16.4.07 at 09.40 hrs	11	Negligence of road user	Yes	2007-08	Manned	--	2103	20/12/2006
SR	2010-11	MAS - LC No.100 at Km.132/26-28 - Tindivanam and Maillam block stations - 22.1.11 at 00.35 hrs	1	Negligence of road user	Yes	2010-11	Unmanned	Work in progress	3008.94	19/03/2006
SR	2006-07	MDU - LC No.11 at Km.17/500-600 - Talaythu and Gangaikondan - 24.8.06	1	Negligence of road user	Yes	-	Unmanned	Manpower needed	4216	4/10/2010
SR	2008-09	MDU - LC No.11 Km 17/500-600 - Gangaikondan and Talaythu - 09.9.08 at 08.00 hrs	1	Negligence of road user	Yes	-	Unmanned	Work in progress	4216	4/10/2010
SR	2008-09	TPI - LC No.179 at Km.233/3-4 - Ichehangadu and Talanalur - 14.4.08 at 14.20 hrs	1	Negligence of road user	Yes	-	Unmanned	Work in progress	4884	1/1/2008
SR	2010-11	TVC - LC No.45 - Shertalai and Mararikulam block section - 08.8.10 at 00.45 hrs	4	Negligence of road user	Yes	2010-11	Unmanned	Work in progress	5611	2/1/2006
SR	2007-08	MDU - LC No.369 at Km.499/100-200 - Tiruparankundram - Madurai Block section - 22.8.07 at 22.10 hrs	1	Negligence of road user	Yes	-	Unmanned	Work in progress	5655	31/01/2010
SWR	2006-07	202 at Km.328/7-8 bet HRR-DVG.	2	Railway is not responsible	Yes	NA	Unmanned	NA	1952	Jan-04
SWR	2007-08	202 at Km.328/7-8 bet HRR-DVG.	3	Railway is not responsible	Yes	NA	Unmanned	NA	1952	Jan-04
SWR	2007-08	238 at Km.1395/800-700 between KJG-HVR/	1	Railway is not responsible	Yes	2008-09	Manned		5910	Dec-06
WCR	2007-08	LC No 36	Nil	Carelessness of Tractor driver.	Yes	2008-09	Manned		1080	2003
WCR	2007-08	LC No 36	Nil	Carelessness of Trolle driver.	Yes	2008-09	Manned		1080	2003
WCR	2007-08	LC No 81	Nil	Carelessness of Tractor driver.	Yes	2009-10	Manned		1960	2006
WR	2007-08	22-C-DAS-RLA	1	ORS	Yes	Not applicable	Unmanned		2184	Oct-06
WR	2008-09	22-C-DAS-RLA	2	ORS	Yes	Not applicable	Unmanned		2184	Oct-06

Note:

Highlighted LCs have not yet been identified for manning in spite of repeated accidents.

Annexure LI (Para 4.1.5.2)											
Statement showing delay in installation											
SN	Railway	Name of Plant and machinery	Name of consignee	Date of receipt by consignee	Date of installation	Delay in installation (after permissible four months)	Actual date of commissioning	Delay in commissioning (after permissible four months)	Brief reasons for delay - attributable to		Total Cost (in lakhs)
1	2	3	4	5	6	7	8	9	Railway	Supplier	12
1	CLW	CNC Axle Turning Lathe with crane MT/1793	Dy.CME/Mfg.	20.01.2009	30.10.2009	5	30.10.2009	5	Attributable to Railway, non-availability of crane, electric connection, Pneumatic supply		551.64
2	CLW	CNC Turning Lathe MT/1802	Dy.CEE/TMM	21.01.2010	10.05.2010	Nil	10.05.2010	Nil		Attributable to supplier as stated by Railways.	103.63
3	RCF	Hydraulic Wheel Press 500T	SSE/Project RCF Kapurthala	08.10.2010	Dec-10	Nil	Not yet commissioned	7	-	Improper response of supplier	213.41
4	RCF	CNC under water Plasma Cutting Machine	Dy. CPE-I/ RCF	03.02.2010	16.11.2010	5	Not yet commissioned	15	Non clearance of site .	-	389.70
5	DLW	HMT CNC vertical turret lathe [3444]	DLW	28.01.2008	25.09.2008	4	25.09.2008	4	Not available	Not available	269.00
6	NR	Horizontal Drilling & Tapping Machine	ASRW	02.02.2011	*	*			*	*	98.00
7	NR	Under Floor Wheel Press	BDGM	12.03.2009	07.11.2009	4			Delay in completion of foundation work and providing power supply	*	416.00
8	NR	Under floor Wheel lathes (BG & MG)	AMVD	27.06.2009	19.12.2009	1			*	*	484.00
