

**Report of the
Comptroller and Auditor General of India**

**MANAGEMENT OF GOODS TRAINS IN INDIAN
RAILWAYS**

For the year ended March 2013

Laid in Lok Sabha/Rajya Sabha on _____

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Report No. 31 of 2014
(Performance Audit)

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PREFACE

This Report (No. 31 of 2014- Performance Audit for the year ended 31 March 2013) has been prepared for submission to the President of India under Article 151(1) of the Constitution of India. This Report contains the results of the review of Management of Goods Trains in Indian Railways.

The observations included in this Report have been based on the findings of the test audit conducted during 2012-13 as well as results of audit conducted in earlier years, which could not be included in the previous Reports.

List of Abbreviations used in the Report

ACC	Associated Cement Company Ltd
ACS	Aditya Cement siding
ADI	Ahmedabad
ASR	Amritsar
AII	Ajmer
ALD	Allahabad
BALCO	Bharat Aluminium Company
BDCR	Bhadrachalam
BESCO	Bhartia Electric Steel Co.
BIA	Bhilai
BGKG	Binani Cement Siding, Binanigram
BHEL	Bharat Heavy Electrical Limited
BKCC	Bokaro Steel city
BKSC	Bokaro Steel(Stl) City
BNDM	Bonda Munda
BRC	Vadodara
BRWD	Burwadih Junction
BSPC	Bhilai Steel plant Construction Siding
BZA	Vijayawada
BRKAGS	Barkakana Goods Shed
BNGS	Shri Cement Siding, Bangurgram
BPCs	Brake power Certificates
Cap.	Capital
CBC	Centre Buffer Coupler
CFCS	Chambal Fertilisers and Chemical siding
CFTM	Chief Freight Transportation Manager
CF	Capital Fund
CKP	Chakradharpur
CLW	Chittaranjan and Diesel locomotive Works
CME	Chief Mechanical Engineer
C&W	Carriage and Wagons
COA	Control Office Applications
COM	Chief Operations Manager
CPC	Kanpur Central Goods Shed
CWM	Chief Works Manager
CYM	Chief Yard Master
DCPG	Diamond Cement Siding, Paricha
DF	Development Fund
DHN	Dhanbad
DLI	Delhi
DLW	Diesel locomotive Works
DOM	Divisional Operating Manager
DOU	Dodaballapur
DRF	Depreciation Reserve Fund
ER	Eastern Railway
ECR	East Central Railway
ECoR	East Coast Railway
FA & CAO	Financial Adviser & Chief Accounts Officer

FOIS	Freight Operations Information System
GCC	General Conditions of Contract
GHY	Guwahati
GIMB	Gandhidham
GS	Goods Shed
GTPL	Guntapalli
GTWSGS	Gatora Goods shed
HCW	High Capacity Wagons
HDC	Haldia Dock Complex
HP	Horse Power
HPT	Hospet.
ICML	Integetared coal mining Limited Siding
IR	Indian Railways
IOH	Intermediate Overhaul
IRFC	Indian Railway Finance Corporation
IPN	Irumpanam
JBP	Jabalpur
JHS	Jhansi
JMP	Jamalpur
JSM	Jaisalmer
JSWT	M/s Jindal Steel Works Siding(Toranagallu)
JTJ	Jolarpettai
JVSL	Jindal Vijay Nagar Steel limited
JU	Jodhpur
JUDW	Jagadhari Workshop
KGP	Kharagpur Workshop
KIR	Katihar Junction
KLGY	Khanalampura
KRCL	Konkan Railway Corporation Ltd.
KRMRGS	Karim Nagar Goods Shed
LWIS	Liberalised Wagon Investment Scheme
MAS	Madras (now Chennai)
MAJN	Mangalore Junction
MNEGS	Mansi Goods Shed
MT	Million tonnes
MMD	Maximum Moving Dimension
MoR	Ministry of Railways
MSSG	Maihar Cement siding
NBQ	New Bongaigaon
NCO	Neutral control Office
NCR	North Central Railway
NCWS	Neutral Control Wagon Superintendent
NER	North Eastern Railway
NEFR	North East Frontier Railway
NGC	New Guwahati
NJP	New Jalpaiguri
NMP	Nimpura
NKJ	New Katni Jn.
NNAGS	Naugachia Goods Shed
NPOH	Non Periodical Overhauling

NRPA	Narayanpur Anant
NRY	Nyoriya Husenpur
NTXR	Neutral Trains Examiner
NWR	North Western Railway
ODC	Overdue charges
OEC	Ore Exchange Yard
OHE	Over Head Equipment
PAC	Public Account Committee
PRDP	Paradip
PSU	Public Sector Undertaking
POH	Periodical Overhauling
RDSO	Research Design & Standard Organization
R&D	Research and Designs
RITES	Rail India Technical and Economic Services.
ROH	Routine Overhaul
RO-RO Wagons	Roll-On -Roll -Off Wagons
RSP	Rolling Stock Programme
RNJPGS	Ranjitpura Goods shed
RRI	Rahuri
RTM	Ratlam
RUSG	Rudrachalam siding
RUDGS	Ravukampadu Goods Shed
SECR	South East Central Railway
SBC	Bangalore
SC	Secunderabad
SCR	South Central Railway
SEE	Sonepur Jn.
SGT	Satellite Goods Trains
SOD	Schedule of Dimensions
SNF	Sanath Nagar
SPW	Special Purpose Wagons
SR	Southern Railway
SWR	South Western Railway
TNPM	Tondiarpet
TKD	Tughlakabad
TMS	Train Management System
TVC	Trivendrum Central
TXR	Train examination
UDL	Andal
UBL	Hubli
UMB	Ambala
VSKP	Vishakhapatnam
WCR	West Central Railway
WIS	Wagon Investment Scheme
WMM	Wagon Maintenance Manual
WRS	Waris Aleganj
WTR	Wagon Turn Round
ZRs	Zonal Railways

Executive summary

I Background

Freight is a profit making business segment of Indian Railways and is the backbone of railway revenues. Over the years the market share of Indian Railways has been consistently shrinking and railways was losing out to road sector. Achievement of projected freight targets largely depended on the manner in which the Indian Railways reshaped its policies and strategies not only to regain the lost share in freight traffic but also to provide value for money to customers in terms of better facilities and improved services. IR carries more than 35 per cent of the total freight traffic (tonnes /kilometers) of the country and about two third of its revenue comes from transportation of goods traffic. Despite encouraging growth of freight, the market share of IR in freight sector has declined substantially from 53 to about 35 per cent during the last two decades.

Efficient management of goods train operations depend on the following factors and Railway Administration's inclination and ability to regulate these issues efficiently without compromising the quality of materials and service.

- Adequate availability of rolling stock, crews and appropriate paths for movement of goods trains
- Timely repair and maintenance of rolling stock to keep them in good condition,
- Ensuring optimum utilization of locos/wagons by achieving reduction in turn-around time,

This audit review was aimed at assessing the adequacy of rolling stock with respect to the freight traffic growth of Indian Railways; see the effectiveness of utilization and maintenance of available rolling stock besides reviewing the effectiveness of the monitoring mechanism to oversee the smooth freight train operations.

This Report highlights the performance of Indian Railways during 2008-2013 on the aspects pertaining to Goods Trains operations that included assessment, procurement of rolling stock, its distribution, utilization and maintenance.

II Major Audit Findings

1. Audit reviewed the assessment of requirement of wagons vis a vis procurement to see that procurement of wagons and locos was commensurate with the requirement assessed. Adequate funding was ensured. Audit also examined if the intended benefit of the technological development planned in the wagons was achieved. It was observed that:-
 - (a) The requirement of rolling stock assessed did not have any input from the Zonal Railways, the ultimate user. Further, the quantity procured during the review period was not in line with the requirement assessed.

It was further observed that even the ordered quantity of wagons was not supplied in full by the Railway Production units and Public Sector Wagon Manufacturers and the shortfall in wagon manufacturing was 36 and 24 per cent respectively. Funds provided for procurement of wagons were not utilised resulting in savings in all the years except for 2011-12.

During the period 2008-13 IR had paid ₹ 10,349.14 crore (₹ 4,299.21 crore for wagons and ₹ 6,049.93 crore for locos) for payment towards principal component of lease payments to IRFC. This payment was made from Capital Fund till 2010-11 and thereafter payment of ₹ 5514 crore was made from capital for which IR borne an additional dividend liability of ₹ 221 crore.

(Para 2.2, 2.3, 2.4, 2.5 and 2.6)

- (b) Four projects involving up-gradation in wagons design taken up during 2006 to 2008 with a view to increase the through put were still in progress till March 2013.

(Para 2.8)

Recommendations

IR needs to ensure that acquisition of wagons /locomotives is commensurate with the requirement assessed. Production of the wagons by the firms should be monitored on monthly basis and suitable action should be taken for non-adherence of production targets.

- 2 Audit examined the adequacy of wagons and locomotives for meeting the demand for freight loading along with the utilization of wagons to see if these were effectively utilized. It was observed in audit that:-

- (a) Deterioration in the various efficiency parameters like Wagon Turn Round (WTR), Hot Axles, Detachment, Train Parting, Spring Breakage, Poor Brake power affected smooth and efficient freight train operations. Further, more than 50 per cent of the train run was observed at an average speed below 20 kmph. Empty run of wagons had been consistently at 33 per cent during 2008-2013 despite measures initiated by IR to capture the traffic in empty direction. Test audit also revealed that more than 50 per cent of the goods trains started late for want of locomotives

(Para 3.2.2, 3.2.3, 3.2.4 and 3.4)

- (b) Wagons suffered detentions at loading /unloading points in goods/sidings. The average detention was more than 24 hours in several cases. The objective of reducing detentions due to loading and unloading operations below 16 hours has not been achieved.

(Para 3.2.5)

- (c) Test check in audit revealed that about 63 per cent of the trains started late for want of locos. 18 per cent of the trains started late due to non availability of the clear path and crew.

(Para 3.4)

- (d) One third of the wagons found unconnected (2552 wagons) were connected beyond the prescribed period of 72 hours. 876 wagons (34.33 per cent) remained out of service for the period ranging between 16 to 1271 days resulting in loss of earning capacity of ₹ 28.47 crore. Further, the time taken for tracing 162 un-connected wagons was even more than 100 days in five Zonal Railways and 54 of these 162 wagons could be traced beyond 500 days.

(Para 3.5)

Study of record of the selected goods sheds and sidings revealed that 25 per cent of the demurrage charges accrued (₹ 267.07 crore) were waived by Railways and demurrage charges amounting to ₹ 53.06 crore still remains to be recovered from the Parties. Further, the rate for the demurrage charges as fixed since 2008 was not commensurate with the loss of earning potential of wagons due to detention.

(Para 3.6)

Recommendations

- *IR also needs to address, on priority, the shortfall in the availability of basic infrastructure facilities at the goods sheds/sidings which will certainly help in keeping check on the un-necessary detention to wagons.*
- *IR should consider fixing norms for detention to wagons at each of the activity centre so that the stock can be effectively utilized. IR should also consider devising mechanism for improving the efficiency parameters.*

3 A review in audit of the wagon maintenance and status on condemnation of rolling stock revealed that:-

- (a) Wagons found unfit for operational activities during the examination of wagons in the sick line attached to the terminal yards were detained for abnormally longer periods. 53,815 such wagons in four ZRs suffered detention exceeding nine hours resulting in loss of earning capacity of ₹ 24.63 crore. No permissible norms for detention for all activities at terminal yards/sick lines existed either at Railway Board or Zonal Railway level. Further, 2484 wagons repaired in sick lines suffered detention in yard for the period ranging between 48 to 173 days after being declared fit but before putting back in service consequently resulting in loss of earning capacity of ₹ 72.65 crore.

(Para 4.2.1 and 4.2.2)

- (b) As many as 31928 wagons not-due for POH were erroneously received in the workshops for POH during 2008-13. Of these 4850 wagons were turned out by the workshop authorities with avoidable delays ranging between three months to one year resulting in loss of revenue amounting to ₹ 144.35 crore.

(Para 4.4.1)

- (c) The review of the arrangements for sending the wagons for periodical overhauling, time taken by workshops in overhauling and removal of wagons turned out after overhauling revealed that wagons suffered detention at all these stages. Detention of 82705 wagons prior to/after POH in workshop resulted in avoidable loss of earning capacity to the tune of ₹ 333.58 crore
- (d) Out of the wagons given POH in workshop, Railways could not complete POH within the prescribed cycle time in respect of the 40 per cent of the wagons depriving IR of the services of the wagons on line for the period they were detained beyond prescribed cycle time resulting in avoidable loss of earning potential of ₹ 314.71 crore during the period under review.

(Para 4.4.2 and 4.4.3)

- (e) The reason attributed for wagons becoming unloadable was improper handling by the siding owners. A test check of position on unloadable wagons during 2011-12 and 2012-13 revealed that out of 1,53,445 unloadable wagons requiring attention for repairs, 1,42,171 wagons were attended in sick lines/sheds and the remaining 11,274 unloadable wagon were sent to various workshops for NPOH attention. An amount of ₹ 62.22 crore was spent on repairs of 3,661 unloadable wagons in NWR, SCR and SER. The amount spent on repair of remaining 7,551 unloadable wagons was not made available.

(Para 4.5)

- (f) Examination of the position at selected examination points and workshops revealed that rejected wagons were passed locally without being certified as fit by NCO and put in to service. This was irregular and in contravention of rules and a compromise with the safe running of freight trains.

[Para 4.6 (a) and (b)]

- (g) Test check revealed that five Zonal Railways could not achieve its targets of condemnation of wagons stock during the years 2010-13. This has to be considered in the background of the finding that over aged rolling stock remains in operation with the most of the Zonal Railways posing safety risks.

(Para 4.7.2)

Recommendations

- *IR needs to expeditiously provide all infrastructure facility as well as required machinery and plant at all examination points in terminal yards and in POH workshops and fix a reasonable time frame for repairs to wagon in sick line as well for POH of wagon in the workshop in order to minimise detentions of rolling stock at examination points as well as in workshops during POH.*
- *A suitable monitoring mechanism need to be devised to ensure that wagons not due for POH are not erroneously sent to workshop. IR needs to institute an effective deterrence on defaulting parties so that the incidences of wagons*

becoming unloadable due to mishandling of wagons by the parties during loading/unloading operations are avoided.

- 4 Audit reviewed the monitoring mechanism to oversee that the freight trains operations were smooth and efficient. Efficient functioning of the control office at Division as well as Zonal level should get translated in to achieving the objectives of control organisation. But the cases of excessive detentions of wagons at various activity centres affecting the availability of wagons, non availability of locomotives for running the goods trains and deterioration in average speed of goods trains amply points towards a monitoring mechanism that warrants streamlining.

(Para 5.4)

Recommendation

IR needs to strengthen its monitoring mechanism during loading /unloading and maintenance operations so that the wagons are not detained un-necessarily for longer periods affecting the availability of wagons.

CHAPTER I → INTRODUCTION

1.1 Introduction

Indian Railways (IR) is one of the largest railway networks in the world with 64600 route kilometers and 1.4 million employees under a single management. IR is the largest rail passenger carrier and fourth largest rail freight carrier in the world. IR inherited 53,996 of route km of rail network in the year 1947 and today the network stands at 64,600 km – an increase of only 10,604 km in 64 years since independence. Freight movement is one of the core activities of Indian Railways, in terms of earning revenue as well as transport effort. IR carries more than 35 per cent of the total freight traffic (tonnes/kilometers) of the country and about two-third of its revenue comes from transportation of goods traffic.

At the end of the 10th Five Year Plan period (March 2007), originating tonnage stood at 728.4 million tonnes (MT). The target for the terminal year of the 11th Five Year Plan period (2007-2012) was 1020 MT against which the IR achieved 970 MT at the end of 2011-12. The trend of freight loading and earnings during the period 2008-13 is given below.

Table 1-

Position of loading and earnings of Indian Railways during 2008-13

Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1	2	3	4	5	6
Loading (in Million Tonnes)	833.39	887.79	921.73	969.05	1,008.09
Freight earning (₹ in crore)	53,433.42	58,501.68	62,844.72	69,547.59	85,262.58

Source:-Indian Railway year Book for respective years

The freight basket of Indian Railways is dominated by nine major commodity groups, namely coal, iron and steel, iron ore (both for export and domestic steel plants), other raw materials for steel plants cement, food grain, fertilizer and petroleum products.

Indian Railways owns over 244731 Freight Wagons, 63870 Passenger Coaches and 9956 Locomotives as on March 2013. Indian Railways acts as a predominant public carrier and is considered as the life line of the nation. Despite encouraging growth of freight, the market share of IR in freight sector has declined substantially from 53 to about 35 *per cent* during the last two decades.

The operation of goods train depends largely on following aspects.

- Adequate availability of desired railway locos, wagons, crews and appropriate paths for movement of goods trains
- Upkeep of the locos and wagons in good condition by facilitating timely repair and maintenance,
- Ensuring optimum utilization of locos/wagons by achieving reduction in turn-around time,

Efficient management of goods train operations depend on the above factors and Railway Administration's inclination and ability to regulate these issues efficiently. This Performance Audit was conducted to study and analyse as to how far IR has performed in managing the freight trains operations during 2008-13.

1.2 Organization Set up

At the Railway Board, Traffic Commercial Directorate headed by Member Traffic formulates policies on tariff and marketing strategies while the Traffic Transportation directorate monitors the movement of traffic of different commodities. Mechanical Engineering Directorate headed by Member Mechanical is the overall authority for procurement of rolling stock and formulating policy concerning maintenance of rolling stock. The two directorates are within an overall control of Chairman Railway Board.

At Zonal Railway level, the freight business operations including collection of revenue are vested with Commercial Department. The Operating Department is responsible for allotment of goods stock and running of Goods Trains. Freight business operations are vested with the Chief Commercial Manager (Freight Marketing), Chief Operations Manager and Chief Freight Transport Manager. In divisions the Sr. Divisional Commercial Manager is responsible for implementation of policies and Senior Divisional Operations Manager is responsible for freight operations.

Chief Mechanical Engineer (CME) at the Zonal Headquarters level and Senior Divisional Mechanical Engineering at the Divisional level look after repairs and maintenance of locos and Wagons. General Manager is the over-all in charge for the activities at Zonal Railway level.

An organization chart of Railway officials responsible for Freight Operation is shown in Appendix I.

1.3 Audit Objectives

The Performance Audit on Management of Goods Trains was aimed at obtaining reasonable assurance that the:

- Procurement of wagons and locos was commensurate with the requirement assessed, Adequate funding was ensured and intended benefit of the technological development planned in the wagons was achieved;
- Adequate wagons and locos were available for meeting the demand for freight loading and the wagons were utilized optimally;
- Wagon maintenance was ensured in an effective manner and wagons/locos were condemned as planned;
- Monitoring mechanism existed to oversee the smooth and efficient freight trains operations.

1.4 Audit Criteria

The Performance Audit conducted on the basis of the following criteria:-

- Provisions prescribed under Codes and Manuals of the Mechanical, operating and Commercial Departments of IR
- Guidelines/instructions issued from Railway Board/Zonal Railways on assessment, procurement, utilization, maintenance of wagons,
- Records maintained by Railway Board, Production units, Zonal Railways, Divisions, stations, good sheds/sidings, Workshops and sheds on assessment procurement, utilization, maintenance of wagons,
- Reports on Freight operations generated from Freight Operation Information System (FOIS) from Zonal Railway/Divisions. Analysis of FOIS data pertaining to registration of demand, allotment of wagons and Brake Power Certificates etc.

1.5. Audit Scope, Methodology and Sample selection

Audit reviewed major aspects that impact the operations of goods trains such as planning for adequate availability of locos and wagon stock, its optimum utilization, proper maintenance and monitoring the goods trains operations for the five year period from 2008-13.

The audit methodology included the examination of records in Railway Board, Zonal Railway Headquarters and field locations and analysis of the relevant quantitative data.

Management of Goods Trains in Indian Railways

The Performance Audit on Management of Goods Trains in Indian Railway was conducted across all the 16 zones. Data was collected for the entire zone (for macro level analysis-for the period 2008-13 and for the period 2011-13 for micro analysis) on a judgmental selection of a representative sample as indicated below:-

Table 2 –Details of the sample size

S. No.	Name of the activity centre	Selection criteria/sample size	Units selected
1.	Division	Two Divisions with highest volume of Goods Traffic	32
2.	Loading Points (Sidings/Goods Sheds)	Two loading points involving highest volume of goods traffic in each division (including one private siding) Thus total four loading points selected in each zone	64
3.	Unloading Points(Sidings/Goods Sheds)	Two points involving highest volume of goods traffic in each division (should include one private siding) Thus, total four unloading points selected in each zone.	64
4.	Terminal Yard including sick Line	Two from each zone	32
5.	Wagon Depot	One from each zone	16
6.	Wagon Workshop	One from each zone (five Zones do not have wagon workshop)	11

Details of units selected in sample size are given in Appendix II

1.6 Audit Findings

The results of the Performance Audit of Management of Goods Trains in IR are given in the following sections.

- Planning as well as funding arrangements for procurement of wagons and locomotives. This also included the technological upgradation in wagons;
- Allocation of Wagons amongst Zonal Railways and their utilization including the use of Freight Operations and Information System (FOIS) in running the freight trains;
- Maintenance of Wagons to keep them in good condition and Condemnation of wagons/locos;
- Monitoring the movements of Goods trains

1.7 Acknowledgement

Audit acknowledges the co-operation and assistance extended by all Zonal Railways. However, Railway Board did not accede to the request for a suitable date for Exit Conference. Reply on the Provisional Report issued to Railway Board on 14-7-2014 was received in Audit belatedly on 30-9-2014.

Chapter II

Planning and funding for procurement of Wagons and locomotives and Technological developments in wagons

Audit Objective 1

Procurement of wagons and locos was commensurate with the requirement assessed. Adequate funding was ensured and intended benefit of the technological development planned in the wagons was achieved.

2.1. Planning

Rolling stock comprising of locomotives and wagons is the backbone on which freight movement depends. As a major transport industry, the Railway plan constitutes an integrated part of the national plan. The augmentation of locomotives and wagons is planned centrally at Railway Board every year by means of a Rolling Stock Programme (RSP). The Planning process for the Railway's five year plans commences with the task of forecasting the growth of freight traffic area-wise, on the basis of analysis of past trends, sectoral analysis, rate of growth, traffic targets fixed at the overall level. Provision in the Code (Para 1514-Indian Railway Code for Mechanical Department) also stipulated that a detailed justification may be prepared for every New Acquisition. Each item proposed in the Programme should be vetted by the FA & CAO¹ of the Railway Zone and his verbatim comments indicated against each item. The provisions required to be made in the rolling stock programme on replacement account is arrived at by projecting the likely condemnation in the period for which the plan is made.

Para 1502 of Indian Railway Code for Mechanical department stipulates that after final assessment of approximate requirement of Rolling Stock, the same is projected in the Five Year Plan. The Railway's Five-year plan is implemented through Annual Plans which includes preparation of Annual Rolling Stock Programme (RSP).

¹ FA&CAO –Financial Adviser and Chief Accounts Officer, Finance Department's head in Zonal Railway

As per para 1503 of the Indian Railway Code for Mechanical Department, provisions for new rolling stock in the annual rolling stock programme is made at least three years in advance in the case of locomotives and two years in advance in the case of wagons and carriages to match the requirement in each year of the plan period and to provide lead time in arranging supply of imported and indigenous items of components for manufacturing of rolling stock.

2.2 Requirement of wagons:

Based on the record reviewed in Railway Board and the study done by the field offices in Zonal Railways, Audit observed that no justification for new acquisition of rolling stock is being prepared in Zonal Railway. Further, Zonal Railways neither worked out the requirement of locos and the wagon nor has communicated any such requirement to Railway Board. The entire requirement was assessed at the Railway Board level on the basis of the traffic forecast based on the trend in annual growth of freight traffic.

During the period under review (2008 to 2013) requirement of wagons as per the Rolling Stock Programme (RSP²) was assessed at 75,942 numbers. This included new arising³ of 44,232 wagons. The requirement worked out takes in to account 33235 wagons due for condemnation during the period. The total requirement worked out to 119453 by adding a quantity of 43511 outstanding for supply as on 1-4-2008 against previous orders.

Position on orders placed and the actual supply from various sources is given in Para 2.6.

2.3 Requirement of Locomotives

IR estimated a shortfall of 1400 locomotives by the end of the XI plan period and considered acquisition of locomotives to meet the shortfall apart from contemplating setting up of new manufacturing facilities for manufacture of High Horse Powered electric (12000 HP) and diesel (6000 HP) locomotives through Public Private Partnership (PPP) to cater to growing traffic requirements in the long term. IR has also conceded that it primarily relied on the production capacity of its Production Units for augmenting locomotives and accepted that there was a persistent gap in requirement and acquisition of locomotives.

There has not been any significant improvement in the locomotive acquisition position in subsequent years. As on 1-4-2008, a quantity of 672 locomotives was

² RSP viz Rolling Stock Programme for the years 2008-09, 2009-10, 2010-11, 2011-12 and 2012-13)

³ This refers to the requirement of wagons projected annually based on the anticipated traffic.

outstanding for supply from the Railway's locomotives manufacturing units⁴. Further, the requirement for the period 2008-13 was assessed (through RSP) at 4547 numbers making the total quantity to be procured as 5219. Against this, IR acquired only 2711 locomotives during the period 2008 to 2013.

