

### Chapter 3 – Engineering – Open Line and Construction

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

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

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

The total expenditure of the Civil Engineering Department during the year 2011-12 was ₹ 39,269 crore. During the year, apart from regular audit of vouchers and tenders etc., 1907 offices of Civil Engineering including Construction Organization of the Railway were inspected by Audit.

This chapter includes a Thematic Audit on "**Procurement and Utilization of Permanent Way material on Indian Railways**" conducted across Zonal Railways. In this theme, Audit has conducted to review the procurement process of permanent way materials, i.e. commonly used track items (rails, sleepers, ballast, fastenings, etc.). Audit observed that the single source for procurement of rails had not been able to meet the requirement of Railways. However, Ministry had not taken any steps to develop new sources. Audit also commented on the delays in processing of tenders, issuance of purchase orders etc. for procurement of these items.

In addition, this chapter includes six Paragraphs, highlighting cases of individual irregularities pertaining to purchase of land and assets, material modification, non-observance of Railway Board's instructions etc.

### 3.1 Procurement and Utilization of Permanent Way Material on Indian Railways

#### Executive Summary

*Indian Railway incurs substantial expenditure every year on the procurement of Permanent Way material. Procurement of Permanent Way material (track material) is a continuous process as it is essentially required for the maintenance/ renewal of existing tracks and expansion of the Rail network. Any arrear/ lapse in maintenance/ renewal of existing track is a potential safety hazard. Rails and sleepers are procured by the Railway Board and other Permanent Way material are procured by the Zonal Railways.*

*Audit examined (2012-13) procurement of certain commonly used track items procured during the period 2009-10 to 2011-12 for selected ongoing/ completed works. It was observed that Indian Railways procured rails from a single source i.e. M/s SAIL. Further, M/s SAIL had not been able to meet the annual requirements of Indian Railways; the shortfall being about 13 per cent during 2011-12. The Ministry had not taken any steps to either step up supply or to develop new sources of supply.*

*The rails are produced by Bhilai Steel Plant. Their quality is checked by M/s RITES. M/s RITES on an average rejected about 10 per cent of the rails. This indicates a need for improvement in the systems of quality control at the Bhilai Steel Plant itself.*

*There were delays in processing of tenders both at Railway Board level as well as at Zonal Railways. On Zonal Railways, around 60 per cent of the tenders could not be finalised within the prescribed time limit of 90 days of their opening, with an average delay of about 31 days. Further, the procurement process was not efficient, as on an average, after the receipt of indents, Railway took 490 days to issue Purchase Orders and 666 days to receive supplies. Most of the extensions in delivery periods were given on Railway's account due to which penalty was not leviable. Further, in respect of 38 supply orders where Price Variation Clause was applicable, Railway had to pay ₹ 6.83 crore as price implication. Further, procurement of track material was not as per requirement of works as material costing ₹ 443.28 crore remained un-utilised after the completion of works requiring transfer to sites of other works involving extra expenditure of freight and incidental charges amounting to ₹ 31.03 crore.*

#### 3.1.1 Introduction

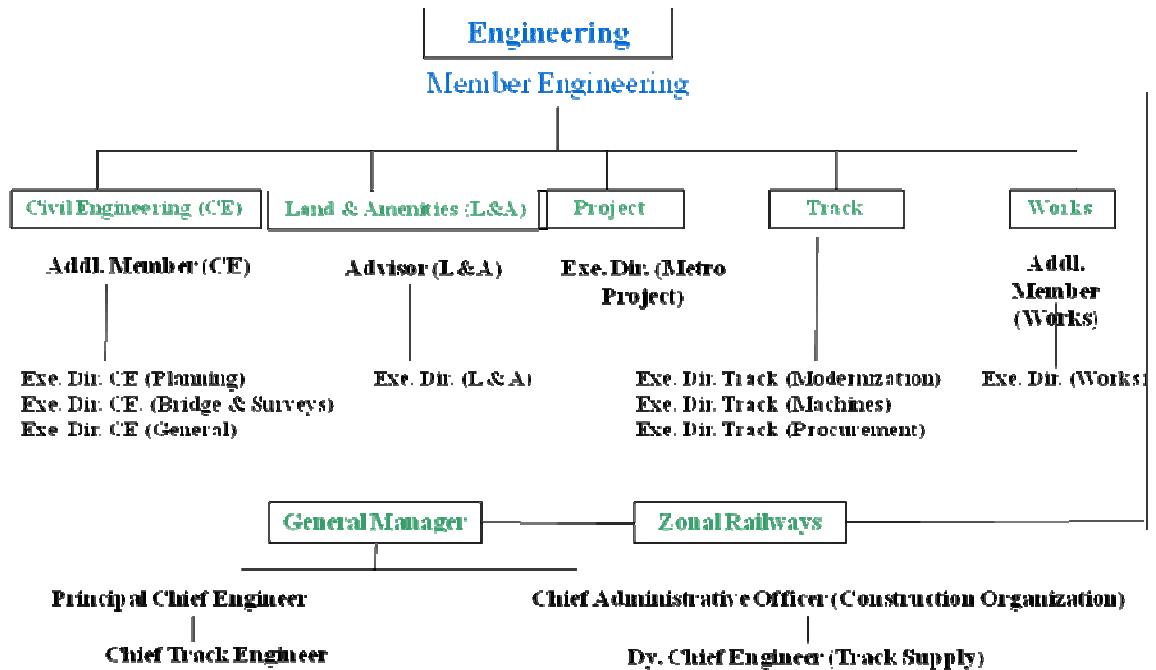
Indian Railway (IR) is spread over 64,600 route kilometers (RKM). Railway track (Permanent Way) is required for the haulage of trains and is one of the main infrastructures of the rail network. The Permanent Way (P. Way) is made up of rails, sleepers, ballast, fastenings, etc. The procurement of P. Way material on Indian Railway is a continuous process due to continuous expansion of rail network through addition of new lines / doubling and track maintenance/renewals due to wear and tear. Maintenance of the existing track is essential for efficient

and effective operation of trains increasing throughput<sup>20</sup>. Further, any arrear/ lapse on this account are a potential safety hazard.

Capital expenditure to the extent of ₹ 14,000 crore is incurred every year for creation of new assets i.e. Gauge Conversion, Doubling; New lines and for track maintenance through track renewals. A substantial portion of the above sum is spent on the procurement of P. Way material. Since the procurement of P. Way material is capital intensive, it is important that the material is procured economically and utilized efficiently.

### 3.1.2 Organization Structure

Member Engineering at Railway Board is the apex authority at Railway Board for Civil Engineering activities. These activities are performed in five Directorates as elaborated in the flowchart below:



The Civil Engineering and Track Directorates are associated with the procurement and utilization of P. way material. While policy decisions related to issues connected with procurement and utilization of P. way material are taken by the Civil Engineering Directorate, the procurement of rails and concrete sleepers is done by the Track Directorate. Special grade cement to be utilized in the manufacture of concrete sleepers is procured by sleeper manufacturers through running contracts finalized by the Track Directorate.

The policies and directives issued by the Civil Engineering Directorate are implemented by the Principal Chief Engineer and Chief Administrative Officer (Construction Organization). P. way material is procured by Chief Track Engineer

<sup>20</sup> Overall utilization of track

in open line and by Deputy Chief Engineer/ Track Supply in Construction Organization.

Though ballast is a P. way material, its procurement is done through works contracts by work executing authorities. The issues related to research and designs are dealt by the Executive Director/ Civil Engineering in the RDSO.

### 3.1.3 Audit Objectives

The audit was carried out with a view to assess the following:-

- (i) Effectiveness of the planning process for procurement of P Way material;
- (ii) Whether procurement was done in a transparent manner enabling best prices and whether delivery system was efficient;
- (iii) Whether the material procured was effectively utilized.

### 3.1.4 Scope, Coverage and Sample Selection

Audit examined procurement of P. way material for selected ongoing/ completed 24 (out of 53) Gauge Conversion (GC) works, 24 (out of 72) New Line (NL) works, 43 (out of 115) Doubling (DL) works and 287 (out of 1954) Track renewal works for the period 2009-12. The extent of check and details of works are given in **Annexure XII**.