9	NR	Horz. Boring Machine Spindle (Dia) 110mm	ASRW	12.05.2010	12.05.2010	*	30.04.2011	6	Reason for delay in commissioning of machine were not found available in the records of Railway Administration	*	132.00
10	NR	CNC Axle Turning Lathe	CBW	05.05.2010	22.10.2010	1.5			Delay in completion of foundation work	*	138.00
11	NR	CNC AXLE TURNING LATHE	AMVW	31.03.2009	15.10.2009	2.5			*	*	120.00
12	NR	CNC AXLE TURNING LATHE	ASRW	26.02.2009	*	*			*	*	120.00
13	NR	CNC Drilling and Milling Machine	ASRW	01.12.2010	*	*			*	*	236.00
14	NR	CNC VTL with size-Max. turning Dia 1200 mm	JUDW	09.10.2009	09.10.2009	Nil	19.10.2010	6	Reason for delay in commissioning of machine were not found available in the records of Railway Administration	*	110.00
15	NR	CNC Surface wheel Lathes	ASRW	30.08.2008	29.11.2008	Nil			*	*	509.00
16	NR	Cylindrical Axle Grinding Machine(CNC)	JUDW	02.04.2010	02.04.2010	Nil	02.11.2010	7	Reason for delay in commissioning of machine were not found available in the records of Railway Administration	*	250.00
17	NR	Spray Booth Baking Oven Facilities	JUDW	20.10.2009	20.10.2009	Nil	05.05.2011	2	Reason for delay in commissioning of machine were not found available in the records of Railway Administration	*	500.00

SN	Railway	Name of Plant and machinery	Name of consignee	Date of receipt by consignee	Date of installation	Delay in installation (after permissible four months)	Actual date of commissioning	Delay in commissioning (after permissible four months)	Brief reasons for delay - attributable to		Total Cost (in lakhs)
1	2	3	4	5	6	7	8	9	Railway	Supplier	12
18	NR	AJTB LATHES Universal (BG) (Loco & C&W)	JUDW	25.08.2010	*	*			*	*	215.00
19	NR	Surface Wheel Lathe	AMV	05.08.2010	21.10.2010	Nil			*	*	770.00
20	NR	CNC VTL with size-Max. turning Dia 1200 mm	JUDW	10.04.2010	*	*			*	*	115.00
21	NR	CNC VTL	ASRW	24.11.2009	24.11.2009	Nil	23.04.2010	1	Reason for delay in commissioning of machine were not found available in the records of Railway Administration	*	225.00
22	NR	Under floor Wheel lathes	SRE	19.03.2011	*	*			*	*	453.00
23	NR	Surface Wheel Lathe Machine	MB	11.5.2010	*	*			Delay in completion of covered shed for the Machine	*	561.00
24	SER	Boring M/c Horz	KGPW (07-08)	29.12.2009	16.04.2010	Nil			NA	NA	308.00
25	SER	VPI plant	Sr. DEE/Trs/Tata	19.02.2010	02.09.2010	6			NA	NA	101.64
26	SER	Lathe Vertical Turret	KGPW(08-09)	07.06.2009	Not yet Installed	22			NA	NA	122.50
27	SER	Crane EOT-20	KGPW	27.01.2011	Not yet Installed	3			NA	NA	100.00
28	SER	Lathe AJTB	KGPW	22.10.2009	18.02.2010	Nil			NA	NA	159.79
29	SER	CNC VTL	KGPW(08-09)	11.02.2010	30.04.2011	Nil			NA	NA	629.94
30	RWF	CNC Boring Machine	WFPS/RWF	04.01.2010	08.10.2010	5	08.10.2010	5	Delay in handing over of clear site to the supplier		479.00
31	RWF	Vertical Turret Lathe	MRS/RWF	28.10.2009	04.09.2010	6	04.09.2010	6		Turnkey contract. Delay in finishing the foundation work	200.48
32	CR	CNC SURFACE WHEEL LATHE	Sr. DME, Solapur	13.05.2008	22.10.2008	1			Due to delay in giving clear site and power supply		404.23
33	CR	AUTOMATIC CNC UNDER FLOOR WHEEL LATHE	Sr. DME (D), Kalvan	03.06.2010	Not yet installed	10	Not yet commissioned	10	Delay is due to non construction of shed for erecting machine		467.88
34	DMW	Radial Drill Machine		16.04.2009	25.07.2009				Contract was on Turnkey basis. As per clause 11.2.2.2 of the Bid document Part II the firm was required to commission the machine within 90 days from the date of intimation by the consignee in respect of readiness of foundation site etc.		104.88