2.4 Funding the procurement of locomotives and wagons

Financing the procurement/acquisition of all the rolling stock appearing in the annual rolling stock programme of Indian Railway is met from gross budgetary support, internal generation and extra budgetary resources (IRFC and Private participation by the interested customers). Expenditure on procurement of wagons for incremental traffic is charged to Capital and that on replacement account is met out of the Depreciation Reserve Fund. Ministry of Railways also generates funds through public borrowings (Bonds) to finance procurement of wagons. The Budget Grant and Actual Expenditure in respect of procurement of rolling stock is given in Demand No. 16 under Rolling Stock and details of procurement planned are mentioned in the Rolling Stock Programme of Railways. Funds allocated under four specific heads during the period under review under different heads and expenditure incurred are shown in the following table.

Table 3 –Funding for procurement of locomotives and wagons

(₹ in crore)

Year	Budget Provision (Final Grant)					Actual Expenditure incurred					Excess (+)/ Savings (-)
	Cap	DRF	CF	DF	Total	Cap	DRF	CF	DF	Total	
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>
Wagons											
2008-09	34.13	696.99	0	0.2	731.32	0.2	605.9	0	0	606.07	-125.25
2009-10	35.01	764.33	0	0.00	799.34	42.73	465	0	0	507.74	-291.6
2010-11	0	348.8	0	0	348.8	-133.6	474.2	0	0.01	340.59	-8.21
2011-12	0	265.74	0	0	265.74	-72.26	408.1	0	0	335.8	+70.06
2012-13	65.06	572.04	0	0	637.1	-38.65	367.2	0	0	328.59	-308.51
Locomotives											
2008-09	133.19	698.44	0	0	831.63	402.85	852.7	189.86	0.83	1446.2	+614.60
2009-10	98.95	598.46	0	0	697.41	386.54	765.3	0	0	1151.8	+454.42
2010-11	242.8	1119.9	0	0.00	1362.69	2090.78	899.6	0	1.03	2991.4	+1628.71
2011-12	0	811.6	0	0.13	811.73	1081.92	1132	0	1.00	2214.5	+1402.76
2012-13	486.52	822.65	0	0.48	1309.65	730.5	853.3	0	2.67	1586.4	+276.79

Cap –Capital, CF –Capital Fund, DF –Development Fund, DRF –Depreciation Reserve Fund

Source:-Demands for Grant of Indian Railways for the respective years

⁴ Chittaranjan Locomotive Works (CLW) Chittaranjan and Diesel locomotive Works (DLW), Varanasi)

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It may be seen from the table above that the funds provided for procurement of wagons were not utilised resulting in savings in all the years except for 2011-12. Where as in respect of locos procurement, the actual expenditure exceeded the funds provided in the Budget. Reasons for this excess could not be verified in Audit in absence of relevant record.

2.5 Role of Indian Railway Financial Corporation (IRFC)

Indian Railway Finance Corporation Limited (IRFC) was set up as a public limited company in December 1986 with the sole objective of raising money from the market to part finance the plan outlay for meeting the developmental needs of IR. Funds are raised through issuance of bonds, term loans from banks/ financial institutions and availing external commercial borrowing etc. 1,77,039 wagons and 6654 locomotives were acquired by IR up to March 31, 2013 through IRFC leasing. The value of wagons and locomotives leased by IRFC to Railways as of 31st March 2013 was ₹ 29,178.32 crore and ₹ 41,247.01 crore respectively. IR has been making lease payments and principal repayment to IRFC semi-annually. The year wise details are as follows:-

Table 4 –IRFC funding for procurement of rolling stock (locos and wagons)
(₹ in crore)

Year	Wagons		Locos	
	Capital	Capital Fund	Capital	Capital Fund
2008-09	0	538.79	0	712.09
2009-10	0	668.01	0	926.07
2010-11	0	814.76	0	1,174.53
2011-12	1,011.29	0	1,447.09	0
2012-13	1,266.36	0	1,790.15	0
Total	2,277.65	2,021.56	3,237.24	2,812.69

Source:-Demands for Grant of Indian railways for the respective years

During the period 2008-13 IR had paid ₹ 10,349.14 crore (₹ 4,299.21 crore for wagons and ₹ 6,049.93 crore for locos) for payment towards principal component apart from the lease charges of ₹ 13343.6 crore which was charged to revenue. The principal lease payment was made from Capital Fund till 2010-11 and thereafter payment of ₹ 5514 crore was made from capital for which IR borne an additional dividend liability of ₹ 221 crore.

2.6 Manufacturing wagons

The decision regarding mode and source of procurement/manufacturing are taken at Railway Board level for

- (i) Manufacturing the wagons through own Workshops/ Production Units

- (ii) Procurement from PSU/ private manufactures.
- (iii) Wagons are also acquisitioned through outsourcing namely private participation by the interested parties under WIS and LWIS scheme⁵ approved by railway from time to time.

2.6.1 Manufacturing of wagons by Railway’s own Production Units

IR has five In-House Production Units⁶ for manufacturing of wagons. MoR draws up production plan and fixes yearly targets for production by these five workshops.

A comparative position of targets fixed, production capacity and the actual production is tabulated below Analysis of the targets for production and achievement revealed that yearly targets fixed by the Railway Board for manufacturing of wagons by the production units were not realistic in as much as there was no relationship between the production capacity, targets and actual production.

Table 5 –Manufacturing of wagons by IR’s own wagon production units

Railway Workshop	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
Samastipur Workshop of ECR	Production Capacity	300	300	300	300	300
	Target	300	300	300	300	360
	Actual	245	139	96	185	58
	Short fall	55	161	204	115	302
Jamalpur Workshop of ER	Production Capacity	250	450	600	600	630
	Target	500	780	600	720	690
	Actual	180	332	527	556	460
	Short fall	320	448	73	164	230
Amritsar Workshop of NR	Production Capacity	420	420	420	420	420
	Target	440	360	340	420	500
	Actual	234	259	366	393	311
	Short fall	206	101	0	27	189
Golden Rock Workshop of SR	Production Capacity	480	480	480	480	480
	Target	771	603	809	900	960
	Actual	771	595	423	281	480
	Short fall	0	8	386	619	480
Hubli workshop/ of SWR	Production Capacity	180	180	180	180	180
	Target	120	180	160	184	200
	Actual	148	182	183	184	192
	Short fall	0	0	0	0	8

Source:-Information furnished by respective Zonal Railways

⁵ WIS Wagon Investment Scheme, LWIS –Liberalised Wagon Investment Scheme

⁶ Mechanical Workshop/Samastipur of ECR; Jamalpur Workshop of ER; Amritsar Workshop of NR, Golden Rock Workshop of SR and Hubli Workshop of SWR.

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A review of the record for the period 2008-13 in respect of Production capacity and the target fixed revealed that the targets fixed by the Railway Board were unrealistic as these did not match with the production capacity in these units except Samastipur Workshop of ECR. The production capacity was augmented⁷ in the Jamalpur workshop of ER but the targets set by the Railway Board were even higher than the enhanced production capacity. While the target fixed for Golden Rock workshop of SR were also higher than the production capacities, the Targets fixed were less than the production capacities during 2009-11 in case of ASR workshop in NR and in Hubli workshop of SWR during 2008-09 and 2010-11.

A comparison of the target fixed and the actual supply of wagons during 2008-13 by the Railway wagon manufacturing workshops revealed that except Hubli workshop no other workshops fulfilled the target fixed. The Workshop Authorities attributed the shortfall in manufacturing to non availability of the required material in all these production units.

The shortfalls in the in-house manufacturing of wagons in Railway Workshops with reference to the annual target fixed (except in Hubli workshop of SWR) clearly indicate lack of effective monitoring of the availability of the material required for manufacturing wagons.

2.6.2 Procurement of Wagons by Direct Purchase

Procurement of wagons is mainly done from the approved wagon manufacturers both from public sector and private sectors. There are six PSUs (five under Ministry of Railways and one under Ministry of Heavy Industry) and nine private wagons manufactures as indicated in the table below:-

Table 6 –List of the various Public Sector/private Sector wagon manufacturers

Public Sector		Private Sector	
PSUs under Ministry of Railways			
1	M/s Burn Standard Co. Ltd. At Burnpur, West Bengal	1	M/s Texmaco Limited., Kolkata
2	M/s Burn Standard Co. Ltd. At Howrah, West Bengal	2	M/s Hindustan Engineering and Industries Ltd., Kolkata
3	M/s Braithwaite & Co. Ltd., Kolkata	3	M/s Modern Industries., Ghaziabad UP)
4	M/s Bharat Wagon & Engineering Co. Ltd., Mokamah , Bihar	4	M/s Titagarh Wagon Ltd., Kolkata

⁷ Production capacity in Jamalpur workshop of ER was enhanced from 250 In 2008-09 to 450 in 2009-10 and then to 600 and 630 in 2010-11 and 2012-13 respectively.

5	M/s Bharat Wagon & Engineering Co. Ltd., Muzaffarpur, Bihar	5	M/s BESCO Ltd., Kolkata
		6	M/s Jessop & Co. Ltd., Kolkata
PSU under Ministry of Heavy Industry		7	M/s Cimmco
6	M/s Bridge & Roof Co. (India) Ltd., Kolkata	8	M/s Jupitor Wagons
		9	M/s Jindal

Source:-Information furnished by concerned directorate of MoR

Based on the Rolling Stock Programme of wagons, requirement of 119453 wagons was assessed during the period 2008-13 which includes a quantity of carry forward (43511 wagons) of previous years as on 1-4-2008. The orders were placed for 101027 wagons during 2008-13. Based on the information furnished to Audit by the Ministry of Railways it was seen in audit that Railway Production units and Public Sector Wagon Manufacturers could not supply the ordered quantity and the shortfall in wagon manufacturers was 36 and 24 per cent respectively as indicated below:-

Table 7 –Supply position against the orders for procurement of wagons

S. No.	Particulars	Quantity ordered	Quantity supplied	Short-fall	Per cent shortfall
1	2	3	4	5	6
1	Wagon manufacturing PSUs under Ministry of Railways and Ministry of Heavy industries	14547	11079	3468	24
2	Railway's own wagon manufacturing units	6860	4366	2494	36

Source:-Information obtained from Railway Board

The five Railway wagon manufacturing units could not complete the target owing to shortage of the required material⁸. No reasons were also found on record in respect of the PSUs failing to meet the target.

Further, a wide gap was observed between the quantity of 119453 wagons assessed during 2008-13 by Mechanical Directorate on the basis of RSP for wagons and the supply orders placed for the corresponding period. No reply has been given by MoR on this issue.

2.7 Acquisition of wagons under private participation by private parties:

IR in the recent past has also gone for induction of wagons in its system by way of inviting private investment. IR launched the two schemes for induction of wagons into the IR network by inviting private investment.

⁸ Bogie frame, Bolster, Huck Bolt, Draft Gear, Couplers, Air brake set and axle box spring etc

‘Wagon Investment Scheme’ (WIS) was launched in 2005 to encourage public-private partnership in procurement of wagons and to meet with the anticipated incremental freight traffic. WIS was superseded by Liberalized Wagon Investment Scheme (LWIS) that was launched in 2008. Under the WIS the wagons invested by parties were merged in to common pool of wagons of IR, hence the investors were not required to pay any maintenance charges for the wagons. Under the LWIS, end users, viz., producers, manufacturers and consumers were allowed to invest in Special Purpose Wagons (SPW) and High Capacity Wagons (HCW). Maintenance charge at the rate of 5 per cent of the capital cost of wagons invested was payable by the parties.

A review of the wagons procured during the period 2008-13 under WIS and LWIS schemes revealed that these schemes did not yield much required capital infusion as shown by the number of rakes inducted in the system. Detailed analysis revealed that the number of rakes inducted was short of the numbers for which the proposal was approved by Railway Board as indicated below.

Table 8 –Position of induction of rakes through private sector participation

S. No.	Zonal Railway	Number of rakes for which the Proposal approved by Railway Board		Number of rakes inducted in the IR system	
		WIS	LWIS	WIS	LWIS
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
1	CR	Nil	2	Nil	2
2	ECoR	2	28	2	11
3	SCR	Nil	5	Nil	5
4	SER	24	Nil	24	Nil
5	SECR	Nil	5	Nil	5
6	SWR	3	1	3	Nil
7	WR	1	Nil	1	Nil
	Total	30	41	30	23

Source:-Information furnished by the Zones where rakes inducted under WIS/LWIS

It was also seen that in ECoR, Bharat Aluminium Company (BALCO) had signed agreements in October 2011 and February 2012 for induction of two rakes (one BTAPHP and one BTAP) under LWIS, but has not inducted the rakes even after a lapse of over two years.

Railway Board had approved (August 2009) procurement of one BCCW rake for SWR under LWIS by M/s ACC Ltd., for movement of Fly Ash. The firm was yet to procure the rake. No agreement has been executed with the firm even after the lapse of over four years.

As per the agreements executed with the parties in case of LWIS, maintenance charges @ 5 per cent of the cost of wagons were to be recovered on quarterly basis in advance from the parties. An amount of ₹ 30 crore was due to be recovered as maintenance charges from seven parties during 2008-13. However, maintenance charges amounting to ₹ 0.38 crore remained to be recovered (March 2013) from two parties.

2.8 Technological up-gradation in wagons

Research Design & Standard Organization (RDSO) is the sole Research and Designs (R&D) organization of Indian Railways and functions as the technical adviser to Railway Board, Zonal Railways and Production units. The Eleventh five year plan document inter-alia emphasized on the following technological up-gradation and modernization of wagon stocks.

- (i) Universal switch-over to 22.9 tonne axle load wagons from the present axle load of 21.3 tonne to improve loadability of wagons,
- (ii) Effort to bring lighter and corrosion resistant materials to improve the payload to the tare ratio⁹ of wagons,

The six completed projects involving up-gradation in wagons selected for detailed review are indicated below along with the benefits envisaged.

Table 9-Statement showing the wagon design development projects and the intended benefits

S. No.	Project	Benefit envisaged
1	Design and Development of RO-RO Wagons	Designed for the pay load of 50 tonne for carrying two loaded trucks
2	Design and Development of BOXNHL Wagons	The permissible carrying of these wagons is two tonne higher than BOXN wagons. These wagons were meant for Coal and Ores traffic.
3	Design and Development of BOXNR Wagons	The permissible carrying of those wagons was one tonne higher than BOXN wagons. Those wagons increased height of side wall with the Stainless Steel Body and were meant for Coal and Ore traffic.
4	Design and Development of 28 Axle wagons	These wagons were designed to meet the specific requirement of BHEL, Haridwar for transportation of 660 Mega Watt Turbo Generator Stator.
5	Up gradation of wagon into 25 ton axle load	To increase the carrying capacity and introduction of higher axle load wagons.
6	Design of BCNHL wagons	Increase in the permissible carrying capacity of

⁹ Pay load refers to the weight of the goods carried in the wagon while the tare weight is the weight of the empty wagon.

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		these wagons with reference to the conventional wagons (viz seven tonne higher than BCN wagons and four tonne higher than BCNA/BCNHS wagons).
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Source:-Information obtained from RDSO

The main objective for the design development of the types of wagons mentioned in the table above was to increase the pay load with a view to increase earnings.

A review of records related to above six completed projects at RDSO, Lucknow and Zonal Railway revealed that only two project (Design and Development of BOXNHL Wagons and Ro-Ro wagons-S. No. 1 and 2 in table above) out of the listed above was successfully implemented. As many as 842 BOXNHL wagons are in operation primarily over ER and ECR and 271 RO-RO type wagons are in operation on KRCL. No design related operational problems were found in these wagons. Position in respect of the remaining projects is discussed below:-

2.8.1 Design and Development of BOXNR Wagons

The BOXN wagons had serious problem of corrosion requiring rehabilitation after 12/13 years of service life. Further, BOXN wagons have volumetric capacity to accommodate only CC+4+2 tonne loading of coal. To increase volumetric capacity of BOXN wagon to facilitate loading of coal up to CC+8+2 tonne capacity and avoid the problem of corrosion, Railway Board sanctioned a work of up-grading of 9500 BOXN wagon into BOXNR during 2008-09. The up-graded BOXNR wagon was designed with stainless steel body. These wagons have increased height of side wall with the stainless Steel Body and are meant for Coal and Ore traffic. The work involved complete removal of end and side wall of BOXN wagons (in the age group of 12 to 18 years) during upgraded rehabilitation.

The work of upgradation and rehabilitation of BOXN wagons into BOXNR was included in the Rolling Stock Programme (RSP) in 2012-13 and funds amounting to ₹336 crore were allotted to six Zonal Railways for rehabilitation of 1400 wagons in nine workshops¹⁰. In order to gain perspective on actual rehabilitation activity being undertaken, RDSO prepared a study report and forwarded to Railway Board in January 2014. The decision on study report of RDSO was pending (September 2014).

In reply, MoR stated (September 2014) that study report has been circulated to all the zones for their comments. The fact, however, remains that despite sanction of the upgradation work in 2008-09, the progress has been slow.

¹⁰ Jamalpur, Bikaner, Ajmer, Jhansi, Kharagpur, Raipur, Guntapalli, Kota and Dahod

2.8.2 Design and Development of 28 Axle wagons

M/s Bharat Heavy Electrical Limited (BHEL), Haridwar approached RDSO in March 2000 to establish transportation feasibility for transport of 660 MW Turbo Generator Stator to different Super Thermal Power Stations. RDSO in March 2002 prepared a conceptual drawing with 28 axle utilising combination of 3 axle and 4 axle bogies. The design was not issued as BHEL asked to discontinue the development of 28 Axle wagons.

BHEL, Haridwar in October 2007 again requested RDSO to re-start the work pertaining to design and development of 28-axle special wagons. RDSO in January 2011 approved the manufacturing drawings of 28 Axle Wagons for BHEL, Haridwar.

This wagon was not in operation. BHEL Jhansi in September 2013 had informed RDSO that they had transported this wagon in dismantled condition from Jhansi to Haridwar by road and finally assembled and load tested it in Haridwar.

MoR in reply stated (September 2014) that the wagon was manufactured by BHEL itself and RDSO issued the necessary certificate. MoR added that its usage can be obtained from BHEL. Reply of MoR is not acceptable as RDSO has been in the process of design and development of 28 axle wagon since March 2002 and the wagon manufactured after the approval of the drawing by RDSO in January 2011, the wagon could not be placed on line and had to be transported in dismantled condition. Further, details about the usage of 28 axle wagon should be available with Railways because it moves on railway track for transporting heavy machinery¹¹ of BHEL.

2.8.3 Up gradation of wagon into 25 ton axle load.

Railway Board accorded approval of the conceptual design of BOXN 25 tonne wagon for transportation of coal and other commodities on the proposal of RDSO in 2006. Railway Board in February 2007 directed that the body of BOXN 25 tonne wagons should be constructed with Stainless Steel only. The specification of 25tonne axle load wagon was prepared by RDSO in May 2008. Design of this wagon was modified in May 2009. Four numbers of Heavy Haul Track Friendly bogies (25 ton axle load) were shipped to Mumbai by the overseas firm (ASF Keystone, Inc) in October 2011. The oscillation trials of these wagons are still to be conducted as of 31st March 2013.

¹¹ Turbo Generator Stators to be transported to different Thermal Power Stations of BHEL.

2.8.4 Design of BCNHL wagons

As per Indian Railways Schedule of Dimensions (SOD) Broad Gauge, revised in 2004 by a multi-disciplinary team comprising officers of RDSO, the schedule of dimensions were to be kept in view while finalizing the design of proposed wagon. The maximum dimension was fixed as 3250mm and in no case the width of the wagon was to exceed 3250 mm.

In June 2005, RDSO undertook the development of a new covered wagon by re-designing BCNA wagons with increase in width and height with an objective of increasing the throughput especially for heavier and bagged commodities such as cement, fertilizers and food grains etc.

Ignoring the provisions of SOD, a conceptual sketch with outside width of 3500 mm and maximum height of 4265 mm was submitted by RDSO to the Railway Board in November 2005. Railway Board in September 2006 accorded approval to the proposed conceptual design of 22.9t axle load BCNHL wagons and directed RDSO to undertake development of detailed design specification and material schedule etc. of the proposed wagon for initiating procurement.

Railway Board (February 2008) being aware of the fact that the universal application of BCNHL wagons is not achievable with these dimensions placed a contract on M/s Texmaco Limited, Kolkata in October 2007 for manufacture and supply of 600 Nos. of BCNHL wagons.

After introduction of the BCNHL wagons over the Indian Railways, various types of problems of door hitting against signal posts, fuelling points, water hydrants, charging points in their operation were reported by the Zonal Railways (CR, NR, WR, SCR, WCR & NWR) during April 2009 to December 2011. The main reason of damage to the doors was the width of BCHNL wagon (3450mm) from the centre line of track which infringes the MMD of 3250 mm.

RDSO revised the design of door locking mechanism several times to resolve the problem of door hitting etc. but the problems continued mainly because of overall width of the wagon (3450 mm) infringing with fixed structures like signal post, Over Head Equipment (OHE) Mast, Carriage watering hydrants, bridges etc. Railway Board again directed RDSO in September 2011 to finalize the door design of BCNHL wagon. RDSO in turn suggested two designs viz. retrofitable sliding door design and foldable type door design.

Railway Board in April 2012 directed to carry out the work of retrofitment of doors in 4000 wagons having serious door problems. RDSO (May 2012) stated that approx. 7600 BCNHL wagons with hinged door design are currently in service, of which approx. 4000 wagons, fitted with the original hinged door design, do not have proper door locking arrangements.

It was observed in audit that despite feedback from Zonal Railways regarding damages to the fixed structures on account of defective design, orders were placed for the same type of wagons for series production. Had the RDSO conducted the trials before the large scale production of the wagons, keeping in view the aspect of infringement, an infructuous expenditure of ₹ 60 crore on retrofitment of sliding doors on 4000 wagons could have been saved. The work of retrofitment of sliding doors in wagons allotted to Western Railway is still in progress.

MoR replied (September 2014) that earning per rake in BCNHL wagons is 31 per cent more than the wagons with older design and the issue of the doors infringing the MMD has been resolved with the sliding door concept. The contention may not be valid as while designing the wagons with extra width for increasing the carrying capacity, the operational problems connected with MMD could have been taken care of and the damage caused due to wagon doors hitting the fixed structure and extra cost involved in modification of wagons could have been avoided to some extent.

Procurement of locos and wagons was not commensurate with the assessment of requirement of wagons and locomotives indicating that the requirement assessed was overstated. Railway sector PSUs and Railway's own production unit could not supply the ordered quantity of wagons in full. This Imbalance in availability of rolling stock vis-à-vis the requirement warranted assessment of requirement on realistic basis and improved management. Persistent surrender of funds was noticed in procurement of wagons. Projects for wagon design development for enhancing throughput were plagued by delays. Principal lease payment of ₹ 5514 crore made to IRFC from capital led to IR bearing an additional dividend liability of ₹ 221 crore.

Chapter III Adequate availability of wagons and their effective utilisation

Audit Objective 2

Adequate wagons and locos were available for meeting the demand for freight loading and the wagons were utilized optimally

Adequate availability of locomotives and wagons as well as appropriate paths is an essential requirement for movement of goods trains. On the basis of available wagons for operational activities with Zonal Railway, Railway Board distributes newly built wagons amongst Zonal Railways. Railway Board also allows transfer of wagons from one Zonal Railway to another zonal railway keeping in view the demand of goods traffic in Zonal Railways. Further, freight business which is the major source of revenue for the Indian Railway is dependent on main activity centres of freight operation namely terminals, yards, control office and stations (Goods Sheds/Sidings). From the customer's perspective, efficient utilisation of wagons that ultimately should get translated into efficient and effective delivery of freight services, which implies provision of a reliable and timely service.

3.1 Allocation of Wagons amongst Zonal Railways

It has been mentioned in Para 2.1 and 2.2 that the Planning process for the wagons commences with the task of forecasting the growth of freight traffic area-wise, on the basis of analysis of past trends and the likely condemnation of the wagons every year. No assessment of requirement was, however, done at Zonal Railway level.

Since no Zonal requirement is available, wagons are distributed to Zones based on the traffic requirement. Railway Board allotted 77639 newly built wagons among Zonal Railways during the years 2008 to 2013. A review of the position of wagons allotted by Railway Board and those inducted in to the Railway system revealed the following:-

- Out of 77639 new wagons allotted by the Railway Board to various Zonal Railways, 53,539 wagons (69 per cent) were inducted in to the Railway system with in a period of one year and the remaining wagons were inducted in the subsequent years.

