Chapter 2: Traffic - Commercial and Operations

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

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

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

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

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

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

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

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

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

2.1 Up-Gradation of Goods Sheds

Executive Summary

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

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

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

2.1.1 Introduction

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

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

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

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

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

2.1.2 Audit Objective

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

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

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

2.1.3 Audit Methodology and Scope

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

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

2.1.4 Sample size

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

2.1.5 Audit Findings

2.1.5.1 Failure in constituting Divisional Committee

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

Manager and Sr. Divisional Electrical Engineer of the concerned Division were to inspect the infrastructure existing in the Goods Sheds and quantify the requirement to prevent over or under provision of works. The proposal of up-gradation was to be submitted to Railway Board by 30th June 2007. In eight[1] Zonal Railways, the Divisional Committees were not formed. In CR, only in one division (Bhusawal) out of the three divisions where the works were taken up, the Divisional Committee was formed. The Divisional Committee formed by SECR did not include Sr. DFM**.**

2.1.5.2 Delay in submitting proposal and delay in sanctioning the works

Out of the 50 Goods Sheds initially identified by the Railway Board in April 2007, the Zonal Railways submitted total proposals for up-gradation of 42 Goods Sheds by December 2008. Only two Zonal Railways (SR & WCR) had submitted the proposals by the due date (June 2007). The reasons held out in five cases for not sending the proposals were (i) up-gradation work of Goods shed was already taken up as part of gauge conversion (Hissar in NWR), (ii) one Goods shed did not fall within the criteria due to less number of rakes handled (Mandideep-WCR), (iii) being private siding, with station land locked with no scope for development (Sankval in SWR) (iv) the work of development was already completed in March 2007 (Aligarh Junction and Kanpur in NCR) and in respect of remaining three, the reasons were not on record. Out of the 42 Goods Sheds for which proposals were sent by Zonal Railways, the Railway Board finally sanctioned the works on 38[2] Goods Sheds- 10 sanctioned in or prior to 2007-08, 20 sanctioned in 2008-09 and two in 2009-10 and in remaining six cases, the information was not made available. The delay in submitting the proposals resulted in the delayed sanction of works.

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

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

[1] ER, NCR, NER, NWR, SR, SCR, SER and WR.
[2] *CR-4, ER-2, ECR-3, ECoR-1, NR-4, NER-3, NFR-3, NWR-1, SR-2, SCR-1, SECR-1, SER-4, SWR-1, WR-6, WCR-2*
[3] *CR-1, ER-1, ECoR-1, NR-3, NER-2, SR-1, SER-1, SECR-2, SWR-1*

2.1.5.3 Shortfall in number of works sanctioned

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

2.1.5.4 Fund Management

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

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

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

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

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

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

2.1.5.5 Execution of works

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

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

- Out of the 53 Goods Sheds selected for up-gradation works, adequate number of lines as per the norms were not provided in respect of 19[4] Goods Sheds. Audit observed that only in five Goods Sheds, the Divisional Committees to inspect and recommend required facilities as stipulated by Railway Board were constituted, whereas in nine of these Goods Sheds, these committees were not constituted and in remaining five cases, information was not available.
- Cover over the full length of platform was not provided at 28 Goods Sheds, out of which in 13[5] Goods Sheds, the commodities dealt with were cement, food grains, fertilizers etc. for which cover over full length of platform was required. Out of these only in five cases Divisional Committees were formed; and in eight cases these Committees were not formed.
- Adequate lighting arrangements were not provided at eight[6] Goods Sheds.
- Pucca circulating area was not provided at 24 Goods Sheds.
- All weather approach roads were not provided at 21 Goods Sheds.
- Further, none of the plans for up-gradation of Goods Sheds was included all the envisaged facilities.

[4] CR-4, ER-1, ECoR-1, NR-1, NCR-1, NER-3, NFR-2, SR-1, SER-5
[5] Jalgaon (CR), Dankuni (ER), Cuttack (EcoR), Yamuna Bridge (NCR), New Jalpaiguri, New Guwahati, Changsari (NFR), Kanakpur (NWR), Tiruchhirapalli, Tiruppur (SR), Balasore, Jharsuguda, Tatanagar (SER).
[6] ECR-1, ECoR-1, NR-1, SR-2, SER-1, SECR-2

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

(Annexure I)

Delay in commencing the works

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

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

- Whereas in 27[7] Goods Sheds the works were in progress (March 2011).
- After incurring an expenditure of ₹1.00 crore, the work at Gonda Goods shed in NER was dropped with the approval of General Manager due to severe constraints of proper approach road.
- NER also proposed to drop New Chhapra Kacheri due to lack of space to provide covered shed and platform.
- Thus works were completed only in 9[8] Goods Sheds. From the above, it was seen that only 18 per cent of the works sanctioned by the Railway Board had been completed (March 2011).