35	SCR	Under Floor CNC Wheel Lathe	DSL Shed/MLY	26.07.2008	15.10.2009	10.5	12.02.2010	13.5	Due to delay in construction of cover shed and provision of power supply etc)	NA	427.75
36	SCR	CNC Multi Purpose Wheel Lathe	SSE/Wagon Depot/BZA	08.06.2010	08.03.2011	5			For construction of cover over shed	NA	427.92
37	SCR	CNC Axle Turning Lathe	CWM/WRS/GTPL	28.12.2009	03.02.2010	Nil	06.11.2010	6	NA	Due to delay in sending the service engineers	563.57
38	NCR	WHEEL LATHE UNDER FLOOR (OP-1525)	SSE/LOCO/ JHS	09.11.2010	Not installed till date	6			Due to under construction of roof structure of the shed for Pit Wheel Lathe by Engineering Department of Jhansi Division.	Not applicable	375.77
39	ECR	Wheel Lathe Under Floor	SSE/C&W/RNCC	26.03.2011	Not installed	1			due to non completion of site by Rly		385.78
40	SR	CNC Axle Turning Lathe	CWM / CW / GOC	28.12.2009	20.02.2010	Nil	09.10.2010	5		The firm delayed in deputing qualified engineers to install / commission the machine	415.95
41	SR	CNC Under Floor Wheel Lathe (AJJ)	Sr. DEE / RS / AJJ	10.11.2008	13.08.2010	20	13.08.2010	20	Delay in construction of shed for the lathe which was ready by November 2009 only.		431.16

SN	Railway	Name of Plant and machinery	Name of consignee	Date of receipt by consignee	Date of installation	Delay in installation (after permissible four months)	Actual date of commissioning	Delay in commissioning (after permissible four months)	Brief reasons for delay - attributable to		Total Cost (in lakhs)	
1	2	3	4	5	6	7	8	9	Railway	Supplier	12	
42	SR	CNC Surface Wheel Lathe (PER)	CWM / CW / PER	08.03.2010	03.06.2010	Nil	21.06.2010	Nil		Very slow progress in foundation work by supplier	538.27	
43	SR	CNC Surface Wheel Lathe (JTJ)	SSE / C&W / JTJ	14.04.2010	01.07.2010	Nil	24.07.2010	Nil		Delay in completion of foundation work by the firm.	538.27	
44	SR	CNC Surface Wheel Lathe (TNPM)	SSE / C&W / TNPM	08.03.2010	24.05.2010	Nil	21.06.2010	Nil		Delay in completion of foundation work by the firm.	538.27	
45	SR	CNC Vertical Turret Lathe	CWM / LW / PER	14.10.2009	28.01.2010	Nil	28.01.2010	Nil		Delay in deputed service engineers by the firm	224.79	
46	SR	CNC Under Floor Wheel Lathe	Sr. DEE / RS / TBM	27.01.2011	Not yet installed	3	Not yet commissioned	3	Delay in construction of shed, provision of track linking & provision of power supply which are in progress		453.03	
47	WR	LATHE VERTICAL TURRET	DHD/ Workshop	26.05.2009	17.09.2009	Nil			(1) Site material and old machine of wheel shop shifted (2) Electrical cabling work not completed by DEE (C) RTM.	--	131.07	
48	WR	LATHE VERTICAL TURRET	DHD/ Workshop	04.02.2010	24.05.2010	Nil			Partially delayed on account of electric cabling work (7 Days)	Non arrival of service engineer (7 Days)	122.50	
49	WR	LATHE AJTB	BVP Workshop	28.12.2009	13.01.2011	6.5			Site was not ready.	--	111.00	
50	WCR	Grit Blasting Plant	CWM/CRWS/BP L	08.04.2010	Plant not installed due to delay in construction of shed	12					539.69	
51	WCR	CNC Axle Turning Lathe	CWM/CRWS/BP L	28.03.2009	As per the AT same date/period for installation & commissioning is recorded, therefore date of installation is not recorded separately.							116.87
52	WCR	Automatic CNC under floor wheel lathe	SSE/Loco diesel Loco shed NKJ	25.08.2010	01.11.2010	Nil	15.06.2011	5	The foundation was ready on 01.11.10 and the same date machine was installed but due to delay in handing over proper site and delay in approval of GA drawing construction of foundation work was started late. Approved GA drawing was sent to the supplier on 30.9.2009 by the consignee. After then in 13 months construction of foundation work was completed by the supplier i.e. on 01.11.10.		469.00	