- Delay in induction of the 15815 wagons in the Railway system led to avoidable loss of earning capacity of ₹ 1,635.67¹² crore in seven Zonal Railways¹³. No wagons were allocated to NR during the period 2008-13, while details on the delays in induction of wagons in eight other Zonal Railways were not available on record.
- Wagons were allotted (by Railway Board) to Zonal Railways based on the trend in the traffic handled by the individual zonal railways. Zonal Railways did not assess their requirement of wagons at all during the period of review and hence Audit could not verify whether the allotment of wagons to Zonal Railways was proportionate to their requirement.
- Out of 200 BOXNHL wagons allotted to NWR by Railway Board in June 2008, 77 wagons (38.50 per cent) were yet to be inducted even after a lapse of over 5 years.
- Delay in induction of 4210 wagons on two Zonal Railways¹⁴ ranged between two to four years since their allotment by Railway Board. The reasons for delay in induction of wagons were not found on record in Zonal Railways.
- Out of 8945 wagons allotted to ECoR, only 5122 wagons (57 per cent) were inducted in to the Railway system within time frame of one year and 3823 wagons¹⁵ (42.74 per cent) were yet to be inducted (March 2013).

3.2 Utilization of Wagons

Freight traffic is the major source of revenue for IR and hence improving wagon utilization is the key to enhancing the overall transportation performance of IR. Poor utilization of wagons affects the availability of wagons. A close and regular watch, well-organized day to day management leads to better mobility and utilization of the wagon stock and in turn to a more efficient and economical railway operations. Ready availability of wagons, their optimum utilization with minimum detentions and reduction in empty haulage of wagon stock are crucial for profitable operation of goods trains. For achieving optimal wagon utilization, the wagons from all Zonal Railways are 'pooled' together and scheduled for running of goods trains without discrimination or preference by a zone to the wagons it owns.

¹² Earning capacity loss has been worked out on the basis of earning of a wagon per day on line as given in statement 15 and 24 of the Annual Statistical Statement of Indian Railways for the respective years

¹³ (ECOR- 300.5 crore, SCR-82.6 crore, SECR-672.44 crore, SER-260.04 crore, SWR-82.35 crore, WR-1.74 crore, NWR-236 crore)

¹⁴ (ECOR- up to 3 years 5 months, SWR – up to 2 years 8 months)

¹⁵ Comprising of 665, 242, 244, 2322 and 350 wagons allotted in 2008-09, 2009-10, 2010-11, 2011-12 and 2012-13 respectively.

3.2.1 Availability of wagons on demand by parties

Parties place their indents for rakes in the form of forwarding notes to Chief Goods Supervisor of the respective goods sheds and sidings. Forwarding notes are entered in the Demand/ Priority Register and updated in Freight Operations and Information System (FOIS¹⁶). Daily position of indents is intimated to the Division. Senior Divisional Operating Managers arrange for allotment of rakes as per the availability on daily basis.

Movement of freight traffic is regulated by the Schedule of Preferential Traffic, laid down by the Central Government (Railway Board) under Section 71 of the Railways Act, 1989. As per the Preferential Traffic Order issued from time to time, traffic is classified into four categories viz., A, B, C and D. Commodities registered in the higher categories have preference over those registered in the lower categories.

As already mentioned in Para 2.1 and 2.2 that although Zonal Railways are required to assess and communicate their wagon requirement to Railway Board but they had not endorsed their demand for wagons in specific numbers. It was, however, observed that over all wagon requirement is being assessed in Railway Board on the basis of trend in growth of traffic which happened to be around eight per cent during the period under review.

A review of indents placed and rakes supplied at sixty four selected loading points (29- Goods sheds, 35- Private Sidings) during 2011-12 to 2012-13 revealed that:

- Indent/priority registers are being maintained and the rakes are being supplied as per the priority (preferential traffic order) prescribed under rules. A total of 16541 rakes were demanded by various parties at 29 selected goods sheds, out of these, 14904 rakes (90 per cent) were allotted and remaining 1,637 rakes (about 10 per cent) were cancelled as the demand was not met by the Railway Administration. (Annexure 1)
- Similarly, an analysis of demand and the supply position by Railways in 35 selected private sidings revealed that out of the 82,747 rakes demanded by siding owners, 80399 rakes (97 per cent) were allotted and remaining 2,348 rakes (3 per cent) were cancelled due to failure of Railways to meet Party's demand.(Annexure 1)

¹⁶ IR carries nearly 1012 million tonnes of freight across its network in a year that includes major commodities like Coal, Iron Ore, Cement, Fertilisers, Food Grain and Petroleum products in the specialized wagons. Based on this information the managers make Allocation decisions to optimize utilization of resources like wagons, locomotives, crew and path on the IR's network. Real time information is facilitated by the system called FOIS that allows optimal decision making and thus ensuring high level of mobility within the system.

- In SWR, delay in allotment of NMG wagons resulted in cancellation of indents by the party during 2011-13 for 20 rakes. This resulted in Railway losing revenue to the extent of ₹ 2.28 crore.

Audit also conducted a test check of indents placed and rakes supplied during May, December and March months during the years 2011-12 and 2012-13 at the 64 selected loading points. It was observed that against an overall demand of 20299 rakes, 19285 rakes (95 per cent) (**Annexure 2**) were supplied for loading to the various parties but in the four Zonal Railways the percentage of the demand met ranged between 78 and 87 resulting in loss of earning capacity to the tune of ₹ 11.58 crore in respect of the demand for rakes not met by the Railways as indicated in the table below. Reasons for not fulfilling the demand were not furnished to Audit.

Table 10 –Results of the test check in ZRs which could not meet the parties demand for rakes

Railway	Year	No. Of rakes demanded	No. of rakes allotted	Percentage of demand not met	Loss of earning capacity (₹ in crore)
ER	2011-13	748	578	23	2.21
WCR	2011-12	555	476	14	3.30
ECR	2012-13	688	617	13	3.06
NCR	2012-13	312	242	22	3.01
Total					11.58

Source:-Information gathered by the audit in Zonal Railway concerned

MoR in their reply (September 2014) stated that in many cases the party puts additional demand/indents and before the Railways could allot the rakes, the party cancels the indents. This reflects that demand was not met by the Railway Administration. Contention of the Railway is not acceptable as the indents for rakes were cancelled by the parties subsequently as Railways could not meet the party's demand for rakes.

3.2.2 Analysis of efficiency parameters /indices in respect of locos and wagons:

Railway Board has set efficiency parameter indices to ensure efficient utilization of wagons. Performance of Zonal Railways under various parameters such as (i) ineffective percentage, (ii) detachments, (iii) train partings, (iv) spring breakages, (v) hot axles and (vi) poor brake power etc are evaluated. Audit reviewed the performance of the Zonal Railways with reference to the parameters. Analysis of information captured on various efficiency parameters in different Zonal Railways during the period from 2008-09 to 2012-13 reveals the following position.

(a) Wagon Turn Round (WTR)

Wagon turn-round is the interval of time between two successive loadings of a wagon. The reported wagon turn round statistics in most of the zones ranged from 1.18 to 3.43 days during 2008-13, where as the All India Average during this period ranged between 5.19 to 5.08 days. This implies that the data reported upon by the Zonal railways cannot be relied upon.

While 13 Zonal Railways¹⁷ have shown improvement in WTR in the year 2012-13 as compared to 2008-09, there was declining performance in the remaining three zones. In 12 zones¹⁸, though there was improvement in WTR during the period, yet the target set was not achieved.

MoR in reply stated (September 2014) that achievement of turnaround targets by zones are affected by changing traffic patterns and are often beyond their control. The growth of passenger and freight traffic on IR has been much faster than the growth of network and loading & unloading terminals. Remarks offered by MoR in reply highlights the constraint faced in increasing efficiency in this regard.

(b) Hot Axles

These are mechanical failures on account of the defects developed in the bearing of the wheel set mainly by heavy loading of wagons. This result in emanating smoke from the axle of a wagon and wagon may catch fire. Incidence of Hot Axles has a cascading effect on all the trains running in that section. Apart from the damage to the rolling stock and Permanent way material, namely track and its components, Hot Axle cases result in detention of rakes as the affected wagon is required to be detached from the rake for carrying out the necessary repairs. Review of hot axles cases during the period 2008-13 revealed the following:-

- Number of hot axles increased significantly in 13 zones, viz., ECoR (44 to 76), CR (76 to 115), ER (10 to 19), NCR (103 to 122), NEFR (16 to 33), NER (1 to 22), NR (41 to 82), NWR (22 to 38), SCR (12 to 31), SER (32 to 47), SWR (4 to 31), WCR (77 to 111), WR (72 to 94).
- Instances of Hot Axles substantially exceeded the targets in NR, NCR, NWR, ECoR, WCR and WR as indicated below:-

Table-11

Cases where Hot Axle incidences increased with respect to targets

Zonal railway	Target	Actual	Per cent increase w.r.t targets
WR	320	409	28
WCR	366	469	28

¹⁷ (ECoR, CR, ER, NER, NWR, NEFR, NR, NEFR, SECR, SWR, SR, WCR, WR)

¹⁸ CR, ER, NCR, NER, NEFR, NR, NWR, SECR, SCR, SWR, WCR and WR

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NR	171	287	67
NWR	114	179	57
NCR	403	553	37
ECoR	181	272	50

Source:-Information gathered by the field parties in Zonal Railway concerned

- The increase was marginal in one zone, viz., SECR where the number of hot axles increased from 55 (2008-09) to 58 (2012-13).
- Incidence of Hot Axles has a cascading effect on all the trains running in that section. Apart from the damage to the rolling stock and Permanent way material namely track and its components, there would be a financial impact on account of repairs involved in the wagons affected due to hot axles.

Increased instances of hot axle cases are a clear indication of poor maintenance of wagons in terminal yards and workshops. Such cases results in detentions to trains as the wagons affected due to hot axle are required to be detached from trains. There would be a financial impact on account of the hot axle incidences. In the absence of the record relating to the actual time taken in replacing the wheel set and the wagon remaining out of service, the earning capacity loss could not be worked out.

(c) Detachment

During the train run sometimes the wagon gets detached due to coupler breakage. This affects the movement of trains following and is also a threat to safety. Railway Board has fixed their own targets for monitoring the detachment cases but these targets varied widely amongst the Zonal Railways. Targets fixed and the actual numbers of cases of detachment of wagons occurring in the Zonal Railways are tabulated as follows:-

Table 12 –Wagon detachment cases noticed in Zonal Railways

Zone	Target (range during 2008-13)	Actual detachment cases during 2008 to 2013				
		2008-09	2009-10	2010-11	2011-12	2012-13
1	2	3	4	5	6	7
WCR	370-250	257	261	270	238	233
SECR	170-140	106	162	137	79	104
SER	130-12	37	27	17	10	11
SWR	20-15	10	2	6	19	11
SR	150-60	56	47	51	47	53
WR	200-120	173	164	131	93	95
ER	20-10	16	5	4	1	1
NCR	400-190	261	176	190	178	160
NR	250-160	192	157	137	136	142
ECoR	230-112	98	108	89	86	78
CR	260-160	187	181	162	156	203
ECR	120-140	NA	74	68	61	184

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NWR	130-80	43	64	67	77	89
NEFR	60-50	34	22	42	54	41
SCR	70-40	16	24	21	25	36
Total		1486	1474	1392	1260	1441

Source:-Information gathered by the audit in Zonal Railway concerned

An analysis of the above mentioned position by the Audit revealed the following:-

- Incidence of wagon detachment improved and remained within the targets during the period under report in 10 zones (WCR, WR, SR, ECoR, ER, NCR, NR, SECR, SER and SWR).
- In five zones¹⁹, the performance deteriorated during 2008 to 2013 as the increased numbers of detachment cases were observed in these zones.
- The detachment cases declined from 1486 in 2008-09 to 1260 in 2011-12 but the same suddenly increased to 1441 in 2012-13. Further, 72 per cent of the detachment cases were seen six Zonal Railways²⁰ alone.

(d) Train Parting

Train parting refers to detachment of entire rake or portion of rake from the engine. Varying targets were fixed by the individual Zonal Railways to monitor the train parting cases. Targets fixed by the Railway Board in respect of the train parting cases and the actual cases that occurred in Zones are tabulated as follows.

Table 13 –Incidence of train parting cases in Zonal Railways

Zone	Target (range during 2008-13)	Train Parting cases during 2008-13				
		2008-09	2009-10	2010-11	2011-12	2012-13
ECoR	60-70	53	68	74	74	70
CR	65-55	48	58	56	46	58
E.C.R	68-68	NA	58	67	89	79
E.R	30-18	18	11	19	14	15
NCR	70-60	60	60	64	59	45
NER	5 to 5	6	1	7	5	5
NWR	20-18	12	15	24	11	10
NEFR	0 to 7	2	3	4	9	1
NR	40-25	26	18	20	19	18
SCR	70-40	25	46	32	31	43
SECR	110-80	103	117	92	58	32
SER	210-80	156	157	93	62	62

¹⁹ Increase in detachment cases -CR (187 to 203), NWR (43 to 89), NEFR (34 to 54), SCR (16 to 36), ECR (74 to 184).

²⁰ WCR, SECR, WR, NCR, NR and CR

SWR	50-40	44	35	34	23	29
SR	70-40	52	37	26	19	18
WCR	70-55	62	45	54	40	51
WR	50-40	30	25	25	34	20

Source:-Information gathered by the audit in Zonal Railway concerned

From the above table it was observed that:-

- The targets fixed by Railway Board varied widely between 5 and 210 amongst the Zonal Railways. Train parting cases, however, exceeded the targets fixed on ECR and ECoR only.
- Six Zonal Railways²¹ accounted for 64 per cent of the 3291 train parting cases noticed during the period under reference above.
- In as many as six zones (CR, ECR, NCR, ECoR, SER, and WCR), the train parting cases were more than 40 in all the years reviewed. SER recorded the highest number of train partings of 156 in 2008-09. Reasons for the same were, however, not available on record.

(e) Spring Breakage

This relates to the mechanical failures due to breakage of springs. All mechanical equipments involving moving parts are susceptible to failure. Targets fixed for monitoring spring breakage by the Railway Board varied widely.

Position of the targets fixed and the actual spring breakage cases noticed in the Zonal railways during the period 2008-13 are indicated below.

Table 14 –Spring Breakage cases noticed in Zonal Railways

Zone	Target (range during 2008-13)	Actual Spring Breakage cases during 2008-13				
		2008-09	2009-10	2010-11	2011-12	2012-13
ECoR	25-00	8	1	4	0	0
CR	10-00	2	0	3	2	0
ECR	NA - 1	NA	0	0	9	2
E.R	10-00	1	0	0	0	0
NCR	35-00	13	4	2	0	0
NER	00-00	0	0	0	0	0
NWR	15 - 2	12	4	1	0	0
NEFR	05 - 00	3	0	0	0	0
NR	85--00	61	46	19	4	0
SCR	15 - 00	0	0	0	0	0
SECR	15 - 5	2	2	0	0	0

²¹ Train parting cases –SER, SECR, ECoR, CR, ECR and NCR

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SER	60 - 00	3	7	4	0	0
SWR	5 - 00	0	0	0	0	0
SR	70 - 00	47	38	53	0	0
WCR	60 - 00	10	12	10	3	2
WR	35 - 00	18	15	0	0	0

Source:-Information gathered by the audit in Zonal Railway concerned

It was observed from the data that on SR and NR the targets (in numbers) varied between 35 and 85 while in other Zonal Railways the target fixed ranged between 0 and 35. Cases of spring breakage were within the target in respect of ECoR, ER, CR, NER, NWR, NEFR, SCR and NR. On NR and SR, 130 and 138 cases of spring breakage were observed and were substantially higher in comparison to other zones.

Efforts were made to calculate the financial implications of spring breakage cases due to detention of rakes for rectifying the defect but the same was not found possible in the absence of information regarding period of detention, time taken in repairs and in putting the wagon back in service.

MoR in their reply (September 2014) stated that achievement of the wagon turn round target by the Zonal Railways are affected by the changing traffic patterns and are often beyond their control. MoR further stated that Railways have achieved an improvement in various efficiency indices. The fact, however, remains that increased instances of hot axles, train parting and wagon detachment cases were observed in many Zonal Railways.

(f) Poor Brake power or the rakes found running without Brake Power Certificate

Brake Power Certificates (BPCs) are issued to the freight trains after examination, and remain valid either up to the destination or for a specified distance. On safety considerations, it is mandatory that freight trains are to be moved only after it is certified by train examination department up to the distance authorised. The BPCs become invalid when the distance/time prescribed in the certificate gets exhausted and it is not advisable to run the train beyond such point/day. Running of freight trains with invalid BPCs amounts to compromise with safety.

Audit undertook a review the FOIS data pertaining of 3734²² Brake Power Certificates (BPC), issued during May, October and December of 2011-12 and 2012-13 by various stations of all Zonal Railways except NER & NWR where database did not contain BPC data having validity in terms of 6000 and 7500

²² 1957 Brake Power Certificates (BPCs), having validity of 6000 kilometers and 1772 BPCs with a validity of 7500 kilometers issued during May, October and December of 2011-12 and 2012-13

kilometres. Scrutiny in audit revealed that the Goods Trains travelled 500 kms in excess of the distance authorized under BPC as indicated below:-

Table 15 –Position indicating the rakes shooting up the distance authorized under BPC

BPC limit (Kms)	Number of rakes with BPCs issued	Number of trains travelled distance in excess of that authorized under BPC	Excess distance travelled by train than authorized under BPC (Range in kms)
6000	1962	770 (39 per cent)	789 to 884
7500	1772	662 (37 per cent)	534 to 996

Source:-Information gathered from the FOIS data by the audit in Zonal Railway concerned

Happening of any untoward incidence due to invalid BPC will adversely affect the train operations besides financial losses as a result of damage to track and rolling stock.

MoR stated (September 2014) that there may be cases where BPC issued for 6000/7500 kms gets expired enroute. MoR added that Zones are advised to closely monitor the expiry of the BPC and offer rakes for examination as and when the BPC expires to ensure the safety of the trains. In view of the fact that in an audit of FOIS data in respect of 3734 rakes, more than 35 per cent of the goods trains were found to have travelled distance ranging between 500 and 996 kms after expiry of BPC, MoR needs to put in place an effective monitoring system.

In respect of the audit contentions on the efficiency parameters like Hot Axles, Detachment of wagons, Train parting cases and spring breakage, MoR has replied (September 2014) that wagon holdings and the Net tonne Kilometers (NTKMs) have been increasing over the years. Further, wagon stock has been upgraded and axle load has also increased. Despite this, the cases of Hot Axles, Spring Breakage etc has come down as compared to 2002-03. MoR in their reply broadly agreed with the data on various efficiency indices given by audit but the reply is general in nature and has no reference to the cause and effect of poor performance of efficiency indices with in the zones. Further, reply of MoR is silent on the issue of differential targets fixed for measuring the operational performance. MoR's contention that with the improved technology and better maintenance, IR have been able to achieve improvements does not completely hold good since the efficiency indices in some Zonal Railways reflected not so convincing performance regarding hot axles, detachments and train parting cases.

3.2.3 Empty movement of Goods trains

Empty running of wagons is wastage of transport capacity but inescapable on account of unbalanced nature and quantity of outward traffic and inward traffic at terminals and need to supply empty wagons.

Dynamic Pricing Policy was announced in Railway Budget 2006-07, which included incentives in Empty flow directions. These are traffic movement streams comprising predominantly of empty wagons. This was a part of the Volume Growth Incentive Scheme²³. Audit had pointed out in Para 1.9.3.1 of the Audit Report No. 8 of 2010-11 that the freight schemes were operating sporadically in some zones and volume growth incentive schemes were not operational in any of the 16 zones. The position of empty/loaded running of wagons on all Zonal Railways for the period from 2008-09 to 2012-13 is shown in the following table.

Table 16 –A comparison of loaded and empty wagon kilometers

Year	Wagon km loaded (in lakh km)	Total Wagon km (loaded +empty) in lakh km	Percentage of loaded km to total km	Percentage of empty km to total km
2008-09	91187.71	137710.60	66.22	33.78
2009-10	97950.59	184765.35	53.01	46.99
2010-11	101605.48	150886.13	67.34	32.66
2011-12	108840.88	162974.13	66.78	33.22
2012-13	112019.47	169335.30	66.15	33.85

Source:-Annual Statistical Statement of Indian Railways

Total wagon km and wagon km loaded increased steadily during the five year period. There was a sharp increase of over 13 per cent of empty km to total km in the year 2009-10 as compared to the previous year. An empty run of wagons would result in loss of earnings. Hence, the IR needs effective monitoring to minimise empty running of wagons.

Accepting the fact in their reply (September 2014) that empty running of rakes is in-escapable, MoR stated that close monitoring is done to ensure that indents in the empty directions are met with. The fact remains that percentage of empty kms to total kms remained static at 33 during the period 2008-13 (except for the year 2009-10) and the Railways have not been able to bring down the empty movement of trains.

²³ Policy Guideline issued by Ministry of Railways vide letter No.TCR/1078/2006/4 New Delhi, dated: 28.03.2006.

3.2.4 Speed of goods trains

Speed of goods trains is one of the vital factors of efficient goods train operation. Speed of goods trains is also governed by various factors like crossing/precedence, crew change, asset failure, non-acceptance by other Railways due to bunching etc., IR made efforts for improvement in speed of goods trains which included induction of higher horse power locomotives, replacement of four wheeler wagons with high capacity air brake eight wheeler wagon stocks, modernization of workshops and introduction of FOIS application, etc., The improvements though not quantifiable, were intended to facilitate higher productivity and mobility.

Audit also analyzed the position of movement of 6730 loaded goods trains those originated and terminated in seven Zonal Railways. Zone wise position is tabulated below:-

Table 17 –A comparison of the average speed of the Goods trains

Average speed (km/ph)	No. of Trains runs							Total
	NR	ECOR	CR	SECR	SER	SCR	SWR	
Between 1 and 20kmph.	367	1485	577	710	428	784	411	4762
More than 20 and up to 40 kmph	160	126	73	153	315	194	103	1124
More than 40 and up to 100 kmph	37	18	69	167	25	507	19	842
Total:	564	1621	719	1030	768	1485	533	6730

Source:-Information gathered by the audit in Zonal Railway from FOIS data

It was observed through the FOIS data of February, 2012 that in seven Zonal Railways²⁴ out of 6730 trains run during the month, the average speed was up to 20 kmph for 4762 trains (71 per cent), between 20 to 40 kmph for 1124 trains (17 per cent) and between 40 to 100 kmph in respect of 842 trains (12 per cent).

Goods trains are non scheduled trains and in many cases as observed in field offices in Zonal Railways, the passenger trains are given preference for passage resulting in halt or slowing down of the goods trains. Besides this, the trains were detained enroute for various other reasons which include saturated line capacities due to increased traffic density, change of traction, non availability of path and non availability of crew etc. A review of the FOIS data in respect of the goods trains run during February 2012 in audit for mapping the goods train movement revealed the following:-

- One rake originating in Ajmer Division in NWR took 21 hours in reaching its destination at a distance of 442 kms from the originating station. An enroute detention for a period of 14 hours and 25 minutes was noticed.

²⁴ NR, ECoR, CR, SECR, SER, SCR and SWR

- At 11 out of the 31 enroute stations, the detentions of goods trains in SCR ranged between two minutes to 16 hours.
- In SR, as many as 15 trains were detained abnormally (i.e beyond 20 hours) the reasons for which were not recorded. An analysis of the distance covered and the time taken by the trains which originated and terminated between same pair of stations revealed a wide variation in the time taken by them in travelling from the originating stations to destination stations.
- 32 trains were detained for more than 24 hours in NR and of these 15 trains were detained for the period ranging between 51 to 195 hours.
- In respect of 11 rakes in ER, where the distance covered from the originating to destination station was same, the difference in time taken varied between 0 to 89 hours.

From the above it transpired that the detentions of goods trains resulted in slowing down of the average speed. Though the permissible speed limit was 60 km per hour, the average Speed of goods trains on IR remained almost static at around 25 km during the years 2008-09 to 2012-13 and no perceivable results were noticed in this regard despite the induction of High Horse Power locomotives in the last decade. This shows that the Railway had no strategic and long term planning for improving the average speed of Goods Trains.

MoR replied (September 2014) that audit has conducted a check on the speed of the goods trains during the month of February during which the speed of the trains are generally affected in the northern part of the country due to restricted visibility. The contention of MoR is not acceptable as audit analysis is based on the study of movement of goods trains those originated and terminated in their respective Zonal railways and the zones like CR, SWR, SCR, ECoR and SER are not affected by the restricted visibility as claimed by MoR.

However, MoR further responded that to overcome the congestion issue third and fourth lines are being developed and that development of Dedicated Freight Corridor is also a step in this direction.

3.2.5 Detention during Loading/ unloading operation

In the White Paper the operational strategies adopted by IR included improving wagon mobility and availability by reducing terminal detentions by increasing goods sheds working hours, improving the infrastructure at the goods sheds; rationalizing maintenance practices by extending the maintenance cycle of closed circuit rakes.

Effective utilisation of assets calls for supply of rakes to customers as per demand and delivery of consignments at the destination minimising the enroute detentions to rolling stock.

Hence timely loading/unloading of wagons is necessary to make the wagons available for further loading. Railways have laid down norms for permissible detention for various types of wagons during loading and unloading operations in sidings/goods sheds.

