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

Audit Objective 1

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

2.1. Planning

Rolling stock comprising of locomotives and wagons is the backbone on which freight movement depends. As a major transport industry, the Railway plan constitutes an integrated part of the national plan. The augmentation of locomotives and wagons is planned centrally at Railway Board every year by means of a Rolling Stock Programme (RSP). The Planning process for the Railway's five year plans commences with the task of forecasting the growth of freight traffic area-wise, on the basis of analysis of past trends, sectoral analysis, rate of growth, traffic targets fixed at the overall level. Provision in the Code (Para 1514-Indian Railway Code for Mechanical Department) also stipulated that a detailed justification may be prepared for every New Acquisition. Each item proposed in the Programme should be vetted by the FA & CAO[1] of the Railway Zone and his verbatim comments indicated against each item. The provisions required to be made in the rolling stock programme on replacement account is arrived at by projecting the likely condemnation in the period for which the plan is made.

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

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

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

2.2 Requirement of wagons:

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

During the period under review (2008 to 2013) requirement of wagons as per the Rolling Stock Programme (RSP[2]) was assessed at 75,942 numbers. This included new arising[3] of 44,232 wagons. The requirement worked out takes in to account 33235 wagons due for condemnation during the period. The total requirement worked out to 119453 by adding a quantity of 43511 outstanding for supply as on 1-4-2008 against previous orders.

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

2.3 Requirement of Locomotives

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

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

[2] RSP viz Rolling Stock Programme for the years 2008-09, 2009-10, 2010-11, 2011-12 and 2012-13)
[3] This refers to the requirement of wagons projected annually based on the anticipated traffic.

outstanding for supply from the Railway's locomotives manufacturing units[4]. Further, the requirement for the period 2008-13 was assessed (through RSP) at 4547 numbers making the total quantity to be procured as 5219. Against this, IR acquired only 2711 locomotives during the period 2008 to 2013.

2.4 Funding the procurement of locomotives and wagons

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

Table 3 –Funding for procurement of locomotives and wagons

(₹ in crore)

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

Cap –Capital, CF –Capital Fund, DF –Development Fund, DRF –Depreciation Reserve Fund
Source:-Demands for Grant of Indian Railways for the respective years

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

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

2.5 Role of Indian Railway Financial Corporation (IRFC)

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

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

(₹ in crore)

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

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

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

2.6 Manufacturing wagons

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

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

(ii) Procurement from PSU/ private manufactures.

(iii) Wagons are also acquisitioned through outsourcing namely private participation by the interested parties under WIS and LWIS scheme[5] approved by railway from time to time.

2.6.1 Manufacturing of wagons by Railway's own Production Units

IR has five In-House Production Units[6] for manufacturing of wagons. MoR draws up production plan and fixes yearly targets for production by these five workshops.

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

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

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

Source:-Information furnished by respective Zonal Railways

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

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

A review of the record for the period 2008-13 in respect of Production capacity and the target fixed revealed that the targets fixed by the Railway Board were unrealistic as these did not match with the production capacity in these units except Samastipur Workshop of ECR. The production capacity was augmented[7] in the Jamalpur workshop of ER but the targets set by the Railway Board were even higher than the enhanced production capacity. While the target fixed for Golden Rock workshop of SR were also higher than the production capacities, the Targets fixed were less than the production capacities during 2009-11 in case of ASR workshop in NR and in Hubli workshop of SWR during 2008-09 and 2010-11.

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

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

2.6.2 Procurement of Wagons by Direct Purchase

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

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

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

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

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

Source:-Information furnished by concerned directorate of MoR

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

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

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

Source:-Information obtained from Railway Board

The five Railway wagon manufacturing units could not complete the target owing to shortage of the required material[8]. No reasons were also found on record in respect of the PSUs failing to meet the target.

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

2.7 Acquisition of wagons under private participation by private parties:

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

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

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

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

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

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

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

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

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

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

2.8 Technological up-gradation in wagons

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

(i) Universal switch-over to 22.9 tonne axle load wagons from the present axle load of 21.3 tonne to improve loadability of wagons,

(ii) Effort to bring lighter and corrosion resistant materials to improve the payload to the tare ratio[9] of wagons,

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

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

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

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

		these wagons with reference to the conventional wagons (viz seven tonne higher than BCN wagons and four tonne higher than BCNA/BCNHS wagons.

Source:-Information obtained from RDSO

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

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

2.8.1 Design and Development of BOXNR Wagons

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

The work of upgradation and rehabilitation of BOXN wagons into BOXNR was included in the Rolling Stock Programme (RSP) in 2012-13 and funds amounting to ₹336 crore were allotted to six Zonal Railways for rehabilitation of 1400 wagons in nine workshops[10]. In order to gain perspective on actual rehabilitation activity being undertaken, RDSO prepared a study report and forwarded to Railway Board in January 2014. The decision on study report of RDSO was pending (September 2014).

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

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

2.8.2 Design and Development of 28 Axle wagons

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

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

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

MoR in reply stated (September 2014) that the wagon was manufactured by BHEL itself and RDSO issued the necessary certificate. MoR added that its usage can be obtained from BHEL. Reply of MoR is not acceptable as RDSO has been in the process of design and development of 28 axle wagon since March 2002 and the wagon manufactured after the approval of the drawing by RDSO in January 2011, the wagon could not be placed on line and had to be transported in dismantled condition. Further, details about the usage of 28 axle wagon should be available with Railways because it moves on railway track for transporting heavy machinery[11] of BHEL.

2.8.3 Up gradation of wagon into 25 ton axle load.

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

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

2.8.4 Design of BCNHL wagons

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

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

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

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

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

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

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

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

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

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