53	NFR	CNC Vertical turning lathe	SSE/WTS/DBWS	19.04.2010	Installation not yet completed though was to done within 18.07.10	12			-	-	224.79	
54	NFR	Wheel Lathe Surface	SSE/C&W/NGC	18.02.2010	12.01.2011	6.5			Delay in civil engineering works	-	488.83	
55	NFR	Wheel lathe surface	SSE/WTS/DBTS	06.07.2010	25.12.2010	1			During excavation, extra fabrication work required for strengthening the supporting column of main building leading to delay	-	568.81	
56	NFR	Vertical Turret Lathe	SSE/WTS/NBQS	04.08.2010	Not installed even after the allowable period	7				Supplier	166.41	
57	NER	Semi Automatic CNC Under Floor Wheel Lathe (BG)	Sr.DME/C&W/NE R/ Lucknow	22.05.2008	17.03.2011	25	15.04.2011	26	Due to delay in provision of Covered Shed & Track for the same.		296.11	
58	SWR	CNC Plasma Profile Cutting Machine	CWM/W&S/UBLS	02.08.2010	15.11.2010	No Delay			NA	NA	536.94	
59	SWR	CNC Axle Turning Lathe	CWM/W&S/UBLS	25.11.2008	15.01.2009	No Delay			NA	NA	554.76	
60	NWR	Lathe Vertical Turret	Dy. CME(L) All	07.10.2008	10.03.2009	1	23.05.2009	1	-	Y	153.84	
61	NWR	CNC Axle Turning Lathe	Dy. CME (C) All	30.12.2009	23.02.2010	Nil	24.06.2010	2	Due to non-arrival of Engineer		619.87	
62	CLW	Radial Drilling M/c.MT/1796	Dy.CME/ELB		29.12.2008		04.03.2009				53.92	

SN	Railway	Name of Plant and machinery	Name of consignee	Date of receipt by consignee	Date of installation	Delay in installation (after permissible four months)	Actual date of commissioning	Delay in commissioning (after permissible four months)	Brief reasons for delay - attributable to		Total Cost (in lakhs)
1	2	3	4	5	6	7	8	9	Railway	Supplier	12
63	CLW	Heavy Duty Turning Lathe MT/1801	Dy.CEE/TMM		16.06.2008		24.09.2008				58.11
64	CLW	Vertical Milling M/c.MT/1806	Dy.CME/Mfg.		28.01.2008		28.01.2008		Delay to issue road permit to suppliers and Inspection by RITES		20.04
65	CLW	Opt.Gas Profile Cutting M/c.MT/1814	Dy.CME/ELB		12.01.2009		12.01.2009				31.80
66	CLW	Portable Radial Drilling M/c.MT/1829	Dy.CEE/TMM		20.02.2009		20.02.2009				29.49
67	CLW	CNC Turning LatheMT/1860	Dy.CME/Mfg.		31.07.2010		31.07.2010		Delay in site preparation		29.40
68	RCF	Hydraulic Wheel Press 500T	SSE/Project RCF Kapurthala		13.10.2010		14.10.2010	Nil			379.00
69	DMW	CNC Multi Purpose Wheel Lathe (BG)	DMW		16.04.2010		17.06.2010			Though the machine was installed on 16/4/10 and started functioning with deficiency was finally commissioned on 17/6/10	550.00
70	SCR	CNC Axle Turning Lathe	CRS/TPTY		15.02.2010		30.10.2010			Delay in replacement of damaged panel board and also late arrival of Firms Service Engineer	535.00
71	NER	CNC Axle Turning Lathe	IZN		28.11.2007		19.02.2008				
72	NER	Guillotine Shearing Machine	IZN		11.06.2010		22.07.2010				
73	NER	AJT B Lathe	CWM-IZN		27.12.2009		13.01.2010				
74	RCF	CNC Plasma Profile cutting machine (portal type)	Dy. CPE-I/ RCF		22.08.2009		Not yet commissioned			Due to defects in some basic geometric accuracies of the machine and modification in the table to facilitate loading/ unloading of components	201.47
75	SER	Horz Boring M/c (07-08)	DyCME (Prod)/KGPW		16.04.2010		22.06.2010			Performance of machine was not at par with the parameters as mentioned in A.T.	519.65
76	SER	Universal AJTB Lathe(07-08)	DyCME (Prod)/KGPW		26.02.2009		18.06.2009				