Detention on Railway Account

Detention occurs either on Railway's account or party's account. Terminal detention under "Arrival to placement" and "Release to Dispatch" occurs on Railway Account. No free time has been prescribed for any of the two stages. Immediate action is required to be taken by the Railway Administration for placing the rake for loading/unloading once the rake arrives in goods shed or siding. Similarly, once the wagon has been released after loading /unloading the same has to be dispatched for its new destination.

Detention on Party Account

Detention under "Placement to release" occurs on party's account and mainly occurs during loading/unloading operations. A period of five to 11 hours is allowed as free time for loading or unloading depending upon the type of wagons. Demurrage is levied on parties as per rules to discourage parties from taking excess time. Abnormal terminal detention leads to under utilization of wagon stocks and loss of revenue in turn.

Analysis of data on average terminal detention at 128 loading /unloading points in 16 Zonal Railways during the period from 2008-09 to 2012-13 revealed that:

- In order to release the wagons speedily from goods sheds without idling them during night hours and to make available the wagons to another party for use Railway Board introduced a concession of reckoning only 50 per cent of the time taken for loading/unloading during night hours at these goods sheds. So, if the parties loaded/unloaded the goods after 22.00 hours, the time taken from 22.00 hours to 06.00 hours will be reckoned only 50 per cent i.e. the eight hours time will be reckoned as 04.00 hours only for calculating the free time allowed for the parties for loading/unloading. Audit observed that on SCR though the parties had availed 50 per cent concession in the time taken for loading/unloading during night hours, they were not actually undertaking any loading/unloading operations during night hours. The loading/unloading operations were actually done at 06.00 hours only as per the record maintained in Block Rake Register/Wagon Exchange Register. This has defeating the very purpose of the Railway Board orders i.e. speedy release of wagons and making them available to other parties.
- On an average 8.19 lakh wagon suffered detentions in goods sheds and sidings over IR during the loading and unloading operations. The average detention

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was more than 24 hours in respect of 32 per cent of the wagons dealt with at various loading and unloading points during the period 2008-13.

- Audit scrutiny of the record at the selected loading /unloading points for the period 2011-12 and 2012-13 revealed that 30 and 21 per cent of the wagons dealt with at selected loading and unloading points respectively suffered detentions. These detentions resulted loss of earning capacity to the tune of ₹ 852.75 crore during 2011-13.(Annexure 3)
- Average detention during the loading operations ranged between 12 and 86 hours. During unloading operations, the average detentions to wagons ranged between 13 to 141 hours.
- Further, analysis of the stage wise detentions to wagons in audit revealed that wagons suffered detention after allowing for the free time allowed²⁵ for different activities.

Table 18 –Statement showing the average detention during loading and unloading operations

Average detention on Railway Account			Average detention on party Account
Loading/ Unloading	Arrival to placement	Release to dispatch	Placement to Release Free time allowed =5 to 11 Hour)
Loading	0 hrs 32 min (WCR-2011-12) to 10 hrs 15 min (NEFR-2011-12)	0 hrs 49 min (NR-2010-11) to 21 hrs 03 min (NEFR-2012-13)	5 hrs 03 min (ECOR-2010-11) to 56 hrs 32 min (NR-2009-10)
Unloading	0 hr 38 min (WCR-2009-10) to 15 hrs 7 min (NR-2009-10)	1 hr 28 min (NER-2009-10) to 11 hrs 4 min (SWR-2009-10)	9 hrs 27 min (ECOR-2008-09) to 124 hrs 12 min (NR-2011-12)

Source:-Information gathered by the audit in Zonal Railway concerned

- Report No. 8 of 2010-11 had a mention about IR accepting the fact that the sudden jump in loading resulted in shortages of locomotives and rolling stock and that the number of driving units in the system was substantially less than the number of rakes and thus detentions to rakes were unavoidable. Though IR claimed that by prioritizing facilities at terminals, detentions were reduced, Audit observed that the average detention from the placement of rake to their release continued to be beyond the envisaged time of 16 hours in a substantial number of terminals, indicating that the loading/unloading facilities were deficient in the freight terminals.

MoR in their reply (September 2014) stated that meticulous planning is done at Divisional and Zonal Railway level to ensure the detentions on Railways’ account at minimum but under certain circumstances beyond the control, the detentions

²⁵ A period of five to 11 hours is allowed as free time for loading or unloading depending upon the type of wagons. A time period of one hour is allowed as free time for the rakes from arrival to placement and from release to despatch

occur for removal of rakes. MoR added that detention of rakes is attributed to the following reasons which are beyond the control of Railways:-

- Poor clearance by loading/unloading parties
- Non availability of labour for handling the cargo
- Environmental phenomenon like rains
- Non availability of permission of movement of heavy vehicles in case the terminal are located inside the city limits.

From the record made available to audit detention of rakes was also attributed to reasons like shortage of path ahead caused by the heavy density of coaching trains, severe water logging delays in coal tipping due to presence of big boulders, frequent power failures, lack of approach roads and mechanical problems like knuckle drops, brake binding and locker problem. Such issues could have been tackled by Railways with some sincere efforts in this regard.

3.2.6 Detentions in Terminal Yards

The goods train having started from the originating stations got detained at the terminals en-route. Review in audit of cases of detention of wagon stocks in 32 selected terminal yards over IR for the period 2008-13 revealed the following:-

- Railway Board did not fix any norms for permissible detentions of wagons in the terminal yards. Further, five Zonal Railways²⁶ adopted of their own norms for detention to wagons in the yards in respect of seven yards. The norms fixed by these Zonal Railways varied²⁷ between 1 and 24 hours. Actual detention exceeded the norms fixed for these seven yards ranging between 1.46 to 36.53 hours.
- Average detention was even higher than 15 hours in five terminal yard in ER, NWR and SWR.
- Detentions of wagons in excess of the norms prescribed by Central and Western Railway Administration resulted in loss of earning capacity of ₹ 105.72 crore during the period 2008-13.

Detention of wagons at en-route stations

FOIS data was intended to capture detention at en-route stations. A test check of record maintained in FOIS during February 2012 on detentions at the enroute stations in seven Zonal Railways (NWR, SR, SWR, SECR, NFR, ER and ECoR) revealed the following:-

- In NWR, seven good trains were detained at en-route stations between six and 22 hours. Although en route detention station wise are fed to FOIS database

²⁶ ECOR-1, CR-2, ECR-1, ER-1, WR-2

²⁷ ECoR-one hour; ECR-8 hours; WR-10 hours, CR-15 hours and ER -24 hours

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through TMS locations/ Divisional FOIS cell, no such report was made available to audit.

- In SR, stopping of the goods trains at certain way side stations was noticed as the trains were often stopped frequently for long hours. The only reasons for these stoppages were to give way to the passing mail/express passenger trains. Break-up of such detentions is as follows:-

Table 19 –Details of the enroute detention of the trains as studied on SR

Duration of stoppage	Number of trains	Total time in hours	Average detention hours
Within an hour	40	20:54	0:31
One to three hours	50	84:36	1:41
Three to ten hours	22	109:21	4:58
Beyond 10 hours but within 24 hours	8	104:41	13:05
Beyond 24 hours	1	148:51	148:51

Source:-Details collected from FOIS data

- A test check of details in respect of five trains in SWR revealed that the goods trains were detained at the enroute stations for the period ranging between 25:40 to 81:10 hours.
- A test check of details in respect of five trains in SECR revealed that the goods trains were detained at the enroute stations for the period ranging between 28:60 to 54:55 hours. Further, variations were observed in respect of data on the hours of detention at enroute stations maintained in FOIS and that maintained manually. No specific reasons were offered by the Railway Administration in respect of enroute detention of goods trains.
- Review of detention details in respect of two goods trains in NFR revealed that the trains were detained at the enroute station for a period of 4.40 hours.
- In as many as seven trains run during February 2012 in ER, enroute detention ranging between 29 hours and 32 hours was observed. Reasons for the detention were, however, not found on record.
- Review of control charts for 7-2-2012 for Talcher to Paradip section as made available by Control of Khurda Road Division of ECOR revealed that en route detentions were on account of bunching of trains and low precedence of goods trains over coaching trains. Goods trains were detained at various intermediary stations between Cuttack and Paradip due to passing of coaching trains at Cuttack.

In reply MoR stated (September 2014) that it is not possible to fix norms for the permissible detention at terminals yards as the movement of goods trains is

different from that of passenger trains and added that trains are required to stop at the en-route stations for the reasons like change of traction, change of crew, passage given to passenger trains. Reply of MoR is, however silent on the abnormal detentions as pointed out by Audit.

3.3 Inadequate basic infrastructure in sidings/ good sheds

Sidings/Good sheds need adequate infrastructure like full rake facilities, pucca circulating area, lighting, etc., to minimize wagon detention during loading/unloading. Inadequate infrastructure in the sidings/ good sheds contributes to detention to wagon stocks during loading / unloading operation. Assessment of the availability of the infrastructure provided at 128 selected loading/unloading points (53-goods sheds and 75-Private Sidings) with high volume of traffic done by Audit through physical verification revealed that loading/unloading points were deficient in required basic infrastructure. A review of the Goods Sheds and Sidings revealed deficient infrastructure as brought out below:- (**Annexure 4**)

Table 20 –Position of availability of infrastructure facilities in goods Sheds and Sidings

Description	Infrastructure-wise deficient Goods sheds and Sidings
Full rake facilities	13 Goods Sheds in seven zones
	10 sidings in nine zones
Rail level /High level platform	01 (GS) in one zone
	10 (Sdg) in 5 zones
Pucca circulating area	16(GS) in 9 zones
	19 (Sdg) in 10 zones
All weather approach Road	11 (GS) in 7 zones
	16 (Sdg) in eight zones
Lighting including lighting facilitating loading	05 (GS) in four zones
	8 (Sdg) in 5 zones
Merchant Room	18 (GS) in 12 zones
	47 (Sdg) in 15 zones
TMS FOIS connection	02 (GS) in two zones
	10 (Sdg) in six zones
DOT phone with STD facility	24 (GS) in 13 zones
	42 (Sdg) in 14 zones
Cool drinking water, wash room facility	27 (GS) in 13 zones
	32 (SDG) in 14 zones

GS –Goods Sheds; SDG –sidings (Zonal Railway position indicated in Annexure 4)

As such, these basic amenities were not provided in a substantial number of terminals as shown above thereby adversely affecting placement, removal, loading/unloading operations causing detention to rakes.

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MoR in their reply (September 2014) stated that some of the goods sheds developed in the early years with half rake handling facilities could not be developed for full rake due to in-sufficient space. Further, MoR added that efforts are being made to ensure that all facilities are made available in goods sheds and for the labour working therein. Private Freight Terminal (PFT) facility has been notified to encourage private participation in developing freight terminals.

However, the fact remains that a substantial number of terminals were not provided with even the basic facilities and IR needs to scale up its investment in traffic facilities as pointed out in the report.

3.4 Late start of Goods Trains

Late start of goods trains causes detention to wagons in the yard leading to under-utilization of wagon stocks. On this issue the position of 119 selected loading points/ unloading points (out of 128) for 2010-11, 2011-12 and 2012-13 was test checked following observations are made:-

- From the table below it may be seen that in 14 out of 16 Zones more than 50 per cent of the trains started late for want of locos. 18 per cent of the trains started late due to non availability of the clear path and crew. Number of trains started late and the reasons attributed there- for are tabulated as follows.

Table 21 –Instances of late start of Goods trains in 14 Zonal railways

Zonal Railway	Number of trains started late	Number of trains started late			
		for want of Locos	for want of crew	for want of Path	for any other reason [#]
1	2	3	4	5	6
ECoR	5437	2408	2323	706	0
CR	12391	8909	1566	1523	393
ER	6039	4570	1398	0	1416
NCR	4106	754	1335	1762	255
ECR	8992	2778	4032	1027	2
NWR	6143	3080	162	225	2676
NEFR	18454	74	721	4667	11794
NR	3682	143	45	160	3334
SCR	24379	20875	8327	733	0
SECR	30031	30031	0	0	0
SER	25513	42	0	19	25452
SWR	28918	24717	4956	3254	641
WCR	7698	7698	0	0	0
WR	7958	5790	358	2257	367
Total	224599	141900	25223	16333	46330

[#] Trains starting late due to combination of reasons given in column 3, 4 and 5, preparation of Guard Driver Joint Report, maintaining of vacuum/pressure. Source-Zonal Railways record

- It is surprising to note that, although 1423 and 1288 number of diesel and electric locomotives were been added to the IR system during 2008 to 13, the late start of trains in a large number of cases is being attributed to non availability of locos.

Analysis of Freight Operations and Information Systems (FOIS) Data

- FOIS application has provision for entering the code for reason for late start. The analysis of the FOIS data for the month of February 2012 revealed that the required codes depicting the specific reason for late start of the trains was not filled in several cases. Non-filling of this vital information in FOIS deprived the Railway Administration of useful data analysis and corrective action in future operations.
- Study of the FOIS data also revealed that even after train ordering, the trains were not started, loco not attached and crew not signed on timely. Delay of up to 19 hrs 37 min between ordering start of train and actual start of the train were noticed in Aditya Cement Siding in WR.
- Further, large variations were noticed in the data pertaining to late start of goods trains maintained at 12 selected loading points and that kept in the FOIS. It was observed in audit that two different set of figures were maintained in Goods Sheds and through FOIS in respect of trains starting late in NR and NWR.

Table 22-Statement showing the variation in the data maintained on late start of goods trains

Zonal Railway	Year	No. of loading point test checked	Total number of trains run		Number of trains started late	
			As per Goods sheds record	As per FOIS record	As per Goods sheds record	As per FOIS record
			1	2	3	4
NR	2010-11	Four	1447	1639	1178	348
	2011-12		1606	1923	1346	277
	2012-13		1387	1747	1158	258
NWR	2010-11	Eight	2808	3858	3180	1454
	2011-12		2965	4146	3210	1992
	2012-13		2348	3683	2833	1907

Source:-Record Maintained in FOIS and Goods Sheds

In their reply MoR stated (September 2014) that in view of the present pattern of the freight traffic, detention of some of the freight trains on account of non availability of locomotives is unavoidable. Further, a large number of seasonal coaching trains are run every year and freight locomotives are used to run these trains thereby affecting the availability of locomotives for freight services. MoR

also added that despite adding new locomotives in the system this does not translate in to the equal number of driving units due to large number of condemnations.

Contention of MoR is not acceptable as the availability of locomotives to haul the freight trains is of prime significance since freight operations contribute for two-third of the earnings of IR. It would have been prudent if MoR had been more proactive in nurturing the freight service segment besides fulfilling the social obligation by running the passenger services. Further, MoR need to take care in planning for manufacture of locomotives duly considering the condemnation planned. Regarding the accuracy of the data on running of train fed in to the FOIS, MoR has accepted that FOIS is an evolving system and shortage of trained manpower sometimes lead to non entry of peripheral data in FOIS.

3.5 Unconnected wagons

Goods trains are scheduled to move from originating station to destination stations. Sometimes, the consignments do not reach the destination and remain unconnected. These unconnected wagons lead to idling /underutilization of wagons. As per the provisions of Commercial Manual (Para 2117, sub-para 7), unconnected wagons are to be connected within 72 hours. The Commercial department of the divisions has Non-Receipt cells to deal with the tracing of unconnected wagons. FOIS application was intended to serve all major aspects/ purposes of goods operation, including tracking of rakes/wagons on real time basis.

Analysis of the position of unconnected wagons and their detention in yards and goods sheds for three years from 2010-11 to 2012-13 revealed that out of 2552 wagons found un-connected over all Zones in IR, 876 wagons (34.33 per cent) in 11 Zonal Railways (ECoR, NR, NCR, NFR, NWR, SR, SCR, SER, SECR, WCR and WR) were connected beyond the prescribed period. The details in respect of connecting 533 wagons of NER and 88 wagons of NR were not available with the Railway

These unconnected 876 wagons remained out of service for the period ranging between 16 to 1271 days resulting in loss of earning capacity of ₹ 28.47 crore²⁸. The time taken for tracing as many as 162 un-connected wagons in five Zonal Railways,²⁹ ranged between 105 to 1271 days. Further, 54 of these 162 un-connected wagons could be connected in the period ranging between 555 to 1271 days.

Audit scrutiny further revealed that in only three zones (NER, NEFR and SR) the facility available in FOIS to take action to identify and connect unconnected

²⁸ Loss of earning capacity=Number of wagons X average detention in days X average earning capacity of wagon per day=876X100X3250=₹ 28.47 crore

²⁹ NR-18, NCR-9, NFR-2, WCR-6 and WR-126

wagons was utilized. This facility was partially utilized in NR and SCR while none of the remaining 11 zones utilized FOIS to take action to identify and connect the unconnected wagons. Delays in identifying and connecting wagons led to idling of the revenue earning asset.

MoR replied (September 2014) that efforts are being made to enable automatic capturing of the train running data in FOIS by integrating with Control Office Application (COA) which would facilitate entry of data relating to wagon detachment and would reduce the instance of unconnected wagons in yards.

3.6 Recovery of demurrage charges

Free time is allowed for completion of loading/unloading operations at loading/unloading points. If the loading/unloading operation is not completed within the scheduled free time, demurrage charges are to be levied from the parties at the prescribed rate. As per Railway Board instructions, waiver of demurrage charges should normally be done for the reasons which are beyond the control of consignor/consignee and for act of god/war. As per the procedure laid down in Indian Railway Code for Traffic (Commercial Department), application for waiver of demurrage charges are to be submitted to the Station Manager/ Chief Goods Supervisor within 10 days from the date of their accrual in case of Goods sheds and within one month in case of large sidings. Initial waiver of demurrage charges is done by the Division. In case the Consignor/Consignee is not satisfied with the decision of the lower authority, he can prefer an appeal to the higher authority twice after depositing the amount of demurrage charges not waived. Entire process of all appeals of demurrage charges should be completed within a time frame of six months.

The trend of accrual and waiver of demurrage charges as well as the causes of frequent accrual and waiver of demurrage charges in the selected 128 good sheds and private sidings over 16 Zonal Railways for 2008-13 revealed the following:-

- Demurrage charges of ₹ 1056.96 crore was accrued on 223208 rakes out of 450852 dealt with at 128 selected sidings/goods sheds during the period under review. Main reasons for frequent accrual of demurrage charges were labour problem, bad weather condition, congestion of unloading platform, local festivals, power failure, delay in coal tipping, traffic restriction during day time, rainy season, high temperature, severe cold, big size coal and foreign materials in empty wagons, bunching of rakes, agitation by local people, less transportation of coal and mechanical breakdown.

Demurrage charges of ₹ 267.07 crore (25 per cent) were waived. The percentage of waiver of demurrage charges was highest in SCR (43.95 per cent) followed by NWR (40 per cent), NCR and ECoR (34 per cent), ECR (33 per

cent) and WR (30 per cent). Out of ₹ 789.89 crore accrued as demurrage charges, an amount of ₹ 53.06 crore still remains to be recovered from the Parties. (Annexure 5)

Audit observed that reasons given for accrual of demurrage charges were repetitive in nature such as “bad condition of approach road”, “sheds not fully covered”, “bad weather condition’ and “inadequate lighting arrangements.” It was noticed in audit that reasons like sticky and muddy coal, very old and worn out tipplers, insufficient stock in sidings, non-arrangement of transport and labour etc were recorded while seeking waiver of demurrage charges.

Further, the information was collected in respect of data of accrual, waiver of demurrage charges for the months September and March of 2011-12 and 2012-13 in selected cases where waiver has been more than 25 per cent of the amount of demurrage accrued. Analysis of the information gathered revealed that out of ₹ 40.72 crore accrued as demurrage charges, ₹14.19 crore (33 per cent) was waived. The percentage of waiver of demurrage charges ranged between 7.84 (NEFR) and 46.62 (NCR).

- The rate of demurrage charge recovered was not commensurate with the loss of earning of wagons due to detention. Rates of demurrage charges was last revised by Railway Board in 2008 and fixed at ₹100 per wagons per hour and remained unchanged during the period of review. The earning capacity of wagon per hour as per Indian Railway Statistical Statement ranged between ₹110.49 (2008-09) and ₹ 146.63 (2012-13). The rate of demurrage charges was enhanced to ₹ 150 from 1.4.2013 which is marginally higher than the earning capacity of wagon per hour. The above aspect is clearly visible from the calculations made in audit as indicated below.

Table 23 –Statement showing comparative analysis of demurrage charges and earning capacity of wagon

Year	Demurrage charges	Earning capacity of the wagon	Average number of wagon attracting demurrage	Difference of Column 2 and 3	Loss w.r.t difference in the earning capacity and rates for demurrage charges (in `)
1	2	3	4	5	6
2008-09	100	110.5	2398930	10.5	25188765
2009-10	100	133.17	2398930	33.17	79572508
2010-11	100	140.38	2398930	40.38	96868793
2011-12	100	146.63	2398930	46.63	111862105
2012-13	100	146.63	2398930	46.63	111862105
Total					42,53,54,276

Source:-Rate for the demurrage charges fixed by Railway Board and earning capacity of wagon as given in Annual statistical statement of respective years

MoR replied (September 2014) that to control the detentions to wagons, demurrage charges are levied on the party responsible for such detentions. Further, at terminals which perform poorly on regular basis punitive demurrage is also levied. Fact, however, remains that 25 per cent of the demurrage charges were waived during the period under review. Chapter I of Report No.8 of 2010-11 also highlighted that, demurrage leviable on the private parties for detention of rolling stock in terminals beyond the allowed free time for loading/unloading operations, were routinely waived across zones.

3.7 Recovery of accident damage and deficiency charges

The cost of accident damages caused to wagons inside the siding premises are to be preferred on/ realized from the siding owners. A review of records for the period 2008-13 maintained across all Zonal Railways revealed that 688729 wagons were involved in accidents/damages in the siding. Bills for ₹.41.17 crore on account of damage and deficiency charges for these were raised against siding owners, out of which only ₹.21.18 crore (51.45 per cent) was recovered till 31st March 2013 and the bills for ₹.1.32 crore preferred by CR was disputed by the parties. In NWR, bills for ₹.0.54 crore for the period from 2010-11 to 2012-13 are yet to be preferred by the respective Divisions. Cost of damage to 226 wagons on NWR (183 in 2010-11 & 43 in 2011-12) is yet to be assessed and recovered. (Annexure 6)

It was observed on SWR that extant instructions to stop mechanized loading using pay loaders and JCBs were not followed by M/s JSWT, a private siding owner in SWR which accounted for damage to 1601 wagons out of total number of 2210 wagons suffering damages on SWR during the period under report. Damages continued to occur at the siding. No effective measures were taken by the administration on this issue.

3.8 Defects in newly built/supplied wagons

Para 15 of General Conditions of Contract (GCC) enclosed with the contracts placed on the wagon manufacturers stipulates that in case the wagon supplied are found defective within the warranty period of 30 months from the date of delivery or 24 months from the date of commissioning, whichever is earlier, the same will be rectified by the Railways, if not attended by manufacturer, and cost of such repairs to be recovered from the supplier. Rectifications/repairs if carried out by Railways will result in loss of wagon days and consequential loss of earning.

Audit scrutiny of the newly built wagons during 2008-09 to 2012-13 revealed that wagons were found defective during warranty period; Railways incurred expenditure on repair of such wagons and sustained loss of wagon days and consequential loss of earning capacity of wagons.

It was observed that in 10³⁰ Zonal Railways, 4289 newly manufactured wagons became defective during warranty period. Of these, 273 wagons (NR-6, SECR-120 and SER-147) were repaired by the Railways. An amount of ₹ 0.51 crore was spent by Railways in getting these wagons repaired. An amount of ₹ 0.25 crore is yet to be realised from the wagon builders.

Further, these 4248 wagons found defective with in the warranty period had to be withdrawn from service for necessary repairs resulting in loss of 16,815 wagon days and consequential loss of wagon earning capacity amounting to ₹.3.47 crore.

3.9 Miscellaneous Audit findings

As per agreement executed by Haldia Dock Complex (HDC) siding and SER, the higher of the amount of Wagon Hire Charges and demurrage charges collected by HDC was payable by HDC to Railways. However, Railway decided to change the method of calculation of wagon hire charges and also shift the interchange point without incorporating necessary changes in the agreement. HDC did not accept the revised bills and ₹ 49.73 crore remains unrealized till March 2013 due to the dispute.

The goods sheds/sidings were found deficient in basic facilities for loading/unloading affecting timely receipt and dispatch of goods trains consequently leading to abnormal detentions of rolling stock. The average detention was more than 24 hours in respect of 32 per cent of the wagons dealt with at selected loading and unloading points during the period 2008-13. Further, the rakes after having been released/dispatched from goods sheds/sidings suffered detentions in terminal yards which averaged up to 15 hours. This coupled with detentions of rakes at enroute stations subsequently on account of stabling due to non availability of path, crew changing etc was bottleneck in efficient operations of goods trains.

Deterioration in the various efficiency parameters was hindrance in smooth and efficient freight train operations. IR was not able to keep the train parting, wagon detachment and spring breakage cases with in the targets which had a cascading effect on the goods train operation. Regarding average speed of the goods trains, audit observed that in more than 50 per cent of the trains the average speed was below 20 kmph. It was observed that more than 50 per cent of the trains started late due to non availability of locomotives. Further, concern of IR for the safety not visible as the Goods Trains travelled more than the distance authorized under BPC in about 37 per cent of the trains test checked which was a clear case of compromise with safe running of the trains.