The planning and justification of works, budget allotments, fund utilization, contracts for procurement and monitoring of receipt and issue of material etc. were studied at Railway Board and Zonal Railways. The audit was confined to the procurement and utilization of selected Broad Gauge P. Way items as enumerated below:

- (i) Rails 60Kg/ 52Kg
- (ii) Ballast 65mm/ 50mm
- (iii) Pre-Stressed Concrete sleeper 60Kg/ 52Kg T-2496
- (iv) Glued Joints 60Kg/ 52Kg
- (v) Metal Liner T-3738, 3740, 3741& 3742
- (vi) Glass Filled Nylon Liner T-3702, 3706, 3707, 3708 (GFN)
- (vii) Grooved Rubber Sole Plate T-3703, 3711 (GRSP)
- (viii) Elastic Rail Clip T-3701 (ERC)
- (ix) Cast Manganese Steel Crossing 1 in 12 for 60Kg/ 52Kg (CMS crossing)

In addition, the procurement of special grade cement by the Railway Board for concrete sleeper manufacturers was also examined.

### 3.1.5 Audit Findings

#### 3.1.5.1 Planning

##### (i) Financial Planning- Availability and Utilization of funds

P. Way material is mainly used for asset creation involving construction of new lines, gauge conversion and doubling works. P. way material is also utilized for maintenance of assets which are carried out through Track Renewals. Cost of P.

way material consists of about 70 per cent of the cost of such asset creation and maintenance.

The total requirement of funds during 2009-12 for the above mentioned four activities was estimated as ₹47,646.89 crore against which, funds totaling ₹42,170.16 crore were made available. The actual expenditure incurred was ₹ 42,774.14 crore. The position in respect of individual component was as under:-

Table 3.1

(₹ in crore)

Asset creation	Requirement <sup>21</sup>	Final Grant	% of allotment to Requirement	Actual expenditure	% of Exp. to Final Grant
Gauge conversion	10043.40	9363.88	93.23	9692.34	103.51
New Line	15618.04	11480.77	73.51	12800.22	111.49
Doubling	7604.53	7708.02	101.36	6253.73	81.13
<b>Total</b>	<b>33265.97</b>	<b>28552.67</b>	<b>85.83</b>	<b>28746.29</b>	<b>100.68</b>
Track Renewal	14380.92	13617.56	94.69	14027.85	103.01
<b>Grand Total</b>	<b>47646.89</b>	<b>42170.23</b>	<b>88.51</b>	<b>42774.14</b>	<b>101.43</b>

The overall fund allotment was 88.51 per cent of the requirement and expenditure incurred was almost equal to allotment. While the allotment of funds individually for Gauge Conversion, Doubling and Track Renewal works was more than 93 per cent of the requirement, it was 73.51 per cent only in the case of New Lines. However, allotment to the extent of 18.87 per cent remained unspent in case of Doubling works. The overall shortfall in allotment of funds for all the four activities was ₹ 5,476.66 crore (11.49 per cent) and adversely affected asset enhancement and maintenance of existing tracks.

#### (ii) Material Planning

The schedule for any project involves prescribing a time schedule for undertaking and completing various activities. The land is acquired first and thereafter earthwork and construction of bridges is taken up. Simultaneously, the track material requirement to be indented is assessed. The procurement of P. way materials for Track Renewal works is done by clubbing the quantities of sanctioned items of different works. A number of deficiencies were noticed in audit which are discussed below.

Rails are an important component of P. Way material and comprise 57 per cent of total P. way material procured. Memorandum of Understanding (MOU) between Indian Railways and M/s Steel Authority of India Limited (M/s SAIL) for procurement of rails was signed in February 2003. At the beginning of every year the annual requirement of rails for each Zonal Railway is called for and a bulk indent is placed on M/s SAIL by the Railway Board detailing the requirement of

<sup>21</sup> BE 2009-10 + {BE 2010-11 - (BE 2009-10- AE 2009-10)} + {BE 2011-12- (BE 2010-11- AE 2010-11)}

each Zonal Railway for Track Renewal as well as for construction projects. The priority for despatch of rails in terms of length and quantity is also intimated.

The quantities of rails for which indents were placed on M/s SAIL and rails despatched by them during 2009-10 to 2011-12 were as under-

**Table 3.2**

(Quantity in MT)

Quantity	Rails	2009-10	2010-11	2011-12
<b>Indented</b>	60 Kg	405509	379767	419396
	52 Kg	279744	312621	355406
	Total	685253	692388	774802
<b>Despatched</b>		675948	674439	670890
<b>Shortfall</b>		9305	17949	103912
<b>Shortfall in percentage terms</b>		1.36	2.59	13.41

It is seen that the annual requirement of rails for entire Indian Railways had been increasing every year but the quantities of rails despatched by M/s SAIL to Zonal Railways remained almost static and were in fact on a marginal declining trend. The shortfall increased substantially from about one *per cent* in 2009-10 to about 13 *per cent* in 2011-12.

The Indian Railway has a monopolistic agreement with M/s SAIL for the supply of rails. Despite continued shortfall in the supply no action was taken by the Ministry to address the issue by adopting a more transparent procurement process and/or development of new sources of supply.

### 3.1.5.2 Procurement of P. Way material

#### (i) Processing of tenders

All the P. way material, except rails are procured through limited/open tenders<sup>22</sup>. The limited tenders for pre-stressed concrete sleepers and special grade cement are finalized at the Railway Board level and for other P. way items are finalized by the Zonal Railways.

After the receipt of indent from the Executive Engineer, a tender is floated by the procuring authority. These are considered by a Tender Committee (TC) of appropriate level (based on the estimated value of purchase) who gives its recommendations which are submitted to the accepting authority for approval. After approval, the supply order is issued.

Since P. way material is procured for the execution of works either for the creation of new assets needed for line capacity enhancement or for the maintenance of existing tracks, an early finalization of tenders and placement of supply orders is absolutely necessary. The Minister of Railways viewed seriously the delay in finalization of tenders after the opening of bids/ offers (June 2000). Subsequently,

<sup>22</sup> Normally open tender system is to be adopted. Limited tender system may ordinarily be adopted when it is considered to be advantageous. Instead of open tender system, limited tender system may be adopted in exceptional cases with the sanction of General Manager. (Paragraph No.324, 328 and 331 of Indian Railway Code for Stores Department, Volume-I).

instructions were issued to all Zonal Railways (August 2000) that all tenders should be finalized within three months of the receipt of offers<sup>23</sup>.

Audit examined the processing of tenders for the procurement of P. way material at both the Railway Board and Zonal Railway levels and results of examination are given below:-

**Processing of tenders at Railway Board** - Each Zonal Railway places indents every year on the Railway Board for the procurement of rails and concrete sleepers. These indents are consolidated in the Track Directorate. The procurement of consolidated requirement of rails is done by floating a single tender on M/s SAIL, the sole source of supply. However, for the procurement of concrete sleepers and special grade cement, limited tenders are floated on approved sources and running contracts are awarded.

In a number of cases there was delay in finalization of tenders floated by the Ministry of Railways (Railway Board) for the procurement of sleepers and special grade cement. The inaction of the Ministry of Railways in obtaining timely approval of the competent authority, despite permission of the Election Commissioner of India to finalize a limited tender for the procurement of sleepers resulting in loss of ₹ 38.44 crore was included as Paragraph No. 6.3 in the Report No.32 of 2011-12 of C&AG of India (Railways). Further, due to about 10 months delay in finalization of a limited tender<sup>24</sup> for the procurement of special grade cement, the sleeper manufacturers continued to procure cement at higher rates against the existing running contracts resulting in avoidable extra expenditure of ₹ 3.91 crore in the shape of increase in cost of sleepers.