77	SER	Universal Milling M/c(07-08)	DyCME (Prod)/KGPW		14.02.2009		10.05.2009			few problems erupted during commissioning	46.66
78	RWF	Vertical Turret Lathe	MRS/RWF		28.05.2010		28.05.2010			due to defects noticed in the lathe during erection/trial run	200.52
79	CR	CNC AXLE TURNING LATHE	CWM, Parel		31.03.2010		Not yet commissioned			Not considered as commissioned due to technical issues	515.31
80	DMW	CNC Vertical Turtle lather	DMW		15.03.2010		Not yet fully commissioned			Firm has not yet been able to prove capability and capacity of the m/c.	326.14
81	DMW	Induction Hardening machine	DMW		08.12.2008		Not yet fully commissioned			Though the machine is very good and is doing good job of hardening but is not capable of tempering	197.78
		Installed	66		cost of machineds where there was delay in installation were -30						9508.37
		Not installed/Inf.NA	18		cost of machineds which had not been installed or information not made available-16						4633.85
		Commissioned	37		cost of machineds where there was delay in commissioning -18						6428.73
		Not commissioned/Inf.NA	45		cost of machineds which are yet to be commissioned -45						13578.76

Annexure LII (Para 4.1.5.4)												
Statement showing shortfall in output of rated capacity of machine												
S.N.	Railway	Name of Plant and machinery	Location where installed	Nature of the work	Period	Rated capacity of machine	Output that should be according to rated capacity	Actual output	Shorfall	Reasons for shortfall	Total Cost (in lacs)	Percentage of output
1	2	3	4	5	6	7	8	9	10	11	12	
1	SECR	CNC Surface Wheel lathe	Wagon Repair Shop/SECR/Raipur	Tyre Turning of Wheels	April 2010 to March 2011	24 Wheel set per shift of 8 hours	18336	12224	6112	Due to (a) Engagement of less operators and (b) wheel discs regularly required turning work more than normal	404.63	67
2	CLW	CNC Axle Turning Lathe with crane	WS/Bay-1 Col.B/8-9	Production of axles	18 months	Axle for i) Conv. Loco-53 nos, ii)3-ph Loco-18 nos	i)954 ii)324	i) 901 nos @50 nos p.m; ii)306 nos @17 nos	i)53 ii)18	Axles (raw materials) were not available.	551.64	94
3	CLW	Radial Drilling M/c. MT/1796	HMS-08 (Bay-4)	Drilling of Shell & Bogie items of 3-ph locos	26 months	i)Equilizer beam-64 nos, ii)Compensating beam-32 nos, iii)Top & front	i)1664 ii)832 iii)78	i)1344 nos @52 nos, ii)672 nos @26 nos & iii)63 nos @2.4 nos p.m	i)320 ii)160 iii)15	Capacity was utilized as per Loco out-turn requirements. Hence the shortfall.	53.92	81
4	CLW	Heavy Duty Turning Lathe MT/1801	Bay 7 of Shop 23	Turning of Commutator Assly of DC TM	31 months	40 nos of Rotor & Labrinth	1240	1178	62	Capacity was utilized as per Loco out-turn requirements. Hence the shortfall.	58.11	95
5	CLW	CNC Turning Lathe MT/1802	Bay 5 of Shop 20	Machining of Armature Shaft, Rotor	11 months	75 Hitachi Armature shaft	825	220	605	The machine remained out of order for a total period of 69 days in between 25.8.2010 to 10.02.11	103.63	27
6	RCF	CNC under water Plasma Cutting Machine	New Bogie Shop	Cutting of components from MS & Corton Steel		Cutting of MS up to 32 mm.	Curring of MS up to 32 mm.	Machine working under less rated capacity due to	N.A. As machine not yet commissioned	Firm is resolving some pending issues	389.70	0
7	NFR	Wheel Lathe surface	SSE/WTS/DBWS	Turning & Cutting the defective wheels, Tyre turning and facing	15 yrs.	24 pairs per shift of 8 hrs.	24 pair	14 pairs	10 pairs	Non-availability of wheel, power failure, material handling, operators break time, machine downtime, non availability of material handling equipment, sequential gap time, multiple cut, condition of tyre etc.		58