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

(Annexure II)

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

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

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

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

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

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

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

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

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

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

2.1.5.6 Completed works

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

Delay in completion of works

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

(Annexure II)

Inadequacy of facilities provided

It was also found that all the facilities such as adequate number and length of lines as per norms fixed by Railway Board were not provided in three Goods[9] Sheds where up-gradation works had been completed**.**

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

[9] New Mulund, Cuttack, Govindgarh.

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

Impact on traffic

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

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

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

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

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

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

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

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

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

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

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

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

** in respect of 3 goods Sheds*

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

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

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

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

(Annexures III & IV)

2.1.5.8 Newly created Goods Sheds

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

Infructuous expenditure due to defective planning

Mundiyampakkam (MYP) Goods shed - SR

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

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

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

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

Goods shed at Chidambaram - SR

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

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

Goods shed at Talit - ER

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

Irugur Goods shed - SR

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

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

Dadhapara Goods shed - SECR

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

Cherlapalli Goods shed - SCR

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

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

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

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

2.1.7 Conclusion

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

Recommendations

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

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

2.2 MEMU/DEMU Services in Indian Railways

Executive Summary

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

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

2.2.1 Introduction

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

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

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

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

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

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

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

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

2.2.2 Audit Objective

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

- Commissioning of new coaches
- Coach utilization
- Maintenance

2.2.3 Audit Methodology and Scope

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

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

DEMU TRAIN

2.2.4 Operations

2.2.4.1 Commissioning of coaches

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

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

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

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

2.2.4.2 Utilization of coaches

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

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

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

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

2.2.4.3 Elimination of stoppages and gain in running time

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

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

2.2.5 POH and Maintenance of MEMU/DEMU coaches

2.2.5.1 Maintenance facilities

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

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

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

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

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

2.2.5.2 POH and Detention to coaches

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

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

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

(Annexure VIII)

2.2.6 Occupancy

2.2.6.1 Passenger Patronage

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

Table-II : Occupancy in trains

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

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

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

2.2.6.2 Other related issues affecting occupancy

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

2.2.7 Conclusion

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

Recommendations

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

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

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

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

Executive Summary

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

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

2.3.1 Introduction

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

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

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

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

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

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

2.3.2 Previous Audit Study

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

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

2.3.3 Audit Objectives

The audit was undertaken to review –

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

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

2.3.4 Audit Methodology and coverage

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

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

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

2.3.5 Audit findings

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

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

Provision of Wheel Impact Load detectors (WILD)

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

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

Railway	**Name of the section**	**Date of commencement of trains with enhanced loading**	**Whether provided or not(date if provided)**
Central	Ballarshah to Wardha including Rajur Wani Majri and Ghughus Tadali and Umrer Butibori including Chitoda -Sewagram (Bypass)	01.07.07	Butibori -Borkhedi (1)
Eastern	Nimcha-Kalipahari	Jul-05	Yes. Commissioned on 1.11.2008
East Central	BBU&MTGE of MGS	18.6.2008	Yes(08.01.2010)
	BBU&MTGE of MGS	18.06.2008	Yes(08.02.2010)
	Barwadih	06.02.2006	11.07.2010
E Coast	KK Line	15.05.2005	Provided
SR	Renigunta-Vyasarpadi-Chennai (HOM)	18-06-2005	Yes. Commissioned on 30-01-2008
SCR	BAY-GTL-RU	15.05.05	Yes. Commissioned on 16.10.08.
SER	Haldia-Panskura-Kharagpur-Adityapur-Sini-Bondamunda-Jharsuguda-Raigarh	22.07.05	17.10.07
SECR	DUG-DRZ(Durg-Dallirajhara Section)	February, 2006	Commissioned on16.01.2008
	DGG-PJB(Dongargarh-Paniajob Section)	February, 2006	commissioned on 29.10.2010
SWR	BELLARY -HUBLI-VASCO	May'2005	Provided Sept'2007
WCR	Katni-Bina	15.5.06	April-11
	Bhopal-Itarsi	15.5.06	24.03.11
	Bhopal-Bina	15.5.06	24.05.11