**Processing of tenders in Zonal Railways** - Audit examined details of 634 tenders floated across all the Zones for the procurement of various P. way items for the execution of selected works. Audit observed the following:

(a) The time taken to finalize these 634 tenders after the receipt of bids/ offers was also examined. The results of analysis were as under:-

**Table 3.3**

Details of activity	Numbers	%	Days
Total tenders	634		
Tenders finalized within 90 days after their opening	246	39	
Tenders finalized within 90 to 180 days after their opening	295	46	
Tenders finalized within 180 to 365 days after their opening	86	14	
Tenders finalized after more than 365 days after their opening	7	1	
Maximum time taken to finalize a tender after its opening			690
Average time taken to finalise a tender after its opening			121

From the above Table, it may be seen that only 39 *per cent* of tenders were finalized within the prescribed time limit of 90 days of their opening. The average time taken

<sup>23</sup> Railway Board letter No. 2000/CE-1/CT/1 Pt. dated 24.8.2000

<sup>24</sup> Tender No. CS-164

across all the Zonal Railways for finalization of tenders after their opening was around four months (121 days). Thus on average more than 60 per cent of tenders were finalized late, with an average delay of 31 days.

(b) Railway Board had directed (March 2007)<sup>25</sup> that the procurement of annual requirement of both open line and construction for common track components/fittings should be combined and tender floated either by open line or by the construction wing to avoid delay and duplication of efforts in tender finalization.

Audit conducted a test-check of procurements made for common P. way items during 2010-11, and observed that these instructions had not been complied with by Zonal Railways and both agencies continued to place Purchase Orders (POs) separately for their requirements. Non-compliance of the Railway Boards' order in 44 cases by nine Zonal Railways led to procurement at higher rates involving avoidable expenditure of ₹ 3.93 crore during 2010-11 as per details given in **Annexure-XIII**.

(c) A test-check by Audit revealed that South Eastern Railway Administration procured ballast in parts by floating separate tenders in the same financial year instead of floating one tender for consolidated quantities as exhibited below-

**Table 3.4**

Tender no.& date	Rate accepted (₹) -per cum	Tender No.& date	Rate accepted in (₹)-per cum	Quantity (in cum) procured at higher rate	Extra expenditure (in crore of ₹)-(rate difference x quantity procured at higher rate)
Works/Spl/ODC/Sr. .DEN/08/2010 dated 9.2.2010	487	WA/W/SDS/27/09-10 dated 9.12.09	500	100000	0.13
WA/W/MSDS/36/2010-11 dated 30.8.2010	525	Works/Spl/SRD/Sr.D EN/2010 dated 4.5.10	564	80000	0.31
Works/Spl/Ballast/Pakur/OD C/26/2011 dated 5.4.11	525	24/S/KGP/10-11/ dated 3.5.11	629	45000	0.47
ADA/Ballast/GZ/271/2011 dated 26.12.2011	564	WA/S/ODC/15/2011- 12 dated 11.11.2011	604	67620	0.27

The action of the Zonal Railway Administration resulted in avoidable extra expenditure of ₹ 1.18 crore.

#### (ii) Issue and materialization of Purchase Orders

After the receipt of indent for the procurement of material, Railway Administration is required to complete the process for issue of POs early. Inordinate delay at any stage is to be avoided so that supply is received timely and within the original schedule.

<sup>25</sup> AM/ CE's DO letter No. TRACK/21/2007/0401/7/CMS crossing dated 9.3.2007 to GMs



Audit test-checked 693 POs issued for the supply of P. way material required for the execution of selected works across all the zones. Audit observed that there were substantial delays in issuing POs and receipt of supplies there against as shown below:-

Table 3.5

Zones	No. of POs	Time taken in issue of P.O. after receipt of indent			Excess time taken in supply against original schedule			Total time taken from indent to supply		
		Min	Max	Average	Min	Max	Average	Min	Max	Average
CR	21	55	1539	694	0	409	35	647	1464	712
ER	8	359	744	569	0	563	82	460	1245	795
ECR	20	333	2359	804	0	221	41	454	2534	629
ECoR	87	31	1144	397	0	816	136	211	1817	520
NR	2	248	458	353	0	0	0	487	493	490
NCR	30	124	1900	555	0	752	183	186	2036	874
NER	142	22	1847	679	0	465	10	232	1881	934
NFR	54	6	1101	230	0	536	48	159	1223	334
NWR	54	53	1070	333	0	1193	241	168	1494	711
SR	48	131	1635	685	0	526	17	429	1815	630
SCR	62	59	1087	275	0	831	235	318	1802	651
SER	23	32	749	249	0	871	113	158	983	425
SECR	31	141	1697	507	0	424	70	267	1288	575
SWR	66	66	1716	404	0	376	57	250	1824	528
WR	37	330	1028	615	0	123	17	440	1207	736
WCR	8	39	1173	564	0	11	1	633	1302	738
<b>Average</b>				<b>490</b>			<b>88</b>			<b>666</b>

From the above Table, it is seen that on an average it took the Railway Administration 490 days i.e. more than a year to issue POs after receipt of indents. Further, on average it took 666 days to receive supplies after receipt of indent. In 243 POs (35 per cent) the supply of material was completed after the original due date of supply and the average delay in receipt of supplies (after scheduled date of receipt) was 88 days. In most of the cases the reasons for delay in supply were not on record. In few of the cases the delays were attributed to non-issue of road permits, non-availability of labour/ site, transport strike, entry of rain water in quarry etc.

### (iii) Implementation of E-Procurement System

In order to bring transparency and improve efficiency in procurement activities by way of reduced procurement cycle and expeditious payment to suppliers, Railway Board decided (October 2003) to procure stores and work material through the E-procurement system. The E-procurement process provides a common platform using a secured website where the buyer and seller can participate in the procurement process in a fair and transparent manner. Also as per Ministry of Finance directives (10 January 2007), all Central Government Ministries were required to switch over to Electronic Procurement System with effect from 1 July 2007.

Railway Board<sup>26</sup> implemented (September 2006 and January 2009) the E-procurement system in 15 Zonal Railways for managing on-line procurement of stores by the Controller of Stores (COS) and track supply items by the Principal Chief Engineer (PCE).

It was however seen that E-procurement system has not been developed / made fully functional in the offices of Principal Chief Engineer and Construction organization of Zonal Railway and tenders were still being processed manually though required to be abolished with effect from 1 April 2007. This defeated the objectives set for the introduction of E-procurement system.

#### (iv) Contract Management

An efficient Contract Management system requires that the delivery period mentioned in the POs is adhered to by the suppliers. During the review of supply order files for procurement of P. Way material, it was observed that many suppliers did not complete the supplies within the prescribed delivery periods. They sought extensions in the delivery periods quoting various reasons like shortage of labour, filling of rainy water in quarry, non-availability of site for stacking of ballast etc.

Audit test- check of 693 numbers of POs revealed the following:-

- As many as 140 extensions in delivery periods were granted by the Railway Administration in respect of 135 POs and the period of extensions ranged between one and 1366 days (average 305 days).
- In 45 POs (32 *per cent*), extensions of more than one year were granted.
- Out of total 140 extensions in delivery periods, 101 extensions (72 *per cent*) were granted on Railway's account and hence no Liquidated Damages (LD) were leviable. The remaining 39 extensions (28 *per cent*) were granted on supplier's account levying LD amounting to ₹2.87 crore. Out of this only ₹2.06 crore had been recovered and balance of ₹0.81 crore was outstanding (**Annexure XIV**).
- When contracts are terminated at the risk and cost of the contractors and fresh contracts are awarded, extra expenditure to be borne by the Railway is recovered as risk and cost from the defaulting contractor. Audit observed that in seven cases in four<sup>27</sup> Zonal Railways recovery of risk and cost amounting to ₹ 0.92 crore was outstanding against the defaulting suppliers. Two of these cases, one each in ECoR and SCR were under litigation. (**Annexure XV**)

The above indicates the huge delays in the delivery of stores. Further, the use of discretion in non-levy of LD for delays in the supplies encourages non-compliance by the suppliers. In addition, the delays in receipt of indented material necessitate transfer of material from one unit to another leading to incurrence of avoidable haulage charges.

<sup>26</sup> letter No. 2004/C&IS/AP/2004-05/e-procurement, date 12/9/06

<sup>27</sup> East Coast Rail Railway, North Central Railway, North Eastern Railway & South Central Railway

**3.1.5.3 Quality assurance**

RDSO specifies the design, structure and quality of all P. way material. For quality checks, it inspects the products in the factory premises. Railway Administration engages reputed laboratories also for quality checks on P. way material like ballast.