8	SCR	CNC Surface Wheel Lathe (BG)	CWM/LGD	Re-conditioning of the wheels	2008-09	24 wheel sets/ 08 hours shift (2 Shifts per day)	NA	NA	NA	Non availability of work load and based on the required out turn of the shed	539.00	43
					2009-10		10080	3114	6966			
					2010-11		14976	8264	6712			

S.N.	Railway	Name of Plant and machinery	Location where installed	Nature of the work	Period	Rated capacity of machine	Output that should be according to rated capacity	Actual output	Shorfall	Reasons for shortfall	Total Cost (in lacs)	Percentage of output
1	2	3	4	5	6	7	8	9	10	11	12	
9	SCR	CNC Surface Wheel Lathe (BG)	CRS/TPTY	Re-conditioning of the wheels	2008-09	24 wheel sets/ 08 hours shift (01 shift per day)	NA	NA	NA	Non availability of work load and based on the required turn out of the shed	565.80	67
					2009-10		3024	2016	1008			
					2010-11		7448	4992	2456			
10	SCR	CNC Axle Turning Lathe	CRS/TPTY	Machining of axles	2008-09	Machining 24 axles per 08 hours (01 shift per day)	-	-	-	Based on the required out turn of the workshop	535.00	8
					2009-10		-	-	-			
					2010-11		2880	240	2640			
11	SCR	CNC Vertical Turret Lathes	CWM/WRS/GTP L	Boring of wheels	2008-09	10 discs per shift (02 shifts per day)	NA	NA	NA	Non availability of work load and based on the required turn out of the shed	648.96	67
					2009-10		4320	2776	1544			
					2010-11		6240	4358	1882			
12	SCR	CNC Vertical Turret Lathes	CWM/WRS/GTP L	Boring of wheels	2008-09	10 discs per shift (01 shift per day)	NA	NA	NA	Non availability of work load and based on the required turn out of the shed	648.96	41
					2009-10		4320	2204	2116			
					2010-11		6240	1919	4321			
13	SCR	CNC Surface Wheel Lathe	ROH Shed/RDM	For tyre turning of CTRB wheels and supplying to ROH out turn	2008-09	24 wheel sets per shift	1152	1140	12	NA	490.00	100
					2009-10		7488	7549	Nil			
					2010-11		7488	8149	Nil			
14	SCR	Under Floor CNC Wheel Lathe	DSL Shed/MLY	Turning of loco wheels in position and individual wheels also	2008-09	24 wheel sets per day	-	-	-	Non availability of work load and based on the required turn out of the shed	427.76	4
					2009-10		9792 (From 02/10 to 05/2011)	376 (From 02/10 to 05/2011)	9416			
					2010-11							

S.N.	Railway	Name of Plant and machinery	Location where installed	Nature of the work	Period	Rated capacity of machine	Output that should be according to rated capacity	Actual output	Shorfall	Reasons for shortfall	Total Cost (in lacs)	Percentage of output
1	2	3	4	5	6	7	8	9	10	11	12	
15	SCR	CNC Multi Purpose Wheel Lathe	SSE/Wagon Depot/BZA	Turning of wheels	2008-09	24 wheels per 08 hours	-	-	-	Lack of feed	427.92	
					2009-10		-	-	-			13
					2010-11		240	32	208			
16	CR	CNC SURFACE WHEEL	Daund, Solapur Div.	Profiling of Wheels	Feb. 11 to May 11	24 Wheel sets per shift	24 Wheels sets per Shift	5 Wheels sets per Shift	19 Wheels sets per Shift	Due to Less Work load than anticipated	404.23	21
17	CR	CNC SURFACE WHEEL	Wheel Shop, MTN	Profiling of Wheels	Feb. 11 to May 11	24 Wheel sets per shift	24 Wheels sets per Shift	23.23 Wheels sets per Shift	0.77 Wheels sets per Shift	Minor	538.27	97
18	ER	CNC MULTI PURPOSE WHEEL	Shop - 20 of KPA Carriage (commissioned on	Wheel turning operation of EMU trailer, motor,	i) 12.02.11 to 28.02.11 ii) 01.03.11 to	00-58 hrs. per wheel set as per time study	i) 136 pairs (single shift) ii) 248 pairs	i) 26 pairs (single shift) ii) 114 pairs	i) 110 pairs ii) 134 pairs	Under Trial and time study	543.27	33