Demurrage charges to the extent of 25 per cent (₹ 267.07 crore) were waived during the period under review. Out of ₹ 789.89 crore accrued as demurrage charges, an amount of ₹ 53.06 crore still remains to be recovered by IR.

³⁰ ER, ECR,SR, SER,SECR, NR,WR, WCR,SWR,CR

Audit Objective 3

Wagon maintenance was ensured in an effective manner and wagons/locos were condemned as planned

Chapter IV Maintenance of Locomotives and Wagons

The safety of the train operations is dependent on proper maintenance of the rolling stock and other assets. These are required to be maintained at the constant intervals for smooth and safe running of the trains. For ensuring optimum performance of rolling stock fleet, it is necessary that:-

- Preventive maintenance is done timely to avoid occurrence of defects
- Defects are attended effectively well in time so that the wagons remain fit for traffic use till the next schedule falls due
- Detention during examination and repairs is kept to minimum
- Frequent failures of similar nature are studied and necessary modifications/ design changes are effected to eliminate the cause of such failure.

Rolling stock is given periodical overhauling (POH) at various workshops nominated for the purpose at prescribed intervals as given below:-

Table 24 –Wagon Maintenance Schedule

Type of rolling stock	Periodical Overhaul (POH)	Routine Overhaul (ROH)/Intermediate Overhaul (IOH)
Wagons	4.5 to 6 years	28 to 24 months
Diesel Locos	8 Years or 10 lakh kms whichever is earlier	4 Years
Electric locos	6 to 12 Years or 8 to 18 lakh kms which ever is earlier	3 to 6 Years or 4 to 10 lakh kms which ever is earlier
Coaches	12 to 24 Months	12 months

Source:-Indian Railway Code for Mechanical Department

Since the present report is regarding the Management of goods trains, maintenance of coaches has not been included in it. Further, maintenance of locomotives taken up separately as a Theme Based Audit has already appeared in Para 4.1 of Report No. 25 of 2013 and hence this was excluded from the scope of Performance Audit

on the subject. The significant audit findings pertaining to the maintenance issue of locomotives are, however, given below.

4.1 Maintenance of locomotives

Locomotives play a vital role in the Railways. The results of the audit examination as included in the Para 4.1 of Report No. 25 of 2013 highlighted that in many instances locomotives were not getting repaired/ periodically overhauled as per schedule and running overdue. Such locomotives create operational problems and are a safety risk in the system. Quality of maintenance provided was poor. 65 *per cent* of locomotives overhauled failed within 180 days of their POH. There were incidences of unscheduled repairs and enroute detention of locomotives. The figures of unscheduled repairs estimated by audit were much higher than the locomotives failure statistics reported by the Zonal Railways requiring a detailed examination by IR. In addition there were incidences of extra time taken for POH and other scheduled repairs. Locomotives were found detained before and after POH in the exchange yards. There were inordinate delays in bringing back the dead locomotives to Loco sheds for repairs and putting them back on line within the prescribed time frame. The above incidences can be controlled by effective planning and management. The total loss of potential earning capacity and the extra expenditure incurred brought out in the above stated report by audit was estimated as ₹ 733 crore and ₹ 234 crore respectively. MoR has not replied on the above issues so far.

4.2 Maintenance of wagons

This maintenance is carried out in the wagon maintenance depots. Train examination (TXR examination) in wagon maintenance depots is periodically carried out to assess the condition of wagons and the TXR examination in freight terminals certifies the fitness of wagons for the next run. Freight stocks viz wagons are given maintenance in train formation at the various nominated yards at the time of train examination. Further, heavily damaged wagons involving more than 100 man hours also carried out either in sick lines or in workshops. Further, scheduled repairs of wagons (POH/ROH) are carried out in workshops located in Zonal Railways.

A review of efficiency parameters as covered in Para 3.2.2 in chapter III highlighted the increased cases of Hot Axle, Spring Breakage, Wagon detachment and train parting cases. Although targets have been fixed by the Railway Board to monitor these parameters but audit scrutiny revealed that varying targets were fixed amongst the Zonal Railways and the reasons for the same were not available on record. Increased instances of such parameters affect the operational efficiency

besides resulting in loss of revenue. Further, this also reflects deficient maintenance of the wagon stock in yards/sick lines and workshops.

Defects in a wagon attached to a rake, if noticed at a station, are immediately intimated by the station staff to the next wagon maintenance station for remedial action by the mechanical department either on the station or in the yard. In case the wagons found unfit for operational activities, the same are separated from the rake and are placed on sick lines for repairs.

Repairs to wagons involve more than eight man hours and up to 100 man hours. These normally cover the repairs to the under frame members viz head stock, middle bars, sole bars, changing of axle guards, wheel changing, heavy panel patching, heavy floor repairs etc.

Results of the review of records maintained at wagon examination points in terminal yards and as well as in workshops have been discussed in the succeeding paragraphs.

4.2.1 Examination of wagons in Terminal Yards

Audit was conducted in 32 selected terminal yards along with sick lines in 16 Zonal railways over Indian Railways. Scrutiny of the record collected for the period 2008-09 to 2012-13 in respect of the selected terminal yards/sick lines revealed that:-

1. As many as 5,83,380 wagons were declared unfit for operational activities and sent to various sick lines for repairs. Of these, 53815 wagons suffered detention in terminal yards for a period ranging between 9:36 and 53:45 hours resulting in loss of earning capacity of ₹ 24.63 crore. Yard wise breakup is tabulated below:-

Table 25 –Detentions to wagons in terminal yards

Railway	Name of the selected yard	Total Wagons declared unfit	Period of detention (range in hours:minutes)	Loss of revenue (figures in crore ₹) ³¹
CR	Wadi	5,328	9:36 to 15:54	0.86
ER	Andal Up line	20,763	14:32 to 44:58	14.06
SECR	Korba	1,144	60:00	0.93
	BIA Exchange Yard	14,086	12:26 to 23:37	2.86
WCR	Kota	12,494	24:33 to 53:45	5.92

Source:-Information collected from the record maintained in terminal yards

³¹ Loss has been calculated at the rate of ₹ 3250 (average earning of wagon per day during 2008-13) which is based on the earning of wagon per day as given in Indian Railways Statistical statement of IR for these years.

2. It was further noticed that 5481 wagons³² were found unfit within 90 days of POH. Wagons declared unfit for operational activities, within a short period of POH indicate improper maintenance in workshop/shed besides, loss of earnings of ₹ 5.35 crore (presuming that such wagons remained out of service for three days as details of the period for which these wagons remained out of service was not available on record).

The main reasons for abnormal detention were shortage of man power; wheel and Centre Buffer Coupler (CBC) repair cross bar, floor sheet, floor channel and door repair draft gear replace, draft gear broken yoke.

4.2.2 Wagon examination in sick line

Audit conducted at test check of the record of four months i.e. October and March month of 2011-12 and 2012-13 in respect of sick lines in 32 selected terminal yards of 16 Zonal Railways. Study in audit revealed that:-

1. No permissible norms of detention of wagon during the maintenance activities in the sick lines existed either at Railway Board or at Zonal Railway level.
2. Out of 13895 wagons attended for repairs in sick lines, 12145 wagons suffered delays ranging between 1 to 114 days during repairs in sick lines. The delays were attributed to late placement, less staff availability, non-availability of wheel sets, Heavy Body repairs etc.
3. Mechanical Code of Indian Railway (Para 913) provides that when a part becomes a stock item, the officer-in-charge of the workshop stores should be made responsible for arranging for recoument as soon as the stock reaches the fixed minimum. Despite this clear cut provision, the necessary stock items were not made available timely in respect 71 wagons in seven terminal yards in six zones³³ where the delay in repair was attributed to shortage of stock items.
4. During the period under review, 13895 wagons given repairs in sick lines suffered detentions in yard before being put to traffic use. Of these, 2484 wagons suffered detention in yard in four Zonal Railways (ECoR, NCR, SER & SECR) for the period ranging between 48 to 173 days after being declared fit. This resulted in loss of earning capacity of ₹ 72.65 crore. No reasons for such detentions were made available by concerned Zonal Railways Administration except for Jhansi Terminal yard (NCR) where detention was due to formation of rake and non availability of path.

³² At Andal UP Sick line of ER (473); TKD of NR (736); NMP and BNDM of SER (428 & 771) and NKJ of WCR (451)

³³ CR, NR, NCR, NEFR, SCR, WR and WCR

MoR replied (September 2014) that all efforts are made by Railways to reduce the time taken in repairing the wagons in sick lines and there has been no loss to the Railways since overall in-effective percentage of wagon stock in IR is within four per cent. Contention of MoR is not tenable since no time period has been fixed for attending to the repairs wagons in sick lines and the revenue earning assets suffered detentions for the durations ranging between nine to 53 hours in terminal yards before being sent to sick lines for repairs. The wagons were subsequently subjected to detentions ranging up to 114 days in sick lines for repairs. Apart from this the wagons were kept in waiting in yards having being declared fit after repairs in sick lines.

4.3 Non-availability of infrastructure facility as well as required machinery and plant at terminal yards

Necessary infrastructure facilities, machinery and plant are required in the terminal yards for conducting intensive examination and maintenance of wagons as prescribed in Wagon Maintenance Manual.

Table 26 –List of important infrastructure facilities and Plant and Machinery required for maintenance

Description of Infrastructure Facilities	Description of required Plant and machinery
<ul style="list-style-type: none"> • Adequate centre to centre distance between tracks for nominated lines for conducting intensive examination • Concrete pathways from one end to another • Welding grid on the entire length of train • Duty room for Junior Engineer (Carriage and Wagons)) • Staff room • Air compressor/vacuum exhauster room • Store room for stocking material • Tool room • Oil grease room • Welding machine Battery charging room 	<ul style="list-style-type: none"> • Diesel screw compressor • Vacuum exhauster • Welding plant • Rake test rig • Hydraulic jacks for various capacities • Lister truck for carrying material such as brake blocks etc.

A review of position of availability of the above mentioned infrastructure facility at 32 selected terminal yards revealed as follows:-

1. The basic amenities were not provided in a substantial number of terminals yard thereby adversely affecting the timely maintenance of wagons causing detention to wagons.
2. In only four terminal yards (KJGY, NRY, SGT, Vadodara) over four zones (NR, SER, SWR & WR) all required facilities were found available.

3. The facilities such as oil grease room and battery charging room were not available at 15 and 11 terminals of 10 zones³⁴. Similarly, tool room and welding machine room were not available at 7 and 6 terminals of 6 zones respectively.
4. Further, the facilities such as vacuum exhauster and diesel screw compressor were not available at 25 and 11 terminals. Similarly, lister truck for carrying material such as brake blocks etc. tool room and welding machine room were also not available at six zones.

MoR in their reply stated (September 2014) that an elaborate exercise is carried out every year to identify the short coming in the infrastructure and Machinery and Plant available in freight examination yards/POH/Sick Lines. Audit findings mentioned above, however, defy the MoR's contention.

4.4 POH in workshops

The wagon stock is required to be periodically overhauled at prescribed intervals as detailed in Wagon Maintenance Manual. On receipt of newly built wagons, intensive examination is conducted before operational activities and its maintenance periodicity is determined and recorded on the wagons. Yearly target for POH of wagons is fixed by Railway Board based on capacity of workshops.

CR, ECR, ECoR, NER & SWR have no wagon workshops and workshop of WR started functioning from October 2012. A review of POH activity during 2008-13 in the remaining 10 Zonal Railways revealed that eight Zonal Railways³⁵ could not achieve the target of POH as indicated in Table 27.

Table 27-Statement showing shortfall in POH targets

Railway	Target for POH	Actual no. of wagons given POH	Shortfall	Per cent shortfall
ER	28740	28679	61	0.21
NR	26137	25657	480	1.84
NCR	36300	36003	297	0.82
NFR	6000	5832	168	2.80
NWR	2970	2942	28	0.94
SR	10348	9542	806	7.79
SER	25260	19971	5289	20.94
SECR	21180	20766	414	1.95

Source:-Record maintained in workshops of respective Zonal Railways

³⁴ (ER, ECR, ECoR, NR, NFR, NWR, SER, SECR, WR, WCR) and 7 (ER, NCR, NFR, NWR, SECR, WR, WCR)

³⁵ ER, NR, NCR, NFR, NWR, SR, SER, SECR

MoR replied (September 2014) that the flow of the traffic is not uniform throughout the year and fluctuates in some months thereby boosting demand for wagons for short term. To meet such exigencies Board permits restricting the feed to workshops up to 60/90 days. Audit is of the view that permitting the restriction on feed by the Railway Board is in contravention to the provision contained in Para 209 of the Wagon Maintenance Manual which stipulates that empty wagon will be marked sick for POH up to 30 days in advance of the due date and loaded wagons will be allowed up to 30 days after the due date of POH.

4.4.1 Erroneous dispatch of wagons not due for POH to workshops and wagons found over due for POH

Wagons are to be given POH periodically as prescribed in the Wagon Maintenance Manual. Next date of POH is stenciled on each wagon. Operating department is supposed to sort out the wagons due for POH and send them to the nearest railway workshop for POH on due dates. Audit scrutiny of data maintained in 10 workshops during the period 2008-13 revealed the following:-

1. As many as 31928 wagons (**Annexure 7**) not due for POH were erroneously received in the workshops for POH during the years 2008-13. Out of these, 4850 wagons pertaining to six workshops³⁶ in NR, NWR, SR, SCR, SER and WR could not be returned timely by the workshop authorities. These wagons were returned out of workshop with delays as indicated below:-

Table 28-Details of the wagons erroneously sent to workshops for POH

Nos. of wagons	Period of delay
4702	Three months (In South Central and Northern Railway maximum number of wagons i.e. 2485 and 1063 respectively were belatedly returned)
123	3 to 6 Months
25	Six months to one year

Source:-Record maintained in workshops

The avoidable delay in return of these wagons after unnecessary detention of wagon resulted in loss of revenue amounting to ₹ 144.35 crore. This indicates in-effective internal control on the part of Railway Administration for identification of wagons due for POH. There were no reasons available on record with Workshop Administration for the delayed return of wagons under reference above.

³⁶ Jagadhar, Ajmer, Peerumbur, Guntapally, Kharagpur and Dahod

2. In nine selected workshops over nine Zonal Railways³⁷ as many as 51625 wagons were found overdue for POH during the period 2008 to 2013 (**Annexure 8**). In SR, the information related to 2008-09 to 2010-11 was not available. Position of wagons found overdue for POH is as follows:-

Table 29-Details of the wagons found overdue for POH

Year	Overdue period (Number of wagons)				
	Less than 3 Months	3 to 6 Months	6 Months to 1 Year	1 to 3 Years	More than 3 Years
2008-09	4076	537	222	89	12
2009-10	3725	1004	682	215	5
2010-11	6388	1532	495	540	14
2011-12	8188	4099	1239	342	29
2012-13	8309	6512	2771	551	49
Total	30686	13684	5409	1737	109

Source:-Record maintained in workshops

3. From the table above it is seen that during the period under review, 5409 wagons were found overdue for POH for six months to one year, 1737 wagons for a period of one to three years and 109 wagons even for more than three year period.
4. As many as 37725 wagons (73 per cent) were found over due for POH up to six months during the period 2008-13 in four Zonal Railways³⁸ alone.

Wagons remaining overdue for POH for the durations mentioned in the Table above indicates improper and ineffective monitoring of maintenance activities thereby posing safety risk while these were on run after becoming due for POH.

MoR replied (September 2014) that to meet the exigencies in the demand for the wagons, Board permits restricting the feed to workshops up to 60/90 days. MoR's contention is not acceptable as permitting feed restriction to workshops was in contravention to Para 209 of the Wagon Maintenance manual as already given in para 4.4. Restricting the feed to workshop for 60/90 days to meet the urgent wagon demand goes against the IR's concern for safety as it will lead to wagons getting overdue for POH.

4.4.2 Detention to wagons in workshop (prior to/during/after POH)

Unnecessary and avoidable detention of wagons in workshop prior/after POH affects the availability of wagons consequently leading to loss of earning. Though no fixed time has been prescribed for the POH activity in the workshop, but the

³⁷ (ER, NR, NCR, NFR, NWR, SR, SCR, SER & WCR)

³⁸ Jamalpur workshop, ER-12775; Jhansi Workshop, NCR-6930; Guntapally workshop, SCR-11384 and Kharagpur workshop, SER-6636 wagons.

Railways have been attempting to achieve the same with in a period of five to eight days.

Audit observed that wagons were not being taken up for POH immediately on it receipts. Similarly, wagon turned out after POH were not sent for traffic use immediately and kept in workshop/station yards. Further, there were cases where most of the wagons undertaken for periodical overhauling were not turned out within the cycle time. Audit scrutiny of the record for the period 2008-13 in 11 workshops of 11 Zonal Railways³⁹ in respect of detention of wagons prior to sending them in workshops for POH revealed the following:-

1. There has been un-necessary and avoidable detention of 49825 wagons in yards before the same were sent for POH resulting in loss of 563785 wagon days. Jagadhari workshop (JUDW) of NR alone accounted for 28 per cent (14353 wagons) of the wagons detained in yard before sending for POH.
2. Similar detention in respect of 13258 wagons (26 per cent) in Guntapalli workshop of SCR was noticed before these wagons were sent to workshop. Reasons for such detentions were not available on record.
3. As many as 32880 wagons suffered detention in yard after POH was done but before putting them in service resulting in loss of 675415 wagon days in seven Zonal Railways⁴⁰. Of these, 22956 wagons (70 per cent) were detained after POH in Guntapalli workshop of SCR only.
4. Audit came across instances where as many as 2070 wagons were returned to workshop for repairs within 90 days of their POH in five workshops in ER, NWR, SR, SER & SECR. In WCR, the information could not be collected due to partial availability of old records.

MoR replied (September 2014) that workshops try to ensure that the wagons are taken up for POH as soon as feasible depending upon the berthing available. Similarly on completion of POH, the wagons are kept in waiting for rake formation as operational requirement in order to save power and shunter requirement.

However, the data collected by audit from the record maintained in workshop revealed that wagons suffered an average detention ranging between 11 to 20 days before being sent to POH and for putting them back in service after the POH. Thus, detention of 82705 wagons prior to/after POH in workshop resulted in avoidable loss of earning capacity to the tune of ₹ 333.58 crore. Non availability of line in shop, capacity constraint, non-availability of certain material, single shift working in yard shop due to non availability of light and path way for shunting staff were

³⁹ (ER-Jamalpur, NR-Jagadhari, NCR-Jhansi, NFR-NewBongaigaon, NWR-Ajmer, SR-Peerumbur, SCR-Guntapally, SER-Kharagpur, SECR-Raipur, WCR-Kota & WR-Dahod)

⁴⁰ ER, NCR, NFR, NWR, SR, SCR and SECR

stated as the reasons for these detentions by NCR and WR. The reasons for detention were however, not available in other workshops in remaining eight Zonal Railways.

4.4.3 Delays in POH of wagons in workshops

To achieve optimum utilization of the wagon stock, their ineffectiveness including during their POH in Railway Workshops is required to be kept at minimum level. Railway Board has not prescribed a fixed time cycle for completing POH of wagons in the workshop. In a reply given to PAC, Ministry has stated that they have been trying to complete the POH within five to eight days. A review of record in respect of POH data of 11 selected workshops over 11 zonal railways during the period 2008-09 to 2012-13 revealed that :-

1. POH of wagons was not completed within the cycle time in 40 per cent of the wagons given POH in the workshops during 2008-13 as indicated in the Table 30.

Table 30-Delays in POH of wagons in workshops

Year	Total No. of Wagons given POH	No. of Wagons taken excess time than the prescribed cycle time	Loss of Earning Capacity due to the excess time taken in POH (in Cr ₹.)
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
2008-09	35404	12751	37.71
2009-10	32059	12653	44.13
2010-11	34625	15298	75.24
2011-12	34341	15449	89.13
2012-13	34537	15286	68.50

Source:-Record maintained in workshops

2. The excess time taken ranged variedly between 1 and 295 days. Audit examination revealed that in respect of huge number of wagons (8200 in NCR; 11381 in WCR; 18349 in SCR and 19971 in SER) the time taken in POH exceeded the cycle time for POH. The excess time taken was attributed to shortage of manpower, heavy repair work involved, shortage of store material & staff shortage and lack of infrastructure etc.

Thus, detention of wagons beyond the prescribed cycle time deprived the Railways of their services. This resulted in avoidable loss of earning potential of ₹ 314.71 crore during 2008-13.

Audit also conducted a sample check on outturn of wagons in 11 workshops existing in 11 Zonal Railways. For this purpose record was collected from these workshops for the March month of the years 2011, 2012 and 2013. Analysis of the data collected revealed that:-

1. In NWR, in/out register was not maintained by Chief Yard Master (CYM) and gate passes for the wagons turned out of the workshop were not maintained by Railway Administration.
2. In only four zones (NCR, SER, WR & WCR) the wagons turned out as per out turn statement matched with the date of out turn as shown in 'out gate pass'.
3. In remaining six zones (ER, NR, NFR, SR, SCR & SECR), as many as 5195 wagons were shown turned out after their POH as per outturn statement. A reconciliation of 'out' date of the wagons as shown in the outturn statement with actual date of turning out of the wagons as per out gate pass, however, revealed that only 3474 wagons were actually turned out in those months and remaining 1721 wagons were either turned out in subsequent months or not turned out (up to September 2013) as tabulated below:-

Table 31-Position of test check of outturn of wagons in workshops

Zone	Period	Monthly outturn as shown by Workshop	Wagon actually turned out during the month as per gate passes	No. of wagons turned out in subsequent month	Wagons not turned out up to September 2013
ER	March-2011	1192	664	356	172
NR	March 2012	1266	613	622	31
NFR	March 2013	280	252	28	0
SR		472	420	52	0
SCR	May -2010 Oct.-2011 May 2012	1208	881	327	0
SECR	Sept. 2010, Sept. -2011 Sept.-2012	777	644	133	0
Total		5195	3474	1518	203

Source:-Record maintained in workshops

As a result, 1518 wagons could not be made available for traffic purpose for 49249 days resulting in loss of their earning capacity to the tune of ₹ 20.96 crore (**Annexure 9**). Scrutiny of record in workshops revealed that heavy body repairs, non placement of wagon due to space constraints in workshop, non availability of the required materials, single shift working due to lighting problem were the reasons attributed for the delays in POH of wagons.

4.4.4 Movement of wagons from the receipt of wagons in workshop for POH till their dispatch for traffic use

With a view to ascertain the delays in POH of wagons at various stages from receipt in workshop to dispatch out of workshop for putting them back in service, audit conducted a sample check in respect of 5695 wagons given POH during

April, May & June 2012 in eight workshops over eight Zonal Railways⁴¹. Detailed shop wise information right from the receipt of wagons for POH till their dispatch was analysed. The analysis revealed the following: -

1. Out of the 5695 wagons test checked in eight ZRs, 1755 wagons (30.82 per cent) could not be taken up for POH immediately and waiting time in Workshop yard (NR, NWR, SR and SER) before the wagons were sent for POH ranged between 105 to 305 days. Kharagpur (KGP) workshop of SER alone accounted for 873 such wagons wherein a waiting period of one to 302 was observed before sending these wagons to workshop for POH. Details regarding the similar waiting time in workshops in ER, NFR, SCR & SECR ZRs was, however, not available on record.
2. Review of outturn statements prepared in eight workshops revealed that POH of 2303 wagons (40.44 per cent) could not be completed in time. Excess time taken for POH of wagons over and above the targeted cycle time ranged between 4 to 644 days. Detention of wagons on this account would attract loss of earning amounting to ₹ 379 crore.
3. Further, having reviewed the gate passes issued by the workshop, audit found that 3663 wagons (64.32 per cent) could not actually be given POH in time and excess time taken for POH of wagons over and above the targeted cycle time ranged as high as 655 days. The following table indicates the comparative position of the excess time taken in POH as per the two different records.

Table 32 -Position of cycle time in POH as maintained in workshop and as per the gate pass

Zone	Workshop	Excess time taken for POH over targeted cycle time		Actual extra time taken in POH as evident from gate pass	
		No. of wagons	Ranged up to (in days)	No. of wagons	Ranged up to (in days)
NR	Jagadhary	361	234	392	350
SR	Perambur	247	303	247	303
SCR	Guntapally	534	142	865	164
SER	Kharagpur	500	295	Not Available	Not Available
SECR	Raipur	194	644	567	655

Source:-Record maintained in workshops

The variation in figures between POH of wagons cited on the outturn statement and the position of gates passes shows that reliability cannot be placed on the figures of wagons shown as outturned in the case of five workshops⁴². In SR only the position of POH as per outturn statement matched with position of gate passes.

⁴¹ (ER, NR, NFR, NWR, SR, SCR, SER & SECR)

⁴² (Jagadhari, Peerumbur, Guntapally, Kharagpur & Raipur)

4. Jagadhari Workshop (NR) and Guntapally Workshop (SCR) took up to 75 and 50 days respectively in doing necessary inspection of the wagons. In remaining six ZRs⁴³, the position of inspection days could not be assessed as either it was not available or there was no delay.