**(a) Quality assurance for rails**

Rails constitute a major part of P. way material. To ensure quality of rails, a Memorandum of Understanding (MOU) with M/s Rail India Technical Services Ltd. (M/s RITES) was signed (May 2010) for carrying out quality checks of rails. According to Article 2.2 of the MOU, Railways would provide a copy of Purchase Order, specification, and drawings and approved Quality Assurance Plan to RITES for carrying out inspection at Bhilai Steel Plant (BSP). Thus, a procedure for conducting tests/ checks was required to be defined and provided to M/s RITES. However, Track Directorate of the Railway Board did not make available to Audit any such procedure evolved by them. Audit noticed that the rails were being inspected by M/s RITES as per Quality Assurance Programme approved provisionally by the RDSO in July 2004.

Further, under the provisions of Article 2.3 of the MOU, M/s RITES would be fully responsible for the quality of rails produced and despatched by the BSP for use by the Railways. They would carry out inspections to ensure proper quality of rails, issue certificate along with test reports of each lot inspected, submit monthly status/ progress report to Railways/ RDSO and ensure proper loading of only passed & accepted rails for despatch etc.

A test-check by audit of the inspection reports revealed the following:-

- (i) Monthly inspection reports were being received in the Track Directorate from M/s RITES in compliance of Article 2.3 of MOU. The reports were, however, not being scrutinized nor data compared with the specifications. No filing orders from competent authority were being taken. Further, no quality assurance plan had been framed for analyzing data contained in the reports.
- (ii) A random scrutiny of reports revealed that average yield strength (YS) computed by RITES ranged between 529 and 548 Mpa<sup>28</sup> against the specified 460 Mpa. Similarly, Ultimate Tensile Strength (UTS) also ranged between 929 and 945 Mpa against the specified 880 Mpa. The Track Directorate raised this issue only once in November 2009 and directed RDSO to examine the impact of excess YS/ UTS on the hardness of rails. RDSO analyzed the data of YS and UTS for the period April 2009 to August 2012 for their monthly average and standard deviation values and communicated (October 2012) that increase in the YS/ UTS ratio does not adversely affect the elongation percentage as stipulated in the specifications and increase in YS and UTS from their minimum stipulated values was not considered detrimental. Audit is however of the opinion that if significantly higher values of YS/UTS are acceptable, the norms should be specified accordingly.

<sup>28</sup> Mega pascal-a unit for measuring strength

(iii) Quantity of rails examined, passed by RITES, percentage of rejection and quantity despatched to Railways was as under:-

**Table 3.6**

(Quantity in MT)

Year	Examined	Passed	% of rejection	Despatched to Railways	Difference in passed and despatched	Passed rails not despatched to IR (%)
2009-10	802259	712211	11.22	675948	36263	5.09
2010-11	794866	706607	11.10	674439	32168	4.55
2011-12	807754	712635	11.78	670890	41745	5.86
<b>Total</b>	<b>2404879</b>	<b>2131453</b>	<b>11.37</b>	<b>2021277</b>	<b>110176</b>	<b>5.17</b>

The figures indicate that:

- The rate of rejection of rails was more than 10 *per cent*. The percentage of rejection of rails was fairly high, indicating the need for improving system of quality control at BSP itself. The main reason for the high rate of rejection was on account of rolling defects;
- All rails passed were not despatched to Indian Railways against existing indents. About five *per cent* of passed rails were not despatched to Indian Railways and were forwarded to private siding owners or other organizations. This diversion of supply led to short supply of rails to Indian Railways.

From the above it can be seen that during the period 2009-12, the quantities of rails offered for inspection, rails passed by M/s RITES and rails despatched to Indian Railways were more or less the same, irrespective of the indented quantities. Further, the reports received from M/s RITES were not being examined for deriving any assurance either on the quality or quantity. The matter effectively stood delegated to M/s RITES as the Track Directorate of Railway Board was not addressing the issue of quality assurance against the associated risks.

#### **(b) Quality assurance for other P. way material**

Audit observed that the quality control on other P. way items was also not adequate. For instance, ECoR procured (2009-10) ballast valuing ₹ 11.10 crore from contractor for two projects<sup>29</sup>. As per terms and conditions of the contract agreement, the specification of the ballast was got tested in railway accredited laboratories and was found to be in order. Accordingly payment was made to the contractor. Later on, Railway's Vigilance also got test- checked the quality of ballast and rejected ballast valuing about ₹ 2.21 crore. Neither the rejected quantity of ballast had been replaced by the supplier nor any amount recovered. Besides, Railway Administration had not yet decided how to utilize the unused ballast extracted and supplied from the same quarry and ballast already used on the track.

<sup>29</sup> M/s ARSS Infrastructure Projects Ltd. Bhubneshwar supplied for Khurda Road -Bolangir & Lanjigarh-Junagarh new BG Line Projects

The above indicates a lapse in the quality control system of Indian Railways. Thus the Railways needs to strengthen the system of quality assurance for P. Way material as this has safety implications.

#### **3.1.5.4 Receipt of P. Way material**

##### **(i) Payment under Price Variation Clause**

A Price Variation Clause (PVC) is included in POs for working out the payment towards price variation, on account of change in rate for material, labour and fuel etc with reference to a base date. It is payable to the suppliers during delivery period as well as extended delivery periods. If the delivery period is extended on Railway's account, price variation is allowed normally with reference to the base date. However, if the delivery period is extended on supplier's account, PVC is paid with reference to indices of the last month of the normal delivery period/ extended delivery period on Railways account.

Audit observed that in 38 supply orders where PVC was applicable, extensions in delivery periods were granted on Railway's account and payment of ₹6.83 crore was made to the suppliers for the price implications during the extended delivery periods. Details are available in **Annexure XVI**.

##### **(ii) Delivery system**

The indents in respect of works for procurement of a particular P. way item are clubbed by the procuring authority and POs are issued for aggregate quantity. The material procured through placement of POs is received and accounted for in the Engineering Depots/ Track Supply Depots. When required, the Engineers executing the works, place their demands on these Depots for the issue of material.

Audit observed that receipts of material are not entered in the ledgers work-wise by the Engineering Depots. The ledgers are also not maintained work-wise with regard to issue of material to the Engineers executing the works. The issues are made for lump sum quantities. Thus, work-wise details of receipt and issue of material are not available in the ledgers. Audit could not correlate the POs through which material required for track renewal works was procured as POs did not contain the allocation/consignee particulars. The receipt and issue of P. way material against each selected work was not verifiable in five Zonal Railways (SER, CR, ER, NR and NCR).

##### **(iii) 'Material-at-Site' Account**

As per provisions in Indian Railway Code for Engineering Department<sup>30</sup>, material obtained for specific works is to be kept outside the accounts of any other category of stores. Such stores is required to be separately requisitioned and despatched to the sites of work. The materials if not consumed on the work immediately on receipt at the site is temporarily held under 'Material-at-Site Account' (MAS). The numerical account of the stores held under MAS is to be maintained by the stock holder. The MAS balances are to be debited when material is used on works. Quarterly/ Half-yearly MAS returns are sent to Divisions where the opening

<sup>30</sup> Paragraph No. 1446 to 1451 – Indian Railway Code for Engineering Department

balances, receipts, reasonableness of issues, stores returned or transferred etc are verified with initial records.

Audit observed that MAS accounts were not being maintained in 09<sup>31</sup> Zonal Railways for Track Renewal works thereby denying the fulfillment of objectives behind the maintenance of accounts and verification of figures of receipt, issue and transfer of material through MAS returns.

### 3.1.5.5 Utilization of P. Way material

#### (i) Procurement/ Arrangement of material in excess of requirement

The P. way material required for a work is arranged either through procurement or through transfer from other sources/ works. In order to utilize scarce available funds efficiently for new constructions/renewals, P. way material for the work should be procured/ arranged to the extent of requirement. Further, as per codal provisions<sup>32</sup>, the material released from specific works, if not re-used thereon is to be treated as 'Surplus stores'.