19	ER	LATHE VERTICAL TURRET	Dy. CME (Manufacturing) / LLH	Boring, turning, grooving, radius cutting etc.	i) January '10 ii) February '10 iii) March	4 nos. / shift as per time study conducted by		i) 28 pairs ii) 58 pairs iii) 50 pairs iv)		Frequent breakdown of machine	103.48	NA
20	ER	Axle Journal Turning & Burnishing	K Shop	Turning and roller burnishing	Mar-11	As per AT, 20 wheel sets per 8 hour shift at 85%	960	Prior to 01.03.11, no record of outturn	435	Not Available	141.82	55
21	ER	CNC Surface Wheel Lathe G 328	Wheel Shop	Reprofiling worn out and redisced wheel sets	March '09 to May '11	Not available	Not available	Enclosed in separate sheet		Frequent breakdown of machine	404.32	NA
22	ER	Automatic CNC underfloor wheel lathe OP 1739	Tikiapara Coaching Depot	Reprofiling of wheel sets	Turning of wheel started from 07.09.10 i) 07.09.10 to 25.09.10 ii) 26.09.10 to 25.10.10 iii) 26.10.10 to 25.11.10	Not available	Not available	i) 25 nos. ii) 107 nos. iii) 71 nos. iv) 32 nos. v) 116 nos.		As per PTC (09.02.11), the machine was commissioned on 22.07.2010, but due to non achievement of trouble free operation of the machine, the output is badly affected till date. Lying out of order since 23.02.2011.	470.19	NA

Chapter 4 Mechanical - Zonal Hqrs/Workshops/Production Units

S.N.	Railway	Name of Plant and machinery	Location where installed	Nature of the work	Period	Rated capacity of machine	Output that should be according to rated capacity	Actual output	Shorfall	Reasons for shortfall	Total Cost (in lacs)	Percentage of output
1	2	3	4	5	6	7	8	9	10	11	12	
23	SR	CNC Surface Wheel Lathe (PER)	CWM / CW / PER	Wheel turning works during POH of coaches &		24 Wheels in 8 hours	24 Wheels in 8 hours	14 Wheels in 8 hours	10 Wheels in 8 hours	Non availability of workload	538.27	58
24	SR	CNC Surface Wheel Lathe (JTJ)	SSE / C&W / JTJ	Wheel turning works during POH of coaches &		24 Wheels in 8 hours	24 Wheels in 8 hours	10 Wheels in 8 hours	14 wheels in 8 hours	Non availability of workload	538.27	42
25	SR	CNC Surface Wheel Lathe (TNPM)	SSE / C&W / TNPM	Wheel turning works during POH of coaches &		24 Wheels in 8 hours	24 Wheels in 8 hours	10 Wheels in 8 hours	14 wheels in 8 hours	Non availability of workload	538.27	42
26	WR	WHEEL LATHE SURFACE	BVP/Workshop	Tyre turning of wheels	5 Months	24 wheels per 8 hrs. Shift. (600 wheels per month	24 wheels per 8 hrs. shift	63 wheels per month for single shift only	537 per month	No sufficient wheel set & staff available	580.00	11
27	WR	LATHE VERTICAL TURRET	BVP/Workshop	Boring, Turning, hubfacing , inside grooving	2 Months approx.	per 8 hrs. 15 solid wheel discs (375 wheels per month	per 8 hrs. 15 solid wheel discs	NIL	375 per Month	Wheel press Machine is yet not received in workshop, hence machine is not utilised.	77.00	0
28	WR	LATHE VERTICAL TURRET	DHD /Workshop	Wheel work	16 Months	27 minutes per wheel (400 wheels per months)	27 minutes per wheel (400 wheels per	69 wheels per months	331 wheels per month	Machine under repair	131.07	17
29	WR	LATHE VERTICAL TURRET	DHD /Workshop	Wheel work	10 Months	27 minutes per wheel (400 wheels per months)	27 minutes per wheel (400 wheels per	72 wheels per months	328 wheels per month	Machine under repair	122.50	18