MoR replied (September 2014) that number of days required for POH of wagons depends on various factors and the time may range between 100 hours to 1000 hours and none of these can be standardized. The contention of MoR contradicts its own reply given to PAC (2010), stating that they have been trying to complete the POH within five to eight days.

4.4.5 Special Repairs to wagons in workshops

Repairs to heavily damaged wagons involving more than 100 man-hours to be carried out either in the workshops or in major sick line are called Special Repairs. Special Repairs to wagons are carried out in workshops only after necessary estimates have been prepared and sanctioned by the competent authority.

No special repair/modification work was carried out in five ZRs⁴⁴ during 2008-13. In five ZRs⁴⁵, there were no wagon repairs workshops. Audit reviewed the position of special repair/modifications carried out at various workshops in remaining six Zonal Railways⁴⁶ and noticed that:-

1. Special repairs/modification were carried in 18171 wagons in these six Zones during the years 2008-09 to 2012-13.
2. Completion Report were drawn only for 2337 wagons given special repairs (15.54 per cent) in two Railways (NR & NCR), while, the same were not drawn in respect of 15834 wagons in NWR, SER, SECR and WCR.
3. In JUDW of NR, these modifications were carried out simultaneously with POH of the wagons.
4. In SER, the position of fund allotted for such repairs as well as amount spent was not available. Only estimated cost of repair of wagons was available.

The total amount spent on such special repairs/modifications of 18171 wagons was ₹ 350.49 crore against the total fund allotted ₹ 313.48 crore. Excess over estimate to the extent of ₹ 37.01 crore was noticed only at the Ajmer workshop of NWR and the same remains to be regularized as of 31 March 2014.

⁴³ (ER, NFR, NWR, SR, SER & SECR)

⁴⁴ (ER, NFR, SR, SCR & WR)

⁴⁵ (CR, ECR, ECoR, NER & SWR)

⁴⁶ (NR, NCR, NWR, SER, SECR & WCR)

4.5 Review of Unloadable wagons

Wagons become unloadable primarily due to improper handling at the sidings. Such unloadable wagons require extra repair and consequently suffer additional detention with its resultant effect on wagon turn round. The main reason attributed for wagons becoming unloadable was improper handling by the private siding owners.

In three Zonal Railways (NR, NER & NFR), the position of unloadable was not available. A review of position of unloadable wagons in 13 out of 16 ZRs during the period 2008-13 revealed the following:-

1. As many as 478798 wagons (Annexure 10) became unloadable during the period under report. The age-wise break up is tabulated below:-

Table 33-Age profile of wagons as on 31-3-2013

Age profile	No. of wagons
1 to 5 years	38489
6 to 10 years	57814
11 to 15 years	112991
16 to 20 years	99541
21 to 25 years	99804
26 to 30 years	45177
More than 30 years	24982
Total	478798

Source:-Record maintained by Mechanical Department in Zonal Railways

The table indicates that out of total 478798 wagons that became unloadable, 408639 (85 per cent) wagons were less than 25 years of age. The unloadable wagons would not only result in increased cost of repairs but will also affect the life of the wagons. The reason attributed for wagons becoming unloadable was improper handling by the siding owners.

2. In four Zonal Railways (ECR, SCR, SER and SECR) a huge number of wagons (62 per cent) were found as unloadable. Railway administration could not keep these wagons fit for freight services. The incidence of wagons becoming unloadable is avoidable to a large extent provided proper monitoring is done at loading/unloading points and punitive action is taken against the private siding owners responsible for the wagons becoming unloadable due to improper handling.

These wagons were given Non Periodical Overhauling (NPOH) in workshops in order to keep them running. Audit reviewed the position of NPOH attention given to unloadable wagons at selected wagon examination points during 2011-12 and 2012-13, which revealed that:-

1. At 18 examination points⁴⁷ over 13 Zonal Railways, 1,53,445 wagons became unloadable during 2011-12 and 2012-13. Out of 1,53,445 unloadable wagons requiring attention for repairs 142171 wagons were attended in sick lines/sheds and the remaining 11274 unloadable wagon were sent to various workshops for NPOH attention.
2. An amount of ₹ 62.22 crore was spent on repairs of 3661 unloadable wagons in NWR, SCR and SER. The amount spent on repair of 7551 unloadable wagons was not made available by the remaining 10 Zonal Railways (CR, ER, ECR, SR ECoR, NEFR, SECR, SWR, WCR and WR).

Table 34-Statement showing the NPOH attention given to unloadable wagons

Zone	Name of examination point	Unloadable wagons (Nos.)	Nos of wagons given NPOH attention in workshop	Wagon days lost	Loss of earning capacity (₹ in crore)	Cost of NPOH w.r.t. col. 5 (₹ in crore)
1	2	3	4	5	6	7
CR	BSL	11811	194	Not made available	Not made available	Not made available
ER	Up sickline, Andal	3473	113	2240	0.79	Not made available
	Dn. sickline, Andal	1342	27	1493	0.52	Not made available
	Pakur	3129	17	24	0.008	Not made available
NWR	Madar	47	25	776	0.27	0.14
ECR	Mughalsara	33751	4218	Not available	Not available	Not available
SR	JTJ	2100	17	824	0.29	Not available
ECoR	VSKP	3817	180	Not available	Not available	Not available
NFR	GHY, NJP	150	0	Not available	Not available	Not available
SECR	Bhilai, Raipur	22484	0	Not available	Not available	Not available
SWR	HPT	8215	664	Not available	Not available	Not available
WCR	NKJ, Kota	8706	2020	Not available	Not available	Not available
SCR	Guntapally	4706	1208	21089	7.42	20.54
SER	BKSC and KGP	46440	2428	45745	16.1	41.27
WR	Gandhidham	3212	101	2823	0.99	Not available
Total		153445	11274	75349	26.508	62.22

Source:-Record maintained in sick lines and workshops in Zonal Railways

⁴⁷ (Bhusawal, Up sickline-Andal; Down sickline-Andal; Pakur; MGS; OEC/VSKP; GHY; Madar; JTJ; MAJN; GY; BKSC; PP Yard-Bhilai; BM Yard-Bhilai; WRS; HPT; Gandhidham; NKJ & Kota yard)

3. Loss of earning capacity in respect of unloadable wagons remaining out of service on account of NPOH attention given in workshops was assessed at ₹ 26.50 crore in six Zonal Railways, while the same could not be assessed on other seven Zonal Railways (CR, ECR, ECoR, NEFR, SECR and SWR) due to non availability of information relating to the period for which the wagons were detained for NPOH attention.

MoR in their reply (September 2014) has stated that steps have been taken for restricting the equipments which were found to be damaging the wagons while handling the cargo. Penalty is also levied on parties on the basis of cost of damage and the labour cost to restore these wagons MoR contention is not acceptable in view of the fact that in many of the Zones cost of repairs on unloadable wagons was not made available to audit as it was not at all worked out.

4.6 Local Passing of Wagons rejected by Neutral Control Office (NCO)

Neutral Control Office in Workshops/Yards are meant for independent examination of the wagons repaired/POHed before actual handing over to open line for operations. Wagons repaired in workshops/at examination points are subjected for a check by Neutral Train Examiner (NTXR). Wagons examined and certified as fit can only be inducted into service. Those found defective by NTXR are detained for further attention.

Examination of the position at selected examination points and workshops revealed that rejected wagons were passed locally without being certified as fit by NCO and put in to service as indicated below.

(a) Train Examination points

Review of records at 18 train examination points⁴⁸ over 11 Zonal Railways⁴⁹ during the period 2008-09 to 2012-13 revealed that out of 17,58,329 wagons examined at these points, only 367990 wagons were offered to Neutral Trains Examiner (NTXR) for passing. Out of 45563 wagons initially rejected by NTXR, 39,853 were subsequently passed locally after further attention given in sick line in eight Zonal Railways (ER, ECR, ECoR, NR, NFR, SR, SER & SECR). In three zones alone, (ECoR SER & NFR), 29244 wagons having been rejected by NTXR were passed locally.

Further, examination by Audit revealed that NTXR office is not working during holidays and Sunday at TKD (NR); GHY & NJP (NFR); BIA Exchange yard and

⁴⁸ (Up sickline-Andal; Down sickline-Andal; BRWD; OEC/VSKP; TKD; KJGY; JHS; GHY; NJP; JTI; GY; NMP; BNDM; BKSC; BIA Exchange yard; BCN depot & NKJ)

⁴⁹ (ER, ECR, ECoR, NR, NCR, NFR, SR, SCR, SER, SECR & WCR)

BCN depot (SECR) and wagons are passed locally during these days. None of the Zonal Railway has taken any action against the officials for local passing of wagon.

Thus, 39,853 wagons were passed locally despite rejection by NTXR and the same were put into service without getting fitness certificate from Neutral Control Office which is irregular and in contravention of rules.

(b) Wagon Workshops

Audit also analyzed the record at selected 11 wagon workshops over 11 zonal railways (no wagon workshop is there in CR, ECR, ECoR, NER & SWR). It was observed that out of total 182529 wagons given POH, only 176079 wagons were offered to Neutral Control Wagon Superintendent (NCWS) during the period 2008-09 to 2012-13. Of these, 25561 wagons (14.52 per cent) were rejected by the NCWS and 13276 wagons (51.9 per cent) were subsequently passed locally by the workshop authorities without offering for re-inspection in contravention of codal provision. In six Zonal Railways (NFR, NCR, NWR, SCR WR and WCR) no wagon was passed locally by workshop authorities. In ER, NR, SER & SECR, all the 13223 wagons rejected by NTXR were passed locally. The reasons for local passing were not made available by Railway Administration.

MoR in reply stated (September 2014) that Neutral Control staff (NCO) acts as super check for the inspection carried out by the train examiner. NCO staff is posted in 38 out of the 47 train examination depots (also known as ROH depots) available over IR and efforts are being made to keep the local passing percentage to minimum. The fact, however, remains that more than 50 per cent of the wagons rejected by the NCO staff were passed locally and the reasons for the same were not found on record.

4.7 Condemnation of wagons/locos

Normally condemnation has to be carried out on the basis of age-cum-condition basis. In addition, under aged wagons and wagons involved in accidents are also condemned on condition basis. The wagons so condemned should be sent to stores department for final disposal. Study of the condemnation of wagons revealed the following deficiencies:-

- Running of over aged wagons /locos endangering the safety aspect
- Premature Condemnation of wagons before completing the codal life and
- Condemnation within short period of POH indicates improper maintenance in workshops/sheds resulting in loss of earning potential.

4.7.1 Condemnation of Wagons/locos and disposal there of

Normally condemnation has to be carried out on the basis of age-cum-condition basis. In addition, under aged wagons and wagons involved in accidents are also condemned on condition basis. The wagons so condemned should be sent to stores department for final disposal.

Wagons

Audit scrutiny of records in Zonal Railways relating to the condemnation of wagons revealed that 33467 wagons were condemned during the period 2008-13 against 33235 proposed for condemnation. This indicates that the wagons proposed for condemnation were not correctly assessed. Further, the condemned wagons included 21046 wagons condemned prematurely. An amount of ₹ 789.45 crore was realized on account of auction/sale of these condemned wagons.

The amount was credited to different chargeable head in case of six Zonal Railways⁵⁰. The information as to which head of account the amount was credited was not available in respect of remaining 10 Zonal Railways. At the time of auction/disposal of condemned wagons in most of railways except NWR & SECR, the wagons are not categorized between 'over aged' and 'under aged' resulting in non accounting of loss which a zonal railway is incurring on disposal of under aged wagons.

The financial justification in case of premature condemnation of wagons, generally on account of accidents was available at all ZRs except ECoR where 239 such cases were noticed.

Locomotives

Similarly, scrutiny of position on condemnation of locomotives in Zonal Railways revealed that 681 locomotives were condemned during the period 2008-13 against 729 proposed for condemnation. The condemned locomotives included 229 condemned prematurely. An amount of ₹ 219.56 crore was realized on account of auction/sale of these condemned locomotives.

In case of condemnation of locos also, the amount was credited to different chargeable head in five Zonal Railways⁵¹. In the remaining 11 Zonal Railways the information related to head of accounts to which the amount was chargeable was not available.

⁵⁰ (In CR – Abstract Z 500/530 & 500/531; NR – 21214107/31714205; NFR – 20714208; NWR – lying in suspense head; SR – Plan Head 21 (DRF-Capital and SCR – 20-7142-08 of accounts).

⁵¹ In CR – Abstract Z 500/530 & 500/531; NFR – 20714209; NWR – 4315389 (2010-11) & 1883700 (2011-12); SR – Plan Head 21 (DRF-Capital) and SCR – 21-2179-09 of accounts.

4.7.2 Test check of condemnation of wagons

Audit test checked 3691 wagons due for condemnation covering all Zonal Railways (except NER, WR and SWR where record was not made available) during the period 2010-13. Out of 3691 wagons, 2310 wagons were condemned prematurely. In all these cases of condemnation, process was approved by the competent authority and financial justification was prepared. Zone wise details are given in Table 35 below.

Table 35-details of test check of condemnation of wagons during 2010-13

Railway	Year	No. of Wagons due for condemnation test checked	Wagons condemned prematurely
1	2	3	4
CR	2010-13	150	69
ER	2010-13	2110	1234
ECR	2010-13	150	82
ECoR	2010-13	134	83
NR	2010-13	150	101
NCR	2010-13	150	150
NFR	2010-13	5	4
NWR	2010-13	88	88
SER	2010-13	150	86
SR	2010-13	150	126
SCR	2010-13	150	84
SECR	2010-13	150	80
WCR	2010-13	150	122
WR	2010-13	4	1
TOTAL		3691	2310

Source:-Information collected from the record maintained in Zonal Railways

Further, in a review of position on condemnation of wagons during 2010-13 it was also noticed that five Zonal Railways⁵² could not achieve its targets of condemnation of wagons stock during the years 2010-11 to 2012-13 as per detail in Table 36 as follows:

Table 36-Statement showing the shortfall in condemnation of wagons

Zone	Target condemnation for	Wagons actually condemned	Shortfall, if any
CR	2845	2538	307
ER	6208	3700	2508
NR	2280	1213	1067
SCR	400	313	87 (2012-13)
SECR	282	239	43 (2010-11)

Source:-Record maintained in Mechanical Department in Zonal Railways

⁵² (CR, ER, NR, SCR & SECR)

Management of Goods Trains in Indian Railways

In eight Zonal Railways⁵³ the details of target for condemnation of wagons were not available. NCR was the only railway that achieved the target fixed for condemnation.

In CR and NR, lack of co-ordination between the Workshop Authorities and their counterparts in divisions for timely dispatch of condemnable stock resulted in non achievement of the targets for condemnation.

Wagons found unfit for operational activities during the examination suffered detentions for abnormally longer periods in terminal yards and sick lines. No permissible norms of detention for all activities at terminal yards/sick lines existed either at Railway Board or Zonal Railway level. Further, 5481 wagons were found unfit within 90 days of POH which is a clear indication of the improper maintenance depriving the Railways of potential earnings. Sick lines attached to the terminal yards and the POH workshops were found deficient in infrastructure facility as well as required machinery and plant required for maintaining wagons found unfit for operational activity adversely affected the timely maintenance of wagons leading to detention of wagons.

Wagons not-due for POH erroneously received in the workshops were turned out by the workshop authorities with delays ranging between three months to one year resulting in wagons remaining non operational. The review of the arrangements for sending the wagons for periodical overhauling, time taken by workshops in overhauling and removal of wagons turned out after overhauling revealed that wagons suffered detention at all these stages. Though an assurance was given by MoR to PAC in 2010 that Railways have been attempting to achieve the cycle time five to eight days for POH of wagons but excessive detention of wagons beyond prescribed cycle time was observed resulting in avoidable loss of earning potential.

Several instances of wagons being passed locally and put back in service without being certified as fit by NCO were observed. This was irregular and in contravention of rules and a compromise with the safe running of freight trains.

⁵³ (ECR, ECoR, NFR, NWR, SER, SR, WCR & WR)

Chapter V Monitoring Freight trains operations in Indian Railways

Audit Objective 4

Monitoring mechanism existed to oversee the smooth and efficient freight trains operations

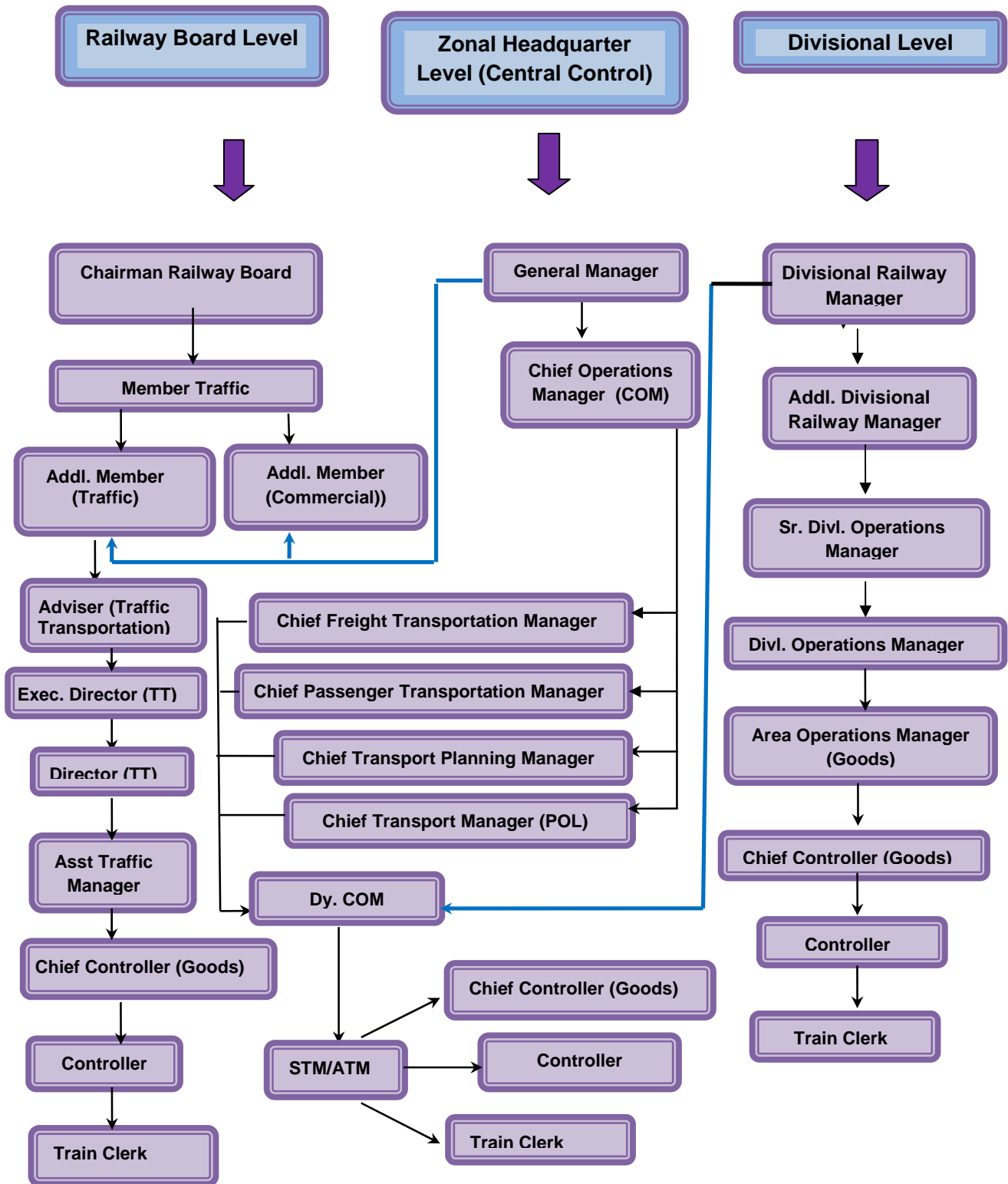
5.1 Monitoring

The Control Organization of Indian Railways is the nerve centre of train operations. It controls the asset management of the Railways, in a dynamic situation, round the clock incessantly moving trains on its entire network. This basic structure of Operating Control on Indian Railways exists at the Divisional Level, which has also been extended to Area Control levels. In addition, Central Control Office is situated in the headquarters office and one at Railway Board. Main objectives of the control organization are as follows:-

- To ensure punctuality of the mail trains
- To ensure maximum utilization of the rolling stock
- To ensure maximum utilization of the section capacity
- To increase the speed of the goods trains
- Maximum utilization of the train crew

The entire organization works round the clock, all days of the year without any interruption to monitor actual movement of trains on the entire rail network. Regular conference with yards, terminals, and the adjoining Division is held by the Control and for exchange of information regarding forecast of trains in yards; completion of loading/unloading at sidings etc. and interchange with adjoining Divisions. The organizational structure of the Control Office is as follows:-

Organisational Chart (Control office)



5.2 Control Office (Railway Board)

Control office at Railway Board is termed as Emergency Control. Chief Controller looks after the activities in Emergency Control. Daily position of loading, rake movement etc as maintained manually as well as in FOIS is exchanged amongst the Divisional/Central control as well control office in Railway Board .In respect of goods traffic movement, Chief Controller reports to officers in Traffic Transportation Directorate headed by Adviser/Traffic. Daily conferences are held between Executive Director level officers in traffic directorate in Railway Board and Chief Operations Managers in Zonal Railways as well Divisional Operations Managers in Zones on the issues relating to monitoring the goods trains movement.

5.3 Central Control Office (Zonal Hdqrs.)

Responsibility of the traffic throughout the Zonal Railway lies with Chief operations Manager (COM) assisted by Chief Passenger Transportation Manager and Chief Freight Transportation Manager (CFTM). COM advises all divisions regarding traffic and ensure that objectives are fulfilled as per planning. Chief Controller is the head of the central control. All the functions are done on his direct supervision. He is responsible to COM. His duties include-

- A review of previous day's performance to confirm that all forecasts made have been fully met.
- Prepare current forecast indicating assistance needed from Headquarters, adjoining Divisions, railways these will generally relate to interchange, loading and locomotive utilization, Checking control charts and bringing to the notice of the Senior Divisional Operations Manager/Divisional Operations Manger all avoidable detention to trains.
- Watching detention to stock at stations and terminals
- Maintaining liaison with neighboring Divisions
- Checking duty hours of running staff and balancing of crews.
- Granting engineering blocks, power blocks etc.,

A Review of record of Central Control Office in 16 Zonal Headquarters revealed that necessary information⁵⁴ were being received daily from divisional control to Zonal Hdqrs. In six Zonal Railways (CR, ECoR, NER, NFR, SECR & WR) information like Yard Balances, Train running position and Inter change position was not being received at control office in Zonal Hdqrs. All other information were being received telephonically or through FOIS. Thus, in the absence of required information on Yard Balances, Train running position and Inter change position in these six Zonal Railways, wagon availability and timely movement of trains could

⁵⁴ showing the stock records such as stock position in wagons, particulars of old outstanding, loading/unloading position, yard balances, total trains and interchange position with foreign railway

not be monitored. Non-maintenance of requisite register by the Control Office will affect day to day control of goods operation regarding forecasting of trains to be run section wise including pilots and clearance of stabled wagons, forecasting of supply of empties for bulk loading points, planning for placement and removal, planning for engineering blocks etc. This will also affect day to day operation in two important ways i.e. guidance & assistance and future planning.

5.4 Divisional Control Office

Divisional Control Office is located in the divisional headquarters and connected to the stations and yards through various means of communication system. Chief Controller is the head of the control at divisional level and he is responsible to Divisional Operations Manager (DOM). Duties of the control office at Divisional level are same as those at Central control level (Zonal Headquarter).

Audit reviewed the position of maintenance of important register at selected 32 divisional control offices over 16 ZRs and noticed that only seven divisional control offices over five zones (Izzatnagar – NER, Lumding & Katihar – NFR, Chennai and Trivendrum – SR, Hubli and Bangalore city – SWR and Kota – WCR) maintained all the required registers. Scrutiny in Audit revealed that the required registers/record were not being maintained at all in some of the Zonal Railways as indicated below: (**Annexure 11**)

Table 36-Maintenance of records in Control Offices

Particulars	Record/register to be maintained	Record not maintained in Divisions/ Zonal Railways	
Sectional Controller	Sick Wagon Register	10 DNs in 9 ZRs	
	Yard Report Register	11 DNs in 7 ZRs	
	Load Register	5 DNs in 4 ZRs	
	Yard Balance Register	12 DNs in 9 ZRs	
Dy. Chief Controller	Yard running balance register	14 DNs in 10 ZRs	
	Forecast and acceptance book	06 DNs in 4 ZRs	
	Train ordering book	05 DNs in 03 ZRs	
	Goods Trains Performance Register	09 DNs in 08 ZRs	
	Over Dimensional Charges Register	10 DNs in 7 ZRs	
	Power Controller	Engine Link	09 DNs in 7 ZRs
		Crew position Register	04 DNs in 3 ZRs
Register showing abnormal detention		4 DNs in 4 ZRs	
Fuel Balance Register		7 DNs in 5 ZRs	

Source:-Record collected from control offices in Zones by field audit units in Zonal Railways

The non maintenance of necessary registers at control offices reflects poor monitoring on the part of divisional control authorities in these Zonal Railways.