Audit examination of the procurement/ arrangement of P. way material for the selected works on all the Zonal Railways indicated that procurement/ arrangement of material was in excess of requirement. A test-check of records connected with unutilized material after the completion of selected works on all Zonal Railways revealed that there were 529 instances where P. Way material (total value ₹443.28 crore) remained unutilized after the completion of works as shown below:-

**Table 3.7**

Zone	No. of the work orders	Value of surplus material (in crore of ₹)	Freight and incidental @7% charges incurred (in crore of ₹)
CR	14	5.91	0.41
ER	5	6.63	0.46
ECR	22	2.56	0.18
ECoR	12	2.13	0.16
NR	61	27.69	1.94
NCR	22	17.70	1.24
NER	73	38.01	2.66
NFR	3	22.74	1.59
NWR	67	151.63	10.61
SR	49	63.82	4.47
SCR	6	4.03	0.28
SER	106	26.74	1.87
SECR	14	1.98	0.14
SWR	25	40.57	2.84
WR	41	30.77	2.15
WCR	9	0.37	0.03
<b>Total</b>	<b>529</b>	<b>443.28</b>	<b>31.03</b>

<sup>31</sup> North Western Railway, South East Central Railway, West Central Railway, South Eastern Railway, Western Railway, North Eastern Railway, Southern Railway, South Western Railway & East Coast Railway

<sup>32</sup> Paragraph 1437 (ii)- Indian Railway Code for Engineering Department

This surplus material would require to be transferred to other works involving extra expenditure on freight and incidental charges amounting to ₹ 31.03 crore.

#### **(ii) Utilization of procured/ arranged material**

The quantities issued for work should match with the estimated requirements. Whereas an excess utilization of material would result in avoidable expenditure, short utilization would affect the quality of work. Further, the material of appropriate/ prescribed specification should be utilized on work.

Audit observed that in six works<sup>33</sup>, quantities shown as issued/ utilized for works were more than the estimated quantities/ actual requirement. The value of the material issued in excess of requirement was ₹16.25 crore. There were also instances of short and irregular utilization of material. The details of these instances are included in **Annexure XVII**.

#### **3.1.5.6 Allocation to work**

The expenditure on the execution P. way works on Indian Railways is made from either Capital Fund or Depreciation Reserve Fund (DRF). Funds for new constructions are allotted from Capital Fund; funds for track renewal works are allotted from DRF. The expenditure on the maintenance works of existing P. way is allocated to Revenue. The cost of P. way material is allocated to concerned Funds accordingly. In an efficient financial arrangement system, the costs of material procured and material utilized are required to be booked to the actual work/ Fund. While booking expenditure, there should not be any wrong booking /misclassification as it would draw an incorrect picture of accounts for the works.

During the check of records maintained for the booking of expenditure on selected works, Audit noticed cases involving misclassification/irregular booking of ₹ 394.70 crore related to expenditure on P. way material in 24 works. Details are given in **Annexure XVIII**.

#### **(i) Non-recovery of dues from M/s RVNL**

Railway Board has been assigning construction works both to the Construction Organizations of Railways and also to Rail Vikas Nigam Limited (RVNL). During the execution of works, there are material transactions between Railways and RVNL. This transfer/ transaction of material necessitates cost adjustment besides recovery of departmental charges as RVNL is an outside party in this regard.

A review of records connected with the issue of material by the Railways to RVNL revealed that:-

- The cost of P. way material amounting to ₹1.14 crore issued by five Zonal Railways to M/s Rail Vikas Nigam Limited (RVNL) was yet to be recovered/ adjusted. Details are given in **Annexure XIX**.

<sup>33</sup> one work each in NWR, WR, SR and NFR & two works in SECR

- In terms of Paragraph 3 (i) of Railway Boards' orders<sup>34</sup>, if material is supplied by the Railway to other parties, inspection charges at the rate of two *per cent* of the total cost of material are recoverable. Audit observed that inspection charges totaling to ₹ 0.41 crore were outstanding from M/s RVNL (SCR-₹0.21 crore and SWR- ₹0.20crore) on account of sleepers issued to them by the Zonal Railways.
- NWR Administration issued (February 2009) ballast in 1007 wagons to M/s RVNL from Bandikui, Phulera and Nizampur depots. Freight charges amounting to ₹ 1.31 crore, as calculated by the Railway Administration have not been recovered. M/s RVNL stated that ₹0.73 crore only were recoverable. Audit, however, observed that the freight comes to ₹1.60 crore at Railway's Public Tariff Rates.

### 3.1.5.7 Miscellaneous irregularities

During the review of records following irregularities of miscellaneous nature were also noticed:

- Railway Board's Instructions<sup>35</sup> are that the quantity of ballast required in a Telegraphic Post (TP) length<sup>36</sup> should be properly assessed in advance by the Railway and assessed quantities advised to contractor to avoid surplus collection in one TP length and less than required in another necessitating unnecessary lead. As such, the stacking of ballast along the track should be done in such a manner that the quantity in each TP should be as per 'requirement' on the track. However, during the review of initial records like Plot registers, Tally books and Measurement books maintained for recording receipt, issue and utilization of ballast in respect of four works<sup>37</sup> on NWR it was noticed that the locations of plots were not proper and quantities of ballast stacked were not matching the requirements in the stretches. As a result of this mismanagement, Railway Administration had to incur an extra expenditure of ₹ 4.10 crore for loading, transportation and unloading of ballast from plots to place of requirement.
- On SCR, the existing Dharmavram Jn - Pakala Jn. MG section of SCR was converted into Broad Gauge in two phases<sup>38</sup> and was commissioned for goods and passenger traffic in May 2010 and June 2010 respectively. During the process of handing over of the converted line (February 2011) by the Construction organization to the Open line, ballast deficiency to the extent of 40 *per cent* in the curves and less than 200 mm in some stretches was observed. The total deficiency of ballast in the section was assessed at 48000 cum. This indicated that insertion of ballast in the track was not up to the desired level.

<sup>34</sup> letter No. 79/WTM/22/11/2 Vol. II date 30.9.1992

<sup>35</sup> Paragraph 5.4 of Railway Board letter No. 2006/CE-II/MB/2 dated 25.5.2007

<sup>36</sup> Length between two upright posts supporting telephone wires along the track. With the provision of OFC cables, these are now called as Hecto Posts, where inter-distance is 100 meters.

<sup>37</sup> Ajmer-Pushkar, Dausa-Jaipur, Ratangarh-Degana-Sadulpur-Bikaner and Dausa-Bandikui

<sup>38</sup> Pakala Jn - Madanapalle Road stations in phase I and Madanapalle Road- Dharmavaram Jn in phase II



### 3.1.6 Conclusions

Substantial delays were observed in the procurement process particularly in the finalization of tenders. These delays occurred both at the Railway Board and Zonal levels. This resulted in delays in both the procurement of material and also in incurring of excess expenditure in the procurement process. Subsequently, there were delays in the supply of material due to which extensions in delivery period was granted in a large number of cases and that too on Railway's account involving additional payments under price variation clause in many cases. Rails were being procured through a single supplier i.e. SAIL. Audit examination revealed a shortfall of about 13 *per cent* in 2011-12 against the quantity indented against SAIL. This indicated the need for developing additional sources of supply. The arrangements for quality assurance were not adequate. The monitoring in material management was ineffective, as more material than required were arranged for the works and large quantities remained unutilized after their completion.

The matter was brought to the notice of Railway Board in May 2013; their reply has not been received (July 2013).

### 3.2 East Central Railway: Injudicious decision for purchase of land

Injudicious decision of Railway to purchase land of erstwhile Rohtas Industries Ltd and its assets by raising loan and without proper planning led to interest liability (₹8.80 crore) besides blockage of funds (₹140 crore) by more than six years. Also, non-disposal of the erstwhile assets of RIL led to recurring expenditure on security of these assets

Rohtas Industries Ltd. (RIL), Dalmianagar (closed in 1984), situated 120 Km from Mughalsarai on Mughalsarai – Gaya section of East Central Railway was to be auctioned (07.11.2006 later extended to 21.12.2006) under the judicature of High Court, Patna. The land of RIL of about 219 acres included various plant and machinery of Cement Factory, Power Plant, Paper and Board Mill etc. Considering the usefulness of the land for Railways particularly for developing facilities (yard, workshop, logistic parks, container terminal etc.) required in connection with the proposed Eastern Dedicated Freight Corridor (DFC), Railway Board filed (07.12.2006) a petition before the Hon'ble High Court for intervention for the acquisition of RIL for public purpose and offered (21.12.2006) a matching bid against the highest bid received. The Railway Administration submitted a matching offer against the highest offer of ₹140 crore received in the auction. Consequently, the land was acquired (11.01.2007) by the Railways in accordance with the Hon'ble High Court's order.