30	WR	Wheel Lathe Under Floor	Sr.DME(DL)-SBI	For wheel turning.	9 Months	06 wheels sets per 08 Hours i.e per shift. (150 wheel	6 wheels sets per 08 Hours i.e per shift.	101 Wheels per month	49 Wheels per month	Due to non availability of Wheels/Locomotives	457.90	67
31	WR	LATHE AJTB	BVP/Workshop	Turning & Roller Burnishing in hardened	2 Months	20 wheel sets per 8 hrs. shift (500 wheels per month	20 wheel sets per 8 hrs. shift (500 wheels	4 wheel sets per month for single shift	496 wheels sets in a month for single shift	Load of new axle wheel set not available for burnishing of axle.	111.00	1
32	NR	CNC AXLE TURNING LATHE	AMVW	Turning of axles	17.11.10 to 31.5.11	4.5 axle per 8 hour shift	112 axle per month	36 axle per month	76 axles per month	All the axles available in the W/shop were machined and no other axles were available for machining.	120.00	32

S.N.	Railway	Name of Plant and machinery	Location where installed	Nature of the work	Period	Rated capacity of machine	Output that should be according to rated capacity	Actual output	Shorfall	Reasons for shortfall	Total Cost (in lacs)	Percentage of output
1	2	3	4	5	6	7	8	9	10	11	12	
33	NR	CNC AXLE TURNING LATHE	ASR/W	Turing of axles	22.4.09 to 31.5.11	8 axles per shift of 8 hrs.	5056	183 axles	4873	All the axles available in the W/shop were machined and no other axles were available for machining.	120.00	4
34	NR	Cylindrical Axle Grinding Machine(CNC)	JUDW	For gridning of axle seats	2.11.10 to 31.5.11	6 wheels per 8 hours shift	1044	527	517	Non availability of work load	250.00	50
35	NR	Surface Wheel Lathe	AMV	Turning of wheels	21.10.10 to 31.5.11	24 wheels sets per 8 hourly shift.	953 sets p.m.	272 sets p.m.	681	Non-availability of workload	770.00	29
36	NR	CNC VTL with size-Max. turning Dia	JUDW	Turning and burnishing of axles	23.04.10 to 31.5.11	20 wheels per 8 hours shift	3660	696	2964	The shortfall in outturn is on account of defects in machine.	115.00	19
37	NWR	Lathe AJTB	Wheel Shop (W) BKN	Axle Turning	-	8/10 wheel per shift of 8 hours for BG/MG wheel	8/10 per shift of 8 hours for BG/MG wheel	6 MG wheel per shift	4 wheel	Due to available workload of 6 wheels	194.61	75
38	WCR	CNC Surface Wheel Lathe	Wheel Shop of CRWS/BPL	Turning of wheel set	480 shift (up to April 2011)	24 Wheel set per 8 hours shift	11520 wheel set	5488 wheel set	6032 wheel set	Non-availability of work laod and based on required turn out of the shed	565.81	47
39	WCR	CNC Axle Turning Lathe	Wheel Shop of CRWS/BPL	Turning Axle	338 shift (up to April 2011)	8 Axle turning per 8 hour shift	2704 Axle	635 Axle	2069 Axle	Non availability of work load and based on required turn out of the shed	116.87	23
Cost											13797.18	
			NA	3		977.99						
			0 - 25%	13		3558.05						
			26-50%	10		4617.21						
			51-75%	8		2951.99						
			76 and above	5		1691.94						

Abbreviations used in the Report

IR	Indian Railways
CR	Central Railway
ER	Eastern Railway
ECR	East Central Railway
ECoR/E. Coast	East Coast Railway
NR	Northern Railway
NCR	North Central Railway
NER	North Eastern Railway
NFR	Northeast Frontier Railway
NWR	North Western Railway
SR	Southern Railway
SCR	South Central Railway
SER	South Eastern Railway
SECR	South East Central Railway
SWR	South Western Railway
WR	Western Railway
WCR	West Central Railway
RPU	Railway Production Units
DLW	Diesel Locomotive Works
CLW	Chittaranjan Locomotive Works
ICF	Integral Coach Factory
RCF	Rail Coach Factory
DMW	Diesel Modernization Works
PAC	Public Accounts Committee
FA&CAO	Financial Advisor and Chief Accounts Officer