In four Zonal Railways⁵⁵, the necessary registers were being maintained in Yard/Depot instead of divisional control office deviating from the uniform procedure.

Efficient functioning of the control office at Division as well as Zonal level gets translated in to achieving the objectives of control organization as brought out in the table below.

Table 37-Utility of the record maintained in control offices

Objectives of the Control Organization	Name of the record that helps to achieve the desired objective
To ensure Punctuality of the mail/express and passenger trains	Goods train performance register
	Engine link and crew position
	Fuel balance register
	Punctuality register
To ensure maximum utilisation of the rolling stock	Register showing abnormal detention
	Sick wagon register
	Yard report/Balance register
	Forecasting of supply of empties for bulk loading points
	Clearance of stable wagons register
To ensure maximum utilisation of the section capacity	Yard running balance register and Engine Book
	Forecast and acceptance book
To increase the speed of goods trains	Section controller's diary and charge book
	Fuel balance register
	HQ's Conference register
	Guidance & assistance and future planning
Maximum utilisation of the train crew	Goods train performance register
	Control failure register
	Train Advise Book
	Interchange register
	Engine link and crew position

Source:-Operating Manual of Indian Railways

Further, abnormal detentions to wagons at various activity centres like loading/unloading points, wagon examination points and in workshops during POH as discussed in Chapter III and IV is a clear indication of the in-effective monitoring despite IR having a set up of Control office right from the Railway Board level to Divisional level. Hence, non maintenance of certain registers as specified in the Operating Manual of IR affected the monitoring and resulted in adverse impact on managing the Goods trains like excessive detentions affecting

⁵⁵ ECoR (WAT division), NR (DLI & UMB), NCR (ALD) & SER (ADRA & CKP).

the availability of wagons, non availability of locomotives and deterioration in average speed of goods trains.

MoR replied (September 2014) that Zonal Control Office has its own specified monitoring work which monitors on macro level as compared to micro level monitoring by the Divisional Control Office. MoR has further stated that with the use of FOIS, a lot of data earlier recorded in registers can be easily be retrieved and hence the absence of records from the registers cannot be construed as lack of monitoring. MoR's reply is not valid as are contradictory as on the issue of analysis of FOIS data MoR have themselves stated that though lot of efforts has been put for its successful implementation, FOIS is still an evolving system. FOIS data is manually fed in to the system and the trained manpower may not be available all the time, the use of record maintained in the registers hence is of immense significance for the control offices in their decision making till the utility of FOIS is established and it gets integrated by the Control Office Applications.

5.5 Monitoring the maintenance operations in workshops and co-ordination between the Operating Department and the Workshop Authorities

In Workshops, the entire monitoring rests with the Workshop Authorities headed by Chief Works Manager. No mechanism to oversee the co-ordination arrangements between operating and the workshop authorities was found on record. This fact is more evident from the comments included in Chapter IV that wagons suffered detentions in yards before and after the POH. Once the wagon/loco is moved in to workshop, the role of operating is over. Operating department comes in to picture again after the wagon/loco is turned out of the workshop for putting back in service. Further, delays in repairs in POH of wagons in workshops and the excessive waiting time observed in undertaking POH as commented in Para 4.4.3 and 4.4.4 clearly indicates the lack of monitoring mechanism in workshop.

Cases of excessive detentions of wagons at various activity centres affecting the availability, non availability of locomotives for running the goods trains and deterioration in average speed of goods trains amply points towards a monitoring mechanism that warrants stream lining for increased effectiveness.

Chapter VI Conclusion and Recommendations

6.1 Conclusion

Indian Railways (IR) is the third largest network in the world transporting about 40 *per cent* of the freight traffic in the country. IR, however, experienced continuous and precipitous erosion in the share of railway freight traffic. The market share of IR in freight sector has declined substantially though the freight traffic of IR witnessed encouraging growth during the last two decades.

The market share of IR in freight sector has declined substantially from 53 to 35 *per cent* during the last two decades. The operation of goods train depends largely on

- Availability of locos, wagons, crews and appropriate paths for movement of goods trains
- Timely repair and maintenance and optimum utilization of the rolling stock to achieve the better turn-round time

Procurement of locos and wagons did not commensurate with the assessment of requirement of wagons and locomotives. This indicates that the requirement assessed was overstated. Railway sector PSUs and Railway's own production unit could not supply the ordered quantity in full. Similarly, 2639 locomotives were acquired during this period against the projected requirement of 5568 numbers. This Imbalance in availability of rolling stock vis-à-vis the requirements warranted assessment of requirement on realistic basis and improved management. Further, delays in supply and induction of the allotted wagons in the Railway system led to loss of opportunity for IR to enhance its earning capacity.

Deterioration in the various efficiency parameters was hindrance in smooth and efficient freight train operations. More than 50 per cent of the trains run were observed at below 20 kmph. Percentage of empty wagon kms to total wagon kms ranged between 33 to 47 per cent during the period under review. Wagons suffered detentions at loading /unloading points as well at terminal yards and the stations enroute. The average detention was more than 24 hours in several cases. Further, wagon suffered detentions exceeding 15 hours at various terminal yards. Loading/unloading points at sidings and goods sheds were found deficient in required basic infrastructure which led to detention to the wagon stock during loading/unloading operations. In six zones goods trains started late mainly due to want of locos.

Wagons found unfit for operational activities during the examination of wagons in the sick line attached to the terminal yards were detained for abnormally longer periods. Further, 5481 wagons were found unfit within 90 days of POH which is a clear indication of the improper maintenance depriving the Railways of potential earnings.

Delays were observed in repairs in sick lines in 86 per cent of the wagons sent to sick lines after being declared unfit for operational activities. No permissible norms of detention for all activities at terminal yards/sick lines existed either at Railway Board or Zonal Railway level. Wagons given repairs in sick lines suffered detentions in yard before being put to traffic use resulting in underutilization of wagons. Non availability of the infrastructure facility as well as required machinery and plant at all examination points in terminal yards and in POH workshops adversely affected the timely maintenance of wagons causing detention to wagons.

As many as eight Zonal Railways could not achieve the target set for conducting POH of wagons. Several wagons not-due for POH were erroneously received in the workshops for POH during 2008-13. Of these many wagons were turned out by the workshop authorities with delays ranging between three months to one year.

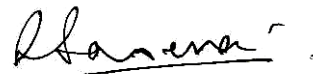
The review of the arrangements for sending the wagons for periodical overhauling, time taken by workshops in overhauling and removal of wagons turned out after overhauling revealed that wagons suffered detention at all these stages. Cases of wagons remaining overdue for POH is indicative of improper and ineffective monitoring of maintenance activities and posing safety risks while these wagons run beyond the schedule date of POH.

Examination of the position at selected examination points and workshops revealed that rejected wagons were passed locally without being certified as fit by NCO and put in to service. This was irregular and in contravention of rules and a compromise with the safe running of freight trains.

A sizeable number of wagons were found unloading during examination and Railway administration could not keep these wagons fit for freight services. The incidence of wagons becoming unloading is avoidable to a large extent provided a proper monitoring is there at loading/unloading points and punitive action is taken against the private siding owners responsible for the wagons become unloading due to improper handling during loading/unloading operations

6.2 Recommendations

- *IR needs to ensure that acquisition of wagons/locomotives is commensurate with the requirement assessed. Production of the wagons by the firms should be monitored on monthly basis and suitable action should be taken for non-adherence of production targets.*
- *IR also needs to address, on priority, the shortfall in the availability of basic infrastructure facilities at the goods sheds/sidings which will certainly help in keeping check on the un-necessary detention to wagons.*
- *IR should consider fixing norms for detention to wagons at each of the activity centre so that the rolling stock can be effectively utilized. IR should also consider devising mechanism for improving the efficiency parameters.*
- *IR needs to expeditiously provide all infrastructure facility as well as required machinery and plant at all examination points in terminal yards and in POH workshops and fix a reasonable time frame for repairs to wagon in sick line as well for POH of wagon in the workshop in order to minimise detentions of rolling stock at examination points as well as in workshops during POH.*
- *A suitable monitoring mechanism need to be devised to ensure that wagons not due for POH are not erroneously sent to workshop. IR needs to institute an effective deterrence on defaulting parties so that the incidences of wagons becoming unloadable due to mishandling of wagons by the parties during loading/unloading operations are avoided.*
- *IR needs to strengthen its monitoring mechanism during loading/unloading and maintenance operations so that the wagons are not detained un-necessarily for longer periods affecting the availability of wagons.*



(SUMAN SAXENA)

Deputy Comptroller and Auditor General

New Delhi

Dated: 24 November 2014

Countersigned



(SHASHI KANT SHARMA)

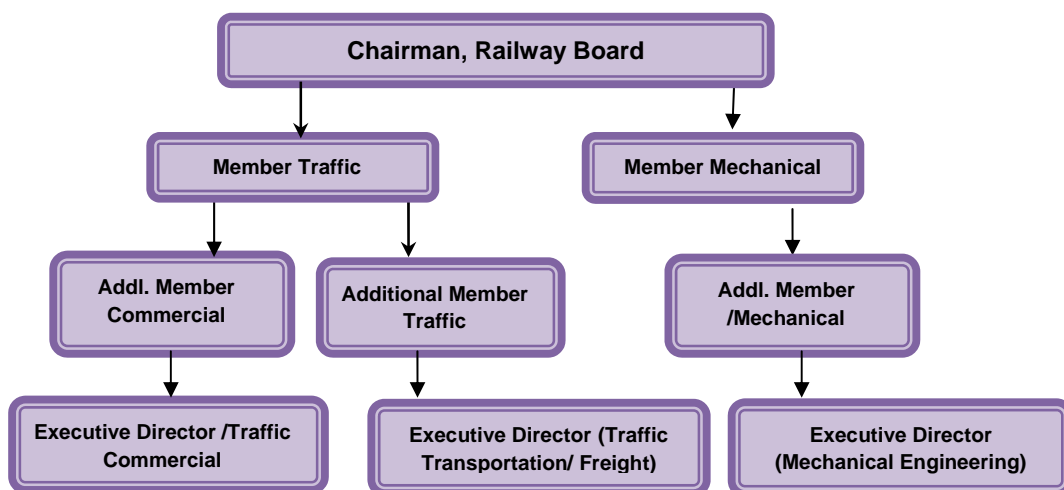
Comptroller and Auditor General of India

New Delhi

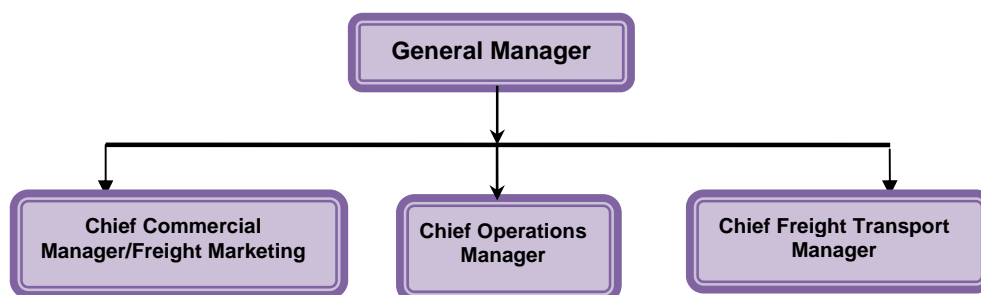
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APPENDIX I (PARA 1.2)

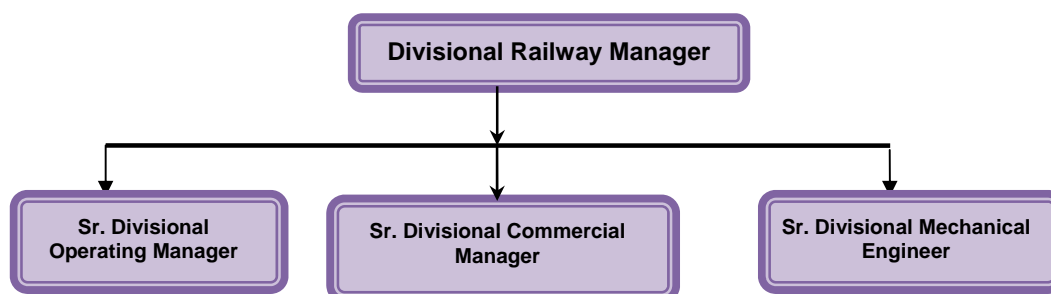
Organisational Chart



An organization chart of executives of Railway responsible for Freight operations at **Zonal Railway level** is as follows:



An organization chart of executives of Railway responsible for Freight operations at **Divisional Railway level** is as follows:



Management of Goods Trains in Indian Railways

APPENDIX-II -- Sample Selection (Para 1.5)

S.NO	ZON E	DIVISIONS	LOADING POINTS (SIDINGS/GOODS SHED)	UNLOADING POINTS (SIDINGS/GOODS SHED)	TERMINAL YARD INCLUDING SICK LINE	WAGON DEPOT	POH Workshops
1	2	3	4	5	6	7	8
1	CR	NAGPUR	1) WCL Siding Ghugus	1) NTPG siding, Chandrapur	1) Trombay Yard	C&W Depot, Daund.	No wagon POH workshop on Central Railway.
			2) Wani Goods	2) Khapri goods			
		SOLAPUR	3) ACC siding, wadi	3) FCI siding, Ajni	2) Wadi Yard	Wagon Repair Depot, Bhusawal (ROH activity).	
			4) Kurduwadi goods	4) Nasik Road goods			
			5) MSEB siding, Odha				
2	ER	Asansol	1) Pure Sitalpur Colliery Sdg.	1) Chinpai (BKTPP Sidings)	Up sick line/Andal	Andal	Jamalpur workshop
			2) Integrated Coal Mines Ltd.Sdg	2) Mejia Thermal Power Station Siding/Raniganj (MTPS)	Dn. Sick line/ Andal		
		Howrah	1. Pakur	1) Dankuni Goods	Pakur Sick line	Pakur	
			2.Pakur Stone (Other than Coal)	2).Bandel Thermal Power Station Siding			
3	ECR	Dhanbad	1. Ray (Bachra siding) -Pvt	1. Barkakana	1. Barwadih	Wagon Care Centre, MGS	Mechanical workshop, Samastipur.
			2. Barkakana Goods Shed	2. Vindhyachal Super Thermal Power Station, Shaktinagar (Pvt.)			
		Sonepur	1. Mansi	1. Narayanpur Anant and FCI Siding ,NRPA (Pvt.)			
			2. Naugachhia	2. FCI Siding ,NRPA (Pvt.)			
4	ECOR	Khurda Road	1. Nayagarh Goods Shed (NYG)	1. Cuttack Goods Shed (CTC)	Paradeep/C&W	Ore Exchange Yard	No Wagon Workshop in ECoR.
			2. JNC Siding (SBCT) Private Siding.	2. Bhusan Steel Plant Pvt. Siding (MBMB)			
		Waltair	1. Visakhapatanam New Goods Shed	1. Visakhapatanam New Goods Shed	Ore Exchange Yard/VSKP		
			2. Gangavaram Port Pvt. Ltd. (MGPV) Private siding.	2. Visakhapatnam Steel Plant Pvt. Siding (VSPS)			
5	NR	Delhi	1. Jakhhal (JHL)	1. Ghaziabad (GZB)	Tughlakabad (TKD)	Khanalpura (KLJY)	Jagadhari Workshop
			2. IOC-Baholi (BHUL) Private Sdg.	2. Shakurbasti (SSB)			
		Ambala	1. Barnala(BNN)	1. Chandigarh (CDG)	Khanalampura (KLJY)		

Management of Goods Trains in Indian Railways

			2. Patiala (PTA)	2. Rup Nagar Thermal Power Plant (RPAR)			
6	NCR	Allahabad	1. CPC Kanpur	1. Naini Goods shed	GMC(Goods Marshalling Yard, Caunpore)	JHS Wagon Depot	JHS Wagon Workshop
			2. J.P. Cement Siding Chunar	2. Panki Power House siding			
		Jhansi	1. Datia Goods Shed	1. Gwalior Goods shed	JHS yard		
			2. DCPG Siding Parichha	2. Parichha Thermal Power Plant siding, Parichha			
7	NER	Izzatnagar	1. Bilaspur Road/Goods Shed	1. Rudrapur City/Goods Shed.	1. Gonda Yard	No wagon depot in N.E. Railway.	No Wagon Workshop in N.E. Railway.
			2. Kashipur/Goods Shed	2. CPML siding/Lalkuan			
		Lucknow	1. Gonda/Goods Shed	1. Nakaha Jungle/Goods Shed.			
			2. Sugar Mill siding Paliakalan (MG).	2. Bharat Petroleum Siding/Goods Shed.			
8	NFR	Lumding	1. New Guwahati (NGC) 2. HPC Ltd./Siding/HCJ/Jagiroad(JID)	1. New Guwahati (NGC) 2. HPC/Siding/HCJ/Jagiroad(JID)	New Guwahati (Lumding Division)	Wagon Depot /New Guwahati	New Bongaigaon Workshop
		Katihar	1. New Jalpaiguri (NJP) 2. NRSR Sdg/RANGAPANI (RNI) 3. FCI/MLFC(Katihar division)	1. New Jalpaiguri (NJP) 2. ISMC/IOC/MALDA COURT (MLFC)	New Jalpaiguri (Katihar Division)		
9	NWR	Ajmer (All)	(1) Shree Cement Siding/Bangurgarm (BNGS), and Binani Cement Siding./Binanigram (BGKG).	Ajmer-Laxmi Cement Siding/Banas (LCTS) and Ranapratap Nagar (RPZ).	1. Bhagat Ki Kothi (BGKT)	Madar(MD) of Ajmer Division.	Ajmer Diesel Loco and Wagon Workshop, Ajmer (ADLWW)
		Jodhpur (JU)	(2) 'Jaiselmer (JSM) and Gotan (GOTN)'	Jodhpur- Bhagat Ki Kothi (BGKT) and PaliMarwar (PMY).			
10	S. Rly.	Chennai	1. MFL Siding/Tondiarpet Yard	1. Korukkupet Goods Terminal	Jolarpet Jn	Tiruchchirappalli goods yard	1. Carriage and wagon workshop/Perambur
			2. TNEB Siding/Attipattu	2. TISCO Siding Tiruniravur	Mangalore Jn		2./Golden Rock workshop
		Trivandrum	1. BPCL Siding/Irumpanam	1. Kalamaserry			3. Jolarpet Jn.

Management of Goods Trains in Indian Railways

			2. FACT Siding/Irumpanam	2. FCI Siding/Angamali for Kaladi			
11	SCR	Secunderabad	1.Rudrampur Incline No. 5 colliery siding, Bhadrachalam Road (RUSG)	1. Kothagudem Thermal Power Station Siding for APGENCO, Bhadrachalam Road (KTPG)	Sanathnagar(SNF)	ROH Depot/Gooty	1. Wagon Repair Shop/Guntupalli (WRS/GTPL)
			2. Karimnagar Goods shed (KRMR)	2. M/s National Thermal Power Corporation Siding, Ramagundam (NTPC)			
			3. FCI Siding, Cherlapalli (FCIC)				
		Vijayawada	1.Kakinada Seaports Limited Siding, Kakinada Port (KSLK)	1. Kakinada Port Goods Shed (COA)	Vijayawada (BZA)		
			2. Ravikampadu Goods Shed (RVD)	2. Thermal Power Station Siding for APGENCO, Kondapalli (TPAK)			
12	SER	Chakradharpur (CKP)	1. TISCO Pvt. siding at Tata	1. TISCO Pvt. siding at Tata	. Bondamunda (BNDM)	Bokaro Steel City (BKSC) of Adra Division	Workshop at Kharagpur (KGP)
			2. Rourkela (ROU) Goods Shed	2. Tata Goods Shed			
		Adra (ADA)	1. KKC Link siding at Khanoodih.	1. Bhaga (VAA) Goods Shed			
			2. Bhaga (VAA) Goods Shed	2. Bankura Goods Shed			
13	SECR	Bilaspur	1.Gevra Project Junadih Colliery Siding(GPCK) Serving station Gevra Road.	1. Private siding of Chhattisgarh State Electricity Board. Phase -1(PCEK)-Serving station Kobra (KRBA).	Korba Sick line	B.C.N. Depot, Raipur	Wagon repair shop/Raipur
			2. Gatora Goods Shed(GTW)(dealing Coal)	2. Baradwar Goods Shed(BUA) (dealing Iron ore).			
		Raipur	1. MRLB Bhatapara (MRLB/BYT) (Private siding dealing Cement) Serving station Bhatapara.	1. Bhilai Steel Plant Construction Area siding (BSPC) (dealing iron ore) - Serving station Bhilai (BIA)	Bhilai Exchange yard		
			2. Belha Goods Shed - Serving station Behla(dealing dolomite&food Grain).	2. Raipur Stores Depot (RSD) Goods Shed - dealing food grain. Salt and Cement).			
14	SWR	Hubli	1. JSWT Siding.	1. JSWT Siding.	SGWF Yard.	Wagon Depot/Hospet	No wagon workshop
			2. Ranjitpura Station.	2. Bijapur Goods Shed.	Hubli Yard.		
		Bangalore	1. Tondebhavi Siding(MAPT)	1.Satellite Goods Terminal			
			2. Doddaballapur	2.Doddaballapur Cement Siding(BBST)			
15	WR	Ahmedabad	1. Linch Goods Shed	1. Kankariya	Ratlam Terminal Yard	Gandhidham	Repair &

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			2. IFFCO Siding, Gandhidham	2. AEC siding Sabarmati	Vadodra Terminal Yard	wagon depot	Maintenance Workshop, Dahod
		Ratlam	1. Ratlam Goods Shed	1. Laxmibai Nagar			
			2. ACS Siding, Chittorgarh	2. Grasim Siding, Nagda			
16	WCR	Jabalpur	1. Maihar Cement Siding (MSSG)	1. Oil Siding Bhitoni(BHTN)	New Katni Junction (NKJ)	BOXN depot- New Katni Junction	Wagon Repair Shop, Kota
			2. Beohari Goods shed(BEHR)	2. Kachhpura Goods shed (KEQ)			
		Kota	1. Chambal Fertilizer & Chemical Limited Siding (CFCL)	1. Kota Thermal Power Siding (GTPS)	Kota yard		
			2. Kota Goods shed(KTT)	2. Kota Goods shed (KTT)			
16	32	64	64	32	16	11	

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Annexure 1 (Parac 3.2.1)

Demand vis-à-vis Allotment of rakes to various parties

Year	Zonal Rlys.	Name of the Loading point selected	Division	No. of rakes demanded by parties	Number of rakes allotted by Rly Admn	Number of rakes Not allotted	Whether rakes were allotted as per priority
1	2	3	4	5	6	7	8
		Goods Shed					
2011-12 & 2012-13	ECoR	Nayaragh Goods Shed(NYG)	Khurda Road)	1585	1406	179	Yes
		Visakhapatnam New Goods Shed	Visakhapatnam	609	555	54	Yes
	CR	Wani Goods	Nagpur	2322	2322	0	Yes
		Kurduwadi (Goods)	Solapur	117	117	0	Yes
	ECR	BRKA GS	Dhanbad	274	274	0	Yes
		MNE GS	Sonepur	89	89	0	Yes
		NNA GS	Sonepur	70	31	39	Yes
	ER	Pakur Good Shed	Howrah	2674	2237	437	Yes
	NCR	DCPG Parichha Datia Goods shed	Jhansi	1173	669	504	Yes
		CPC Goods Shed/CNB	Allahabad	226	166	60	Yes
	NER	Gonda Jn. / Goods (GD)	Lucknow Jn.	197	197	0	Yes
		BilaspurRoad (BLQR)	Izzatnagar	18	18	0	Yes
		Kashipur/Gds (KPV)	Izzatnagar	67	67	0	Yes
	NWR	JSM (GS)	Jodhpur	1213	1213	0	Yes
		GOTAN (GS)	Bikaner	116	116	0	Yes
	NEFR	New Guwahati (GS)	Lumding	49	49	0	Yes
		New Jalpaiguri (GS)	Katihar	138	143	-5	Yes
	NR	No Goods Selected		0	0	0	
	SCR	FCIC	Secunderabad	55	44	11	Yes
		KRMR (GS)	Secunderabad	380	245	135	Yes
	SECR	BELHA	Raipur	471	445	26	Yes
		GTW (GS)	Bilaspur	707	637	70	Yes
	SER	Goods shed/VAA (Loading)	Adra	172	164	8	Yes
		Goods shed /Rourkela (Loading)	Chakradharpur	49	44	5	Yes
	SWR	RNJP GS	Hubli	2376	2358	18	Yes
		DBU	Bangalore	247	210	37	Yes
	SR	No Goods Selected		0	0	0	
	WCR	Beohari Goodsshed	Jabalpur	297	283	14	Yes
Kota Goodsshed		KOTA	619	584	35	Yes	
WR	Ratlam Goodsshed	RATLAM	67	59	8	Yes	
	Linch GS	Ahmedabad	164	162	2	Yes	
	Total	29 Goods Sheds		16541	14904	1637	
			661640		90.10	9.90	