Railway Board financed the acquisition in the following manner:

- (i) Railway Board directed East Central Railway to divert ₹28 crore against material modification sanctioned for the ongoing new BG line project of Ara-Sasaram line. Thus the sanctioned cost of Ara-Sasaram new BG line project was increased to this extent.
- (ii) The remaining amount of ₹112 crore was financed (30.03.2007) through Rail Land Development Authority (RLDA) by taking a bridge loan from Indian Railway Finance Corporation (IRFC).

Subsequently, Railway Board decided (November 2007) that the loan would be serviced by proceeds of auction of movable assets of RIL, against required land for DFC and Wagon Component Factory and from commercial development of remaining land by RLDA. However, the loan liability was partly discharged (20.11.2007) by debiting ₹46 crore to the project of Freight Bogies & Coupler Manufacturing Plant, for which an amount of ₹97 crore was sanctioned in the Annual Works Programme of 2007-08. The remaining loan amount of ₹66 crore along with interest of ₹8.80 crore totaling ₹74.80 crore was discharged by debiting (31.03.2008) the cost of the proposed dedicated freight corridor.

In view of the above, following audit observations are made:

- (i) Railway Board's decision for acquisition of land by investing a substantial amount (₹140 crore) without proper planning was contrary to the provisions in Indian Railway Finance Code, Vol. I, which stipulates that investment decision should be financially justified and sanctioned before its incurrence.

- In the instant case, the fund was not sanctioned by Railway Board before acquiring the land but was later apportioned against different projects.
- (ii) Its decision for financing purchase of land through a bridge loan, attracting interest liability, and diversion of funds from Ara-Sasaram new line project, was not justifiable as the purpose for acquiring land was not clear at the time of acquisition.
  - (iii) At the time of acquisition (December 2006), land was acquired for developing facilities for the proposed Eastern DFC. However, at that time, the DFC was not sanctioned.
  - (iv) Subsequently, considering the large area of land, Railway Board also decided (November 2007) to utilize the land for setting up a Freight Bogie Coupler Manufacturing Plant and commercial development of remaining land by RLDA besides utilization for Eastern DFC.
  - (v) No action has been taken for setting up the Freight Bogies & Coupler Manufacturing Plant even after more than six years of purchase of land (January 2007). This is evident from the fact that Request for Qualification (RFQ) for setting up the manufacturing plant was floated in May 2008, but the same was postponed in September 2009 without stating any reasons. Also, CAO/Marhaura (Patna) was authorized (September 2007) to look after the project but even after more than five years, no guidelines on the project of Freight Bogie and Coupler Manufacturing Plant were issued to him. This clearly indicates poor planning by the Railway Board.
  - (vi) Railway Administration estimated (March 2008) the disposable value of the scraps, plant and machinery of RIL as ₹125 crore. However, the same could not be disposed off till March 2013. Further, to guard these assets, RPF/RPSF staff were engaged by diverting them from Dhanbad, Gaya and Dehri-On-Sone (These are high security areas). This led to additional recurring expenditure which stood at ₹6.90 crore till March 2012. Had the assets been disposed off earlier, the cost of security could have been reduced.

Thus, the decision of the Railway Board to acquire land without advance proper planning was not justifiable as it led to avoidable financial liability of ₹8.80 crore in terms of interest liability apart from blockage of funds of ₹140 crore. In addition, recurring loss in providing security to the erstwhile assets of RIL is also being incurred.

In reply to audit comment, Zonal Railway Administration contended (November 2012) that the land was acquired in Railways interest and for public purpose. Also, the land was a full fledged factory where existing assets are to be disposed off before starting any work and all possible steps are being taken to dispose of these assets so that construction work is taken up at the earliest.

The contention of Zonal Railway Administration is not tenable in view of the fact that land was acquired for DFC which at the time of acquisition, was not sanctioned. Further, despite a lapse of more than six years since acquisition of land (January 2007), development of land for setting up the Freight Bogies Coupler Manufacturing Plant and facilities for the Eastern DFC were yet to be initiated.

The existing assets could not be disposed off. Moreover, it blocked the development of the erstwhile RIL area which would otherwise have been possible.

The matter was brought to the notice of Railway Board in March 2013; their reply has not been received (July 2013).

### 3.3 North Western Railway: *Non-utilization of a project sanctioned as Material Modification*

Non-utilisation of new BG line from Mavli Junction to Nathdwara section sanctioned as a material modification resulted in idling of investment worth ₹ 29.70 crore

Paragraphs 1109 and 1110 of Indian Railway Engineering Code stipulate that if during execution of work it is necessitated to introduce, modify or omit any work, sub-work or facility involves a sum of ₹ 5 lakh and over in the estimate of a sanctioned work, the same may be included or omitted through a Material Modification by obtaining sanction of the competent authority.

The detailed estimate of the work of laying a parallel new Broad Gauge (BG) line from Mavli Junction-Nathdwara (MVJ-NDT) (15.27 Km) was sanctioned at a total cost of ₹ 31.94 crore by the Railway Board in November 2008 as a material modification to the already completed (2007) gauge conversion project of Ajmer-Chittorgarh-Udaipur City (AII-COR-UDZ). The work of parallel new BG line was completed in March 2011 at a cost of ₹ 29.70 crore and the section was declared fit for passenger traffic by Commissioner of Railway Safety (CRS) in April 2011.

Examination by Audit revealed the following:

- (i) The project report as prepared by the Railway Administration had projected the quantum of goods traffic and passengers, year wise GTKM of goods traffic and year wise NTKM of goods traffic as 'Nil' for the first and second year. The Rate of Return (ROR) had also been projected as (-) 1.01 *per cent*. It was also mentioned that the State Highway covered the entire project area and in the near future no major scheme for promotion of industries was being considered.
- (ii) The Narrative Report of 2011 as also the Covering Note on material modification for new BG parallel line between MVJ-NDT, mentioned the significance of Nathdwara as a pilgrim centre. After the commissioning of the new BG line, people of Rajasthan and other states would get a direct rail route to Nathdwara. The road distance between Nathdwara and Mavli is 20 km and the bus journey takes about one hour with bus fare as ₹20/-. The proposed train journey would take about 30 minutes and it would be cheaper and faster as compared to road travel. Thus, there was ample scope of diversion of traffic from road to Railways.
- (iii) The execution of the work of new BG line parallel to the existing Metre Gauge (MG) line as a material modification to a already completed gauge conversion project under Plan Head 14 (gauge conversion) is however not acceptable since MVJ-NDT is a isolated branch line and not a part of the alignment of Ajmer-Chittorgarh-Udaipur section. Further, work on this line

was already completed and material modification cannot be carried out for an already completed work. The work should have undertaken as a new line. The impact of providing and executing the work under Plan Head 14 in place of Plan Head 11 resulted in undertaking the work without having conducted any techno-economic feasibility study. Thus, the approval of the Railway Board was irregular.

When the matter was brought to the notice of Zonal Railway Administration in May 2012, they stated (July 2012) that to avoid transshipment of pilgrims at Mavli and to divert long route trains to Nathdwara, gauge conversion of Mavli-Nathdwara new BG line was felt necessary for the pilgrims coming from all over India. Hence Railway Board had considered this project on socio-economic grounds as per public demand.