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

Replacement of 90 R rails

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

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

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

(Annexure IX)

Arrangements for Ultra Sonic Flaw Detector

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

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

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

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

Installation and commissioning of weigh bridges

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

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

Audit scrutiny also revealed that –

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

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

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

2.3.5.2 Impact of enhanced loading

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

Impact on tracks

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

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

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

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

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

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

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

Impact on rolling stock

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

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

(**Annexure XII**)

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

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

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

2.3.5.3 Impact on Commercial Operations

Earnings on account of enhanced loading in wagons

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

(Annexure XIII)

Overloading of wagons - impacts thereof

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

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

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

(Annexure XIV)

Cases of stalling of trains causing extra expenditure and detention

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

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

(Annexure XV)

2.3.6 Conclusion

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

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

Recommendations

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

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

2.4 Movement of traffic at 'Train Load Class Rates'

Executive Summary

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

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

2.4.1 Introduction

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

Table -1

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

2.4.2 Operational aspects

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

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

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

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

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

2.4.3 Earlier Audit findings

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

2.4.4 Audit objectives

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

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

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

2.4.5 Methodology and sample size

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

2.4.6 Audit Findings

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

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

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

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

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

(Annexure XVI)

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

2.4.6.2 Loss of net revenue at sidings/stations

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

- In 39 sidings over 13 Zonal Railways though the placement of rakes was done in two or more lots, the commercial staff had irregularly charged the traffic at train load rates instead of wagon load rates as stipulated in Railway Board's orders of August 1991. This resulted in irregular benefit of ₹120.04 crore to the consignors during the period of April 2009 to March 2011.
  (Annexure XVII)
- At 54 stations notified as capable of handling train load rakes, the rakes were placed for loading/unloading in two or more lots. Thus Zonal Railways had realized less revenue of ₹195.96 crore on account of difference between wagon load and train load class rates.
  (Annexure XVIII)

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

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

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

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

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

(Annexures XIX & XX)

2.4.6.4 Lack of action by Railways for augmentation of facilities

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

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

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

(Annexure XXI)

2.4.7 Conclusion

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

Recommendations

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

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

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

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

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

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

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

(i) Periodic submission of Monthly Excise returns on a quarterly basis. Failure of submission of any of the prescribed excise related documents will result in summary disqualification from eligibility.

(ii) Consignors were to make an endorsement on the forwarding note that the consignment was meant for domestic consumption.

(iii) The manufacturing units were to furnish an affidavit on non-judicial stamp paper of ₹100 (in the prescribed format) certifying that only iron ore for domestic consumption would be received in their siding.

(iv) After arrival of the consignment at the destination, consignees were to furnish an affidavit on non-judicial stamp paper (for each rake) indicating RR No., wagon number, name of goods shed containing a declaration that the consignment was meant for domestic consumption at the manufacturing unit (name) located at (place) with factory registration and Cenvat no. (Number to be to indicated). It was also to be certified that the consignment was not meant for export out of India and would not to be exported out of India under any circumstances.

(v) The consignee was also to furnish a stamped indemnity note to indemnify the railway against mis-declaration or any other misuse.

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

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

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

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

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

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

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

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

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

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

(Annexure XXIV)

2.5.2 Cases of delivery of consignments to third parties

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

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

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

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

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

In terms of Rule 125(1) of Indian Railway Conference Association Goods Tariff unless specified by the sender, goods will be dispatched by the route operationally feasible and freight charges recovered by the shortest route. Rule 125(3) ibid empowers Central Government to issue General Order for charging the goods by the actually carried route. In view of these powers Railway Board had been issuing General Orders (since January1976) specifying streams of traffic which were regularly carried via longer route for operational constraints.

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

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

I. Steel

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

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

II. Coal

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

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

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

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

III. Imported Coal and Salt

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

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

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

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

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

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

Running of unutilized/ un-leased front SLR[10] with the trains resulted in avoidable cost of haulage to the extent of ₹ 29.69 crore per annum to the Railway.

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

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

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

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

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

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

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

[10] SLR- Second Class cum Luggage Brake van.

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

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

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

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

(₹ in crore)

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

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

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

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

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

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

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

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

2.9 Southern Railway: Poor quality service in Linen Management

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

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

(i) Procurement and distribution of linen departmentally by Railways;

(ii) Outsourcing the entire work relating to procurement, cleaning/ washing and supply of linen.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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