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		Sidings					
2011-12 & 2012-13	ECoR	Jagannath Colliery Siding (SBCT)	Khurda Road(KUR)	9400	9354	46	Yes
		M/s Gangavaram Port Ltd.(MGPV)	Visakhapatnam (VSKP)	7277	7026	251	Yes
	CR	Acc Siding Wadi	Solapur	2424	2424	0	Yes
		Ghugus old sdg.	Nagpur	2926	2926	0	Yes
	ECR	(RAY) Bachra (sdg)	Dhanbad	4780	4372	408	Yes
	ER	Pure Sitalpur Colliery Siding	Asansol	2555	2541	14	Yes
		ICML sdg	Asansol	1110	1307	-197	Yes
		Pakur Coal sdg	Howrah	4349	3515	834	Yes
	NCR	MJAC Siding Chunar		847	838	9	Yes
	NER	Sugar Mill Siding Paliakalan (PLK)	Lucknow Jn.	60	60	0	Yes
	NWR	BNGS (sdg)	Ajmer	1436	1398	38	Yes
		BGKG (sdg)	Ajmer	1822	1773	49	Yes
	NEFR	HPC JIGIROAD	Lumding	149	149	0	Yes
		NRSR	Katihar	1038	1038	0	Yes
		FCI/MLFC	Katihar	20	20	0	Yes
	NR	IOCL/Bahauli	Delhi	1976	1796	180	Yes
		Jakhhal	Delhi	389	287	102	Yes
		Patiala	Ambala	561	514	47	Yes
		Barnala	Ambala	494	396	98	Yes
	SCR	KSLK/COA (sdg)	Vijayawada	2610	2610	0	Yes
		RUSG/BDCR	S cunderabad	3750	3750	0	Yes
	SECR	MRLB/Raipur	Bilaspur	1932	1875	57	Yes
		JUNADIH/BSP	Bilaspur	7888	7877	11	Yes
	SER	KKC Link Siding	Adra	955	955	0	Yes
		CFO/TWS/TATA (Loading)	Chakradharpur	4603	4603	0	Yes
	SWR	JVSL (sdg)	Hubli	4210	4167	43	Yes
		MAPT (sdg)	Bangaluru	21	21	0	Yes
	SR	FACT/Irumpanam	Trivendrum	615	615	0	Yes
		BPCL/Irumpanam	Trivendrum	1483	1483	0	Yes
		TNEB/Attipattu	Chennai	3418	3418	0	Yes
		MFL/Tondiarpet	Chennai	383	383	0	Yes
	WCR	MSSG siding Maihar	Jabalpur	2543	2281	262	Yes
		CFCS Siding Kota	KOTA	1422	1418	4	Yes
	WR	ACS-Siding, Chittorgarh	Ratlam	1915	1899	16	Yes
		IFFCO Siding Gandhidham	Ahmedabad	1386	1310	76	Yes
	Total	35 Sidings		82747	80399	2348	
					97%	3%	
		G. Total		99288	95303	3985	

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Annexure 2 (Para 3.2.1)

Demand vis-à-vis Allotment of rakes to various parties
(May, December and March month of 2011-12 and 2012-13)

Rly	Name of the Loading point selected	Year	No. of rakes demanded	Number of rakes allotted	Demand cancelled (in %)	Whether rakes were allotted as per priority
1	2	3	4	5	6	7
ECoR	Nayagarh Goods Shed(NYG), Visakhapatnam New Goods Shed(VNCW), Jagannath Colliery Siding (SBCT), M/s Gangavaram Port Ltd.(MGPV)	2011-12	2247	2187	2.67	Yes
ECoR	Nayagarh Goods Shed(NYG), Visakhapatnam New Goods Shed(VNCW), Jagannath Colliery Siding (SBCT), M/s Gangavaram Port Ltd.(MGPV)	2012-13	2828	2790	1.34	Yes
CR	Wani Goods, Kurduwadi (Goods), Acc Siding Wadi, Ghugus old sdg.	2011-12	902	902	0.00	Yes
CR	Wani Goods, Kurduwadi (Goods), Acc Siding Wadi, Ghugus old sdg.	2012-13	995	988	0.70	Yes
ECR	BRKA GS, MNE GS, NNA GS, (RAY) Bachra Sdg.	2011-12	688	617	10.32	Yes
ECR	BRKA GS, MNE GS, NNA GS, (RAY) Bachra Sdg.	2012-13	720	629	12.64	Yes
ER	Pure Sitalpur Colliery Siding, ICML sdg, Pakur Coal sdg	2011-12	415	301	27.47	Yes
ER	Pure Sitalpur Colliery Siding, ICML sdg, Pakur Coal sdg	2012-13	333	277	16.82	Yes
NCR	DCPG Parichha Datia Goods shed, CPC Goods Shed/CNB, MJAC Siding Chunar	2011-12	207	189	8.70	Yes
NCR	DCPG Parichha Datia Goods shed, CPC Goods Shed/CNB, MJAC Siding Chunar	2012-13	312	242	22.44	Yes
NER	Gonda Jn. / Goods (GD), BilaspurRoad (BLQR), Kashipur/Gds (KPV), Sugar Mill Siding Paliakalan (PLK)	2011-12	27	24	11.11	Yes
NER	Gonda Jn. / Goods (GD), BilaspurRoad (BLQR), Kashipur/Gds (KPV), Sugar Mill Siding Paliakalan (PLK)	2012-13	53	53	0.00	Yes
NWR	JSM (GS), GOTAN (GS), BNGS (sdg), BGKG (sdg)	2011-12	698	667	4.44	Yes
NWR	JSM (GS), GOTAN (GS), BNGS (sdg), BGKG (sdg)	2012-13	515	509	1.17	Yes
NEFR	New Guwahati (GS), New Jalpaiguri (GS), HPC JIGIROAD, NRSR, FCI/MLFC	2011-12	171	171	0.00	Yes
NEFR	New Guwahati (GS), New Jalpaiguri (GS), HPC JIGIROAD, NRSR, FCI/MLFC	2012-13	162	162	0.00	Yes
NR	IOCL/Bahauli, Jakhall, Patiala, Barnala	2011-12	346	327	5.49	Yes

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NR	IOCL/Bahauli, Jakhal, Patiala, Barnala	2012-13	495	467	5.66	Yes
SCR	RVD (GS), KRMR (GS), KSLK/COA (sdg), RUSG/BDR, FCIC	2011-12	896	871	2.79	Yes
SCR	RVD (GS), KRMR (GS), KSLK/COA (sdg), RUSG/BDR, FCIC	2012-13	951	941	1.05	Yes
SECR	BELHA, GTW (GS), MRLB/Raipur, JUNADIH/BSP	2011-12	339	330	2.65	Yes
SER	Goods shed/VAA (Loading), Goods shed /Rourkela (Loading), KKC Link Siding, CFO/TWS/TATA (Loading)	2011-12	702	702	0.00	Yes
SER	Goods shed/VAA (Loading), Goods shed /Rourkela (Loading), KKC Link Siding, CFO/TWS/TATA (Loading)	2012-13	855	851	0.47	Yes
SWR	RNJP GS, DBU, JVSL (sdg), MAPT (sdg)	2011-12	916	917	-0.11	Yes
SWR	RNJP GS, DBU, JVSL (sdg), MAPT (sdg)	2012-13	884	883	0.11	Yes
SR	FACT/IPN, BPCL/IPN, TNEB/AIPS, MFL/TNPM	2011-12 & 2012-13	1533	1260	17.81	Yes
SR	FACT/IPN, BPCL/IPN, TNEB/AIPS, MFL/TNPM	NA	NA	NA	NA	NA
WCR	Beohari Goodsshed, Kota Goodsshed, MSSG siding Maihar, CFCS Siding Kota	2011-12	555	476	14.23	Yes
WCR	Beohari Goodsshed, Kota Goodsshed, MSSG siding Maihar, CFCS Siding Kota	2012-13	502	500	0.40	Yes
WR	Ratlam Goodsshed, Linch GS, ACS-Siding, IFFCO Siding GIMB	2011-12	21	21	0.00	Yes
WR	Ratlam Goodsshed, Linch GS, ACS-Siding, IFFCO Siding GIMB	2012-13	31	31	0.00	Yes
	Total		20299	19285	5.00	

Annexure 3 (Para 3.2.5)

Statement showing loss due to detentions during loading/unloading

Zonal Railway	No. of Selected loading/unloading points	Total	
		No. of wagons attracted detention	Revenue. Loss (in ₹)
1	2	3	4
ECoR	8	1160580	1892867210
CR	9	165947	548734100
ECR	8	218318	338798470
ER	8	494746	1281595883
NCR	8	110355	10757213
NER	8	112352	327182510
NWR	8	31688	83945338
NEFR	6	139902	550928218
NR	8	148702	337521659
SCR	9	511519	733888587
SECR	8	254743	488319857
SER	8	298039	888003086
SWR	8	93489	239876107
SR	8	158960	326512597
WCR	8	58767	209435864
WR	8	141058	269199236
Total	128	4099165	8527565935

Annexure 4 (Para 3.3)

Position of Infrastructure facilities at selected loading/unloading points

Description	No. of deficient loading/unloading points	Zonal Railways concerned																	
		ECOR	CR	ECR	ER	NCR	NER	NWR	NEFR	NR	SCR	SECR	SER	SWR	SR	WCR	WR	TOTAL	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Full rake facilities	Goods Sheds		1			1		1	2				4	2				2	13
	Sidings	1	1		1	1	1	1	2			1						1	10
Rail level /High level platform	Goods Sheds			1	Nil														1
	Sidings		1	4	1					2						2			10
Pucca circulating area	Goods Sheds	1	1	1				4	1			3	1		1			3	16
	Sidings	3	1	2	3		3		1	2	1	2	1						19
All weather approach Road	Goods Sheds	1	1	2				1	1				1					4	11
	Sidings	2	1	2	4	1				1	3	2	0						16
Lighting including lighting facilitating loading	Goods Sheds		1	2								1						1	5
	Sidings		1	2			1			3	1								8
Merchant Room	Goods Sheds	1	2	1	1			2	1	1	3	3			1	1	1	1	18
	Sidings	2	5	4	3	4	3	3	2	2	6	4	2		6	1	0	0	47
TMS FOIS connection	Goods Sheds							1										1	2
	Sidings			3			2		2		1	1		1					10
DOT phone with STD facility	Goods Sheds	2	1	2	2	1	1		3	3	1	1	3			3	1	1	24
	Sidings	3	4	3	4	5	5	1	2	1	4	2	3		2	3			42
Cool drinking water, wash room facility	Goods Sheds	2	2	2	1			1	1	4	3	3	3		1	3	1	1	27
	Sidings	3	4	2	2	1	4	1	1	3	2	1	3		3	2			32

Annexure -5 (Para- 3.6)
Accrual and waiver of demurrage charges

Year	Zonal Railway	Number of the selected stations	Number of rakes dealt with	Number of rakes in which demurrage accrued	Total demurrage charges accrued (in ₹)	Amount waived (in ₹)	% of waiver	Amount realised (in ₹)
1	2	3	4	5	6	7	8	9
2008-09 to 2012-13	ECOR	8	38823	23976	909540791	312163595	34.32	491664526
	CR	9	35470	23911	1420819625	392948982	27.66	1027870643
	ER	8	48136	14852	532179706	144773156	27.20	375112598
	NCR	8	11291	6922	508275480	171859447	33.81	337480411
	ECR	8	14655	8581	348669104	113674370	32.60	85315781
	NER	8	6425	3452	155251740	36772209	23.69	118479531
	NWR	8	12933	8855	277454800	111379113	40.14	166075687
	NEFR	6	12249	4719	374558930	68768541	18.36	182245984
	NR	8	28178	15495	940718445	139968052	14.88	799892280
	SCR	9	42365	16128	851089191	374072044	43.95	477017147
	SECR	8	53379	12921	685636811	157691478	23.00	527945333
	SER	8	44845	38865	1567884996	317078292	20.22	1144043806
	SR	8	18207	4919	162306311	2723215	1.68	127349565
	SWR	8	47380	26135	1254677984	186047586	14.83	1068630398
	WCR	8	23431	7644	277096298	49394763	17.83	227701535
WR	8	13085	5833	303527040	91387020	30.11	211555001	
	Total	128	450852	223208	10569687252	2670701863		7368380226
Amount to be realised							7898985389	
Amount realised							7368380226	
Still remain to be realised							530605163	

Annexure 6 (Para -3.7)

Non recovery of damage and deficiency charges from siding owners

Year	Name of the Zonal Railway	No. of wagons damaged due to accident occurring in the parties premises	The value of damage to rolling stock assessed by the Railway Administration (in ₹)	Amount of the bill preferred by the Railways (in ₹)	Amount recovered from the party (in ₹)
1	2	3	4	5	6
2008-09-2012-13	ECoR	363	17499516	17499516	15864566
	CR	6758	8658847	8658847	1278032
	ECR	120	147105458	149523019	38458173
	ER	676211	19473204	19473204	17418228.4
	NCR	49	4090936	4090936	2146178
	NER	0	0	0	0
	NWR	523	9114490	3124011	604459
	NEFR	0	0	0	0
	NR	153	7848019	7748828	2661060
	SCR	318	15411150	12634538	12003872
	SECR	464	121188913	121188913	97675102
	SER	531	29582280	29659007	6438535
	SWR	2210	10658891	10658891	9563121
	SR	183	3477122	3477122	2490617
	WCR	59	14236708	14236708	1720496
	WR	787	9703775	9703775	3529602
	Total	688729	418049309	411677315	211852041.4

Annexure 7 (Para No. 4.4.1)

Wagons not due for POH received in workshop/shed which were returned out of workshop with delays

Zonal Railway	Year	No. of wagons received erroneously which was not due for POH	No. of wagons delayed in their return	Period of delay			
				3 months	3 to 6 months	6 months to one year	1 to 3 year
1	2	3	4	5	6	7	8
ER	2008-09	NIL	NA	NA	NA	NA	NA
	2009-10	NIL	NA	NA	NA	NA	NA
	2010-11	NIL	NA	NA	NA	NA	NA
	2011-12	NIL	NA	NA	NA	NA	NA
	2012-13	NIL	NA	NA	NA	NA	NA
NR	2008-09	5340	245	245	0	0	0
	2009-10	5624	209	209	0	0	0
	2010-11	5870	410	380	20	10	0
	2011-12	5025	127	123	1	3	0
	2012-13	5029	106	106	0	0	0
NCR	2008-09	NIL	NA	NA	NA	NA	NA
	2009-10	NIL	NA	NA	NA	NA	NA
	2010-11	NIL	NA	NA	NA	NA	NA
	2011-12	NIL	NA	NA	NA	NA	NA
	2012-13	NIL	NA	NA	NA	NA	NA
NEFR	2008-09	109	0	0	0	0	0
	2009-10	102	0	0	0	0	0
	2010-11	125	0	0	0	0	0
	2011-12	33	0	0	0	0	0
	2012-13	9	0	0	0	0	0
NWR	2008-09	1	0	0	0	0	0
	2009-10	119	87	87	0	0	0
	2010-11	72	33	33	0	0	0
	2011-12	55	13	13	4	0	0
	2012-13	80	53	50	3	4	0
SR	2008-09	55	55	54	1	0	0
	2009-10	91	91	91	0	0	0
	2010-11	127	127	126	1	0	0
	2011-12	155	155	153	1	1	0
	2012-13	24	24	24	0	0	0
SCR	2008-09	472	380	379	1	0	0

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	2009-10	518	429	429	0	0	0
	2010-11	800	726	709	17	0	0
	2011-12	523	450	440	9	1	0
	2012-13	559	547	528	18	1	0
SER	2008-09	38	38	37	1	Nil	Nil
	2009-10	82	82	80	2	Nil	Nil
	2010-11	208	208	208	Nil	Nil	Nil
	2011-12	152	152	147	3	2	Nil
	2012-13	60	60	59	1	Nil	Nil
WR	2008-09	0	0	0	0	0	0
	2009-10	0	0	0	0	0	0
	2010-11	0	0	0	0	0	0
	2011-12	0	0	0	0	0	0
	2012-13	43	43	40	0	3	0
WCR	2008-09	0	0	0	0	0	0
	2009-10	132	0	0	0	0	0
	2010-11	209	0	0	0	0	0
	2011-12	82	0	0	0	0	0
	2012-13	5	0	0	0	0	0
SECR	2008-09	NIL	NA	NA	NA	NA	NA
	2009-10	NIL	NA	NA	NA	NA	NA
	2010-11	NIL	NA	NA	NA	NA	NA
	2011-12	NIL	NA	NA	NA	NA	NA
	2012-13	NIL	NA	NA	NA	NA	NA
Total		31928	4850	4702	123	25	0

Annexure 8 (Para 4.4.1)
Details of Wagons found overdue for POH

Zone	Year	No. of wagons found over due	Overdue period				
			Less than 3 months	3 to 6 months	6 to one year	1 to 3 years	More than 3 years
1	2	3	4	5	6	7	8
ER	2008-09	2631	2329	248	44	8	2
	2009-10	2088	1502	420	148	18	0
	2010-11	2443	1775	456	88	121	3
	2011-12	3392	1914	1139	300	38	1
	2012-13	3773	1558	1434	691	84	6
NR	2008-09	72	25	16	19	12	0
	2009-10	169	68	56	25	20	0
	2010-11	153	46	36	42	25	4
	2011-12	173	52	45	52	23	1
	2012-13	206	70	63	32	33	8
NCR	2008-09	241	149	46	34	12	0
	2009-10	617	346	151	94	26	0
	2010-11	1786	1108	376	188	114	0
	2011-12	2024	1049	644	251	80	0
	2012-13	3819	1614	1447	638	112	8
NFR	2008-09	150	106	35	8	1	0
	2009-10	264	167	73	23	1	0
	2010-11	274	208	58	7	1	0
	2011-12	719	498	191	29	1	0
	2012-13	868	406	349	110	3	0
NWR	2008-09	10	0	1	9	0	0
	2009-10	2	0	2	0	0	0
	2010-11	29	0	13	10	6	0
	2011-12	79	0	62	16	1	0
	2012-13	139	0	85	42	12	0
SR	2008-09	NA	NA	NA	NA	NA	NA
	2009-10	NA	NA	NA	NA	NA	NA
	2010-11	NA	NA	NA	NA	NA	NA
	2011-12	1698	1026	497	128	40	7
	2012-13	1502	785	509	167	25	16
SCR	2008-09	1816	1467	191	108	40	10
	2009-10	2481	1642	302	392	140	5
	2010-11	3024	2201	449	129	239	6
	2011-12	2952	1671	911	270	84	16
	2012-13	3155	1348	1202	537	68	0
SER	2008-09	NA	NA	NA	NA	NA	NA

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	2009-10	NA	NA	NA	NA	NA	NA
	2010-11	1241	1050	144	31	15	1
	2011-12	2846	1978	610	193	61	4
	2012-13	3212	1969	885	284	68	6
SECR	2008-09	NA	NA	NA	NA	NA	NA
	2009-10	NA	NA	NA	NA	NA	NA
	2010-11	NA	NA	NA	NA	NA	NA
	2011-12	NA	NA	NA	NA	NA	NA
	2012-13	1469	559	538	270	97	5
WCR	2008-09	16	0	0	0	16	0
	2009-10	10	0	0	0	10	0
	2010-11	19	0	0	0	19	0
	2011-12	14	0	0	0	14	0
	2012-13	49	0	0	0	49	0
	TOTAL	51625	30686	13684	5409	1737	109

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Annexure 9 (Para-4.4.3)

Position of test check of wagon outturns in workshops

Zonal Railway	Details test checked for the Month	Total no. of wagons shown turned out during the month as per outturn statement	No. of wagons actually turned out during the month as per gate passes	No. of wagons not actually turned out during the month as per gate passes	Period spent in workshop beyond date out; shown in outturn statement	Loss of earning capacity (Fig. in crores of ₹.)
ER	Mar-11	348	260	60	1042	4.12
	Mar-12	426	275	87	3037	1.07
	Mar-13	418	129	209	8560	3.01
NCR	Mar-11	585	585	NA	NA	NA
	Mar-12	626	626	NA	NA	NA
	Mar-13	556	556	NA	NA	NA
NFR	Mar-11	67	62	5	78	0.03
	Mar-12	113	113	0	133	0.05
	Mar-13	100	77	23	369	0.13
NR	Mar-11	479	261	218	4868	1.64
	Mar-12	333	186	147	6692	2.36
	Mar-13	454	166	257	9445	3.32
SR	Mar-11	149	143	6	6	0.00
	Mar-12	172	45	14	239	0.08
	Mar-13	151	6+	32	488	0.17
SER	Mar-11	325	325	NA	NA	NA
	Mar-12	415	415	NA	NA	NA
	Mar-13	383	383	NA	NA	NA
WR	Mar-11	63	63	NA	NA	NA
	Mar-12	60	60	NA	NA	NA
	Mar-13	66	66	NA	NA	NA
WCR	Mar-11	423	423	NA	NA	NA
	Mar-12	449	449	NA	NA	NA
	Mar-13	391	391	NA	NA	NA
SCR	May-10	423	330	93	2491	0.84
	Oct-11	365	237	128	2211	0.78
	May-12	420	314	106	3836	1.35
SECR	Sep-10	242	242	0	340	0.11
	Sep-11	302	266	36	553	0.19
	Sep-12	233	136	97	4861	1.71
Grand Total		9537	7584	1518	49249	20.96

Annexure -10 (Para 4.5)
Age Profile of Unloadable wagons

Zonal Railway	Number of wagons became unloadable (under age groups)							Total Number of Unloadable wagons
	1 to 5 year	6 to 10 years	11 to 15 years	16 to 20 years	21 to 25 years	26 to 30 years	> 30 years	
1	2	3	4	5	6	7	8	9
CR	3843	6111	6940	6923	5599	5339	2089	36844
ER	1193	1974	5521	4122	3392	1449	863	18514
ECR	7431	11194	27891	23481	15749	9188	0	94934
ECoR	1679	2416	8083	6125	4875	5810	4538	33526
NR	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV
NCR	0	283	819	2384	4661	837	0	8984
NER	0	0	0	0	0	0	0	0
NFR	0	0	0	0	0	0	0	0
NWR	75	136	317	328	156	23	0	1035
SR	2812	3683	6170	4122	2784	2587	2610	24768
SCR	6461	6216	10208	8365	6148	1031	9825	48254
SER	8122	9004	15483	19748	39571	7526	0	99454
SECR	4841	5470	12465	10914	9118	9874	0	52682
SWR	385	8860	11774	6440	3332	49	0	30840
WR	765	1840	5347	5554	3386	967	0	17859
WCR	882	627	1973	1035	1033	497	5057	11104
Grand Total	38489	57814	112991	99541	99804	45177	24982	478798

NAV-Not Available

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Annexure-11 (Para 5.4)

Statement showing the position of important register being maintained in Divisional Control office for constant monitoring

Zonal Rlys	Name of Division	By the Section Controller				By the Dy.Chief Controller					By the Power Controller			
		Sick wagon register	Yard report register	Yard report register	Important yard balance register	Yard running balance register	Forecast and acceptance book	Train ordering book	Goods train performance register	ODC register	Engine link Register	Crew position register	Register showing undue and abnormal detention	Fuel Balance register
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CR	Nagpur										No			
CR	Solapur	No	No	No	No	No	No	No	No	No				
ER	Howrah	No	No		No			No		No				
ER	Asansol					No				No				
ECR	DHN						No	No			No	No		No
ECR	SEE						No	No			No	No		No
ECoR	KUR	No		No	No	No			No	No				
ECoR	WAT			No	No	No			No					
NR	DELHI	No	No		No	No	No		No				No	
NR	AMBALA	No	No											No
NCR	Allahabad		No		No	No		No						
NCR	Jhansi	No	No	No	No	No			No	No	No	No	No	No
NER	Izzatnagar													
NER	Lucknow	No												
NFR	Lumding													
NFR	Katihar													
NWR	Ajmer	No	No						No				No	
NWR	Jodhpur				No	No								
SR	Madras													

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SR	Trivendrum													
SCR	Ballarshah				No					No	No			
SCR	Secundrabad									No				
SER	ADRA					No				No				No
SER	Chakardharpur	No				No			No	No				No
SECR	Bilaspur	No				No					No			
SECR	Nagpur										No			No
SECR	Raipur		No		No				No	No	No			
SWR	Bangalore													
SWR	Hubli													
WR	Ahmedabad	No	No			No	No		No		No	No	No	
WR	Ratlam	No	No		No	No	No							
WCR	Kota													
WCR	Jabalpur		No	No	No	No								
A		Z=9	Z=7	Z=4	Z=9	Z=10	Z=4	Z=3	Z=8	Z=7	Z=7	Z=3	Z=4	Z=5
B		D=12	D=11	D=5	D=12	D=14	D=6	D=5	D=9	D=10	D=9	D=4	D=4	D=7

A =Indicates number of Zones where the required record/register not maintained in control office

B =Indicates number of Division where the required record/register not maintained in control office