The contention of the Zonal Railway Administration is, however, not acceptable as during 2011, on an average only 56 number of passengers travelled each day per train on the existing MG line of the Mavli Junction – Nathdwara section. Thus, the scope for diversion of road traffic to BG line of the Mavli Junction – Nathdwara section was very limited. Moreover, the operational cost of running a train per day in the MG line of the Mavli Junction – Nathdwara section was estimated as ₹5683 and the earning per trip per day was only ₹ 423. Further, even after issue of sanction by Commissioner of Railway Safety (April 2011) for opening of traffic in the newly constructed BG line of the Mavli Junction – Nathdwara section, the same was not opened for public (July 2012). In fact the Financial Advisor and Chief Accounts Officer (FA&CAO) admitted, during the Exit Conference held on 7 February 2013 on the Paragraph, that Railway Administration had themselves not initiated the proposal for the project and it was carried out as per the directive of the Railway Board.

Thus, non-utilisation/ opening of new BG line of the Mavli Junction-Nathdwara section sanctioned as a material modification resulted in idling of investment worth ₹29.70 crore for over one year. In fact the Railway Board diverted scarce capital resources to complete a non-viable project.

The matter was brought to the notice of Railway Board in February 2013; their reply has not been received (July 2013).

**3.4 Northern Railway: *Avoidable payment on account of increase in scope of work without approval of the competent authority***

Increase in scope of work without approval of the competent authority, delayed the work of transmission line and resulted in avoidable payment of ₹18.02 crore besides rendering the investment of ₹15.11 crore unproductive

Northern Railway Administration purchased power supply from Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL) to cater to the electric traction requirement of Delhi-Karnal-Ambala section at Traction sub station Diwana. For Delhi-Kanpur section including Traction sub station at Sahibabad, power supply is purchased from NTPC. As the rates of power supply from NTPC were much lower than from UHBVNL, Railway Board sanctioned and entrusted in 2007-08 the work of

“Extension of NTPC supply from Traction sub station at Sahibabad to Traction sub station at Diwana through a 132 KV three phase single circuit transmissions Line (98 km)”, at a cost of ₹21.66 crore to Northern Railway Construction Organization (NRCO). The detailed estimate of this work (length of traction line 103 km) was sanctioned in February 2007 at a cost of ₹ 25.34 crore.

Before inviting tenders in 2008, NRCO observed (November 2006) that there were number of obstructions/ infringements between Dadri and Sahibabad. At the time of vetting of estimate, the NRCO proposed (November 2006) that NTPC supply may be extended at Traction sub station at Dadri to Traction sub station at Diwana without touching the Traction sub station at Sahibabad. Instead of requesting Railway Board to modify the sanctioned order, Railway Administration floated (March 2008) the tender for an amended route (a distance of 105 kms.).

Accordingly, a contract for design, supply, erection, testing and commissioning of the 105 km transmission line (three phase single circuit) from Dadri to Diwana at a cost of ₹23.94 crore was awarded (July 2008) to M/s Hythro Power Corporation Ltd, New Delhi on a turnkey basis with date of completion as July 2010. The contractor after survey assessed the length of the transmission line as 132 km and accordingly submitted (October 2008) drawings and designs of foundation and towers to NRCO for approval.

Later, in December 2008, NRCO directed the contractor to lay the single circuit transmission line with provision for double circuit in future and design all the components of the transmission line accordingly. Due to change in length of transmission line and increase in the quantities of material work, cost of the work increased from ₹21.66 crore to ₹54.54 crore involving Material Modification and sanction of the Railway Board. The contractor requested NRCO to issue a corrigendum to the modified contract agreement. NRCO, however, did not issue any corrigendum and assured the contractor (February 2009) regarding payment of extra amount. Thereafter, the work of the transmission line remained almost at a stand still except supply of some material. In July 2010, NRCO extended the date of completion up to December 2011, without any financial implication on either side. Payments amounting to ₹15.11 crore have been made against the agreement cost of ₹23.94 crore. However, the revised estimate cum material modification has not been sanctioned (December 2012).

Delay in completion of the work of transmission line deprived the Railway Administration of the benefits of purchasing electric power supply at cheaper rates from NTPC at Traction sub station at Diwana for catering to the requirement of Delhi-Karnal-Ambala section and resulted in avoidable payment on account of the difference in rates of electric supply from NTPC and UHBVNL from August 2010 to Dec 2011 amounting to ₹18.02 crore (for 17 months).

When the matter was taken up with Zonal Railway Administration, they stated (December 2012) that the case had been sent to Railway Board in December 2011 for sanction. However, sanction is still awaited (December 2012).

Thus, increase in scope of work without approval of the competent authority delayed the completion of the work of transmission line and resulted in avoidable

payment of ₹18.02 crore being difference in rates of electric supply from NTPC and UHBVNL. Further, expenditure of ₹15.11 crore on the work was blocked.

The matter was brought to the notice of Railway Board in March 2013; their reply has not been received (July 2013).

**3.5 Southern Railway: *Avoidable extra expenditure due to non-observance of Railway Board's instructions/guidelines***

Increase in the prescribed formation width of embankment in a gauge conversion work through an arbitrary decision resulted in extra avoidable expenditure of ₹13.19 crore

As per instructions contained in Rule 263 of Indian Railway Permanent Way Manual (IRPWM)-2004 and RDSO's guidelines for earthwork in Railway Projects (July 2003), the prescribed formation width in embankment for single line Broad Gauge was 6.85 meter and the minimum depth of ballast cushion was 300 mm.

Railway Board enhanced (May 2009) the prescribed minimum depth of ballast cushion from 300 mm to 350 mm in all doubling, gauge conversion and new line works. Consequently, the Track Standard Committee (TSC) in its 80th meeting (December 2009) discussed the impact of increased ballast cushion and proposed to increase the formation width from 6.85 meter to 8.90 meter for BG single line. The Railway Board did not approve the proposal stating that it would increase the cost of new works considerably, while there was a need to reduce the cost. This issue was again discussed in (December 2010) the 81st meeting of the TSC and not approved by the Railway Board.

Despite the above decisions, the Chief Administrative Officer of Construction Organisation of Southern Railway (CAO) directed (September 2010) Dy. Chief Engineer/ Gauge Conversion, Tiruchirappalli to ensure the minimum formation width of 8.00 meter on embankment and 9.00 meter at major bridge approaches respectively. CAO's instructions were implemented in two earthwork contracts<sup>39</sup> that had been awarded in March 2009. The formation width was increased in these works and average formation width ranged between 7.07 meters and 8.47 meters.

Audit observed (April 2012) the following:

- The CAO requested the Railway Board (May 2011) for amendment in the IRPWM to increase formation width to 8.20 meter for normal track single line. Railway Board rejected the request. This issue was again discussed (December 2011) in the 82<sup>nd</sup> meeting of TSC and proposal for 7.85 meter was again not accepted by the Railway Board.

<sup>39</sup> the Gauge Conversion work 'Mayiladuthurai- Tiruvarur- Karaikudi' (i) Earth work between Mayiladuthurai – Punthottam stations (Reach –I) and (ii) Earthwork between Punthottam-Thiruvarur stations (Reach- II) in the Gauge Conversion work 'Mayiladuthurai- Tiruvarur-Karaikudi'.

- The FA&CAO, Construction while vetting the quantity variation justification for the work observed (October 2011) that since the value of the agreement exceeded ₹ 50 crore, sanction of the General Manager (GM) would be required. Railway Board's approval would also be necessary for increasing the formation width from 6.85 meter to 8.00 meter.
- Post Facto approval of GM (October 2011) was obtained. However, no correspondence with the Railway Board for getting their approval was on record.
- The Tender Committee, which met (January 2012) for negotiation with the existing contractor, for rates in respect of items of work where there were variations beyond 125/200 *per cent* of agreement quantities, observed that necessary exercise for studying the essentiality of additional widening was not carried out in the field before doing the actual work and arbitrary decisions were taken. Further, base soil characteristics were not studied to decide location specific additional requirements technically.

The increase in formation width in both works increased the earthwork to the extent of 1,75,700 cum involving avoidable expenditure of ₹ 13.19 crore.

When the matter was brought to the notice of Zonal Railway Administration in April 2012, they stated (May 2012) that the minimum formation width of 6.85 meter could be increased consistent with stability/ safety requirements. The width had been increased depending on the requirement and technical considerations. The reply is, however, not acceptable as an increase in prescribed formation width had not been permitted by the Railway Board. The CAO's instructions were general and not location specific and were contrary to the directions of the Railway Board. Further, no proper soil study was conducted to establish the technical essentiality of the additional requirements.

Thus, increase in formation width was unwarranted and contrary to the technical parameters approved by the Railway Board and resulted in avoidable expenditure of ₹ 13.19 crore.

The matter was brought to the notice of Railway Board in March 2013; their reply has not been received (July 2013).

### ***3.6 Northeast Frontier Railway: Loss due to unauthorized occupation of Railway land by the District Administration, Bongaigaon***

Failure of Railway Administration to periodically inspect its land resulted in its unauthorized occupation by the District Administration. The current cost of the land is estimated at ₹ 12.75 crore

According to Paragraph 1004 and 1007 of the Engineering Code for the Railways, it is the duty of every Railway Administration to preserve unimpaired the title of all land in its occupation and to keep it free from encroachment. With a view to obviate any litigation, accurate land plans of all railway lands should be maintained and boundaries adequately demarcated and verified therewith at regular intervals. As far as custody of land is concerned, the General Manager of a Zonal Railway



will be responsible for drawing up supplementary rules to ensure that records of title are safely preserved and kept up-to-date, the boundaries are periodically inspected and that any encroachments found are promptly reported and dealt with.

During the review of records of Rangiya Division of Northeast Frontier Railway (October 2010 and May 2012), it was noticed that land measuring 85 bighas, located near Industrial Training Institute, Bongaigaon was acquired by the Railways commencing from 1905 to 1964 for extension of the railway colony in future.

However, due to failure to conduct periodical inspection, the land was illegally encroached by anti social elements and it was only in 1999 that the matter of encroachments came to the notice of the Railway Administration. The encroachers were removed with the assistance of the District Administration. However, after the eviction (1999) no remedial measures were taken to protect the land by way of construction of boundary wall etc. It was subsequently occupied by the District Administration in 1999 itself for construction of a children's park.

Audit has observed the following:-

- (i) The Railway Administration came to know of the encroachment from the District Administration only in September 2004 when the District Administration requested them to construct a boundary wall around the land. Thereafter, after a lapse of two years (November 2006) the Railway Administration lodged a formal complaint with the District Police Administration for eviction of encroachment; with no result.
- (ii) Additional Deputy Commissioner, Revenue, Bongaigaon has intimated (February 2012) that the rate of 85 Bighas of Railway land near ITI, Bongaigaon is approximately ₹0.15 crore per Bigha. Thus, the current cost of the land is estimated as ₹ 12.75 crore.
- (iii) Divisional Railway Manager, Rangiya in his letter (May 2012) has intimated Audit that during 1999 to 2012-13, periodical inspection of the land was conducted only once on 28 June 2007.

When the matter was brought to the notice Zonal Railway Administration (May 2012), they stated (January 2013) that to thwart any further encroachments by private individuals, a children's park was developed by the State Government and it was also informed by the Deputy Commissioner, Bongaigaon (21 September 2004) that the land in question belongs to the Railways. They have further not agreed with Audit's contention that the Railway has suffered a loss of ₹ 12.75 crore as Railways has not parted with the land. Further, Railway Administration (Dy.FA&CAO) while furnishing their reply (January 2013) stated that Railway was having certified copies of the land plan and maintaining land record register at Headquarters office. Copies of the land plans had been given to all divisions for necessary action.

The reply of the Zonal Railway Administration is however not acceptable in view of illegal encroachment of land. Further, the District Administration had informed (September 2004) the Railways regarding illegal occupation. The Railways had failed to conduct periodical inspection since 1999. Thus, due to non-demarcation of the boundaries and not conducting periodical inspection of the land, the same was encroached.

Regarding loss of ₹12.75 crore is concerned, Audit observed that since the land in question is now under occupation of the State Government, till such time the land is not vacated and returned to the Railways physically, it is a loss to the Railways to the extent of its present day cost. Not protecting the land due to failure to conduct periodical inspection clearly indicates weakness of the internal control system.

The matter was brought to the notice of Railway Board in March 2013; their reply has not been received (July 2013).

### **3.7 East Central Railway: Avoidable investment in renovation of bridge**

Delay in construction of bridge on permanent diversion resulted in avoidable expenditure of ₹12.10 crore on strengthening of existing bridge which was purely temporary

The construction of Major Bridge No.89 on permanent diversion between Darbhanga – Bairgania stations in Sitamarhi – Bairgania Section, was a part of the Gauge Conversion (GC) project (May 2002) on Jaynagar – Darbhanga-Narkatiaganj section. After a lapse of three years, the Railway Administration invited tenders four times during the period 2005 to 2008. The tenders were discharged each time due to non-fulfilling of eligibility criteria and technical reasons. Finally the tenders were awarded for substructure work (November 2009) at a cost of ₹25.98 crore and superstructure work (February 2011) at a cost of ₹16.36 crore with the dates of completion as July 2011 and May 2012 respectively. The substructure work was completed in April 2012 while the completion date of superstructure work was extended to February 2013. Railway Administration stated (August 2012) that as the progress of the work was very slow, the new bridge was not likely to be commissioned before June 2014.

Audit observed (November 2012) that the estimated cost of construction of the major bridge increased from ₹5 crore (sanctioned by Railway Board in 2002) to ₹42.34 crore (contractual cost of substructure and superstructure in November 2009 and February 2011 respectively).

Meanwhile, Railway Administration approached (April 2008) Railway Board with a scheme for strengthening of the existing MG bridge as tenders for construction of new bridge were not finalized by that time and it was not possible to achieve the indicated target date of July 2010. Railway Administration further stated (April 2008) that strengthening work involved external pre-stressing of girders and replacement of present deck floor, would cost less than rupees one crore.

Railway Administration awarded two contracts in February 2009, for works related to flooring system and supply of channel sleepers and for external pre-stressing with contract value of ₹ 5.58 crore and ₹0.68 crore respectively. Audit observed the following:

- (i) The value of the first contract was increased to ₹11.43 crore in two variations (June 2009 and June 2010). As such, Railway Administration had incurred an expenditure of ₹12.10 crore (₹0.68 + ₹11.43 crore) in strengthening of the old bridge against the Railway Board's sanctioned amount of rupees one crore (May 2008).

- (ii) The Tender Committee discussed (June 2010) whether the continuation of the strengthening work was necessary in view of its huge cost and the temporary nature of the strengthened bridge that would be abandoned after completion of the new bridge. However, as an expenditure of about ₹6 crore had already been incurred by June 2010 and the new bridge would take at least three more years to complete, Railway Administration decided (June 2010) to continue the strengthening work.
- (iii) The strengthening work of the bridge was completed in January 2011 and consequently the Commissioner of Railway Safety sanctioned (February 2011) commissioning of the BG line for traffic at a speed of 70 kmph on renovated bridge. However, the speed restriction remained at 30 kmph as was the position before the strengthening work.
- (iv) Review of movement of trains over fifteen days (between 1.05.2012 and 15.05.2012) revealed movement of only three pairs of local trains and two goods trains. This clearly indicated that the section carried very limited traffic.

When the matter was brought to the notice of Zonal Railway Administration (June 2012), they stated (August 2012) that the strengthening work was not of temporary nature as the strengthened bridge was commissioned for goods traffic in October 2010 and would continue to be used till the new bridge was commissioned which was likely only by June 2014. They added that without strengthening of the bridge, the Sitamarhi-Bairgania section could not be opened, where there was huge public demand. Further, by opening of this section only, the onward section Bairgania-Chauradano-Raxual could be completed. They further added that connectivity is of immense value and speed is of secondary importance.

The above reply is, however, not acceptable in view of the fact that renovation of the bridge which was required only for a short period of three years and that too on a low traffic density line, was not a financially prudent decision and had resulted in an avoidable expenditure of ₹12.10 crore. Moreover, by opting for discontinuation of the strengthening of the old bridge in June 2010 as deliberated in the Tender Committee Meeting, Railway Administration could have saved an amount of ₹6.10 crore which was incurred after June 2010.

The matter was brought to the notice of Railway Board in February 2013; their reply has not been received (July 2013).