सत्यमेव जयते

Report of the Comptroller and Auditor General of India

for the year ended March 2020

लोकहितार्थ सत्यनिष्ठा

Dedicated to Truth in Public Interest

Union Government (Railways)

(Compliance Audit)

Report No. 22 of 2021

Report of the Comptroller and Auditor General of India

for the year ended March 2020

Laid in Lok Sabha/Rajya Sabha on _____

Union Government (Railways)

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Preface

The Report for the year ended March 2020 has been prepared for submission to the President under Article 151 of the Constitution of India.

The Report contains significant results of the compliance audit of the Ministry of Railways of the Union Government.

The instances mentioned in this Report are those, which came to notice in the course of test audit for the period 2019-20 as well as those which came to notice in earlier years, but could not be reported in the previous Audit Reports; instances relating to the period subsequent to 2019-20 have also been included, wherever necessary.

The audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.

Contents

Abbreviations

Abbreviation	Full Form
ACOI	Allahabad Chheoki
ADME	Assistant Divisional Mechanical Engineer
ALD	Allahabad Jn.
ANVT	Anand Vihar Terminus
ASN	Asansol Jn.
BBMP	Bruhat Bangalore Mahanagara Palike
BGKG	Binani Cement Siding, Binanigram
BHK	Badhari Kalan
BoD	Board of Directors
BPL	Bhopal
BRBCL	Bharatiya Rail Bijlee Company Limited
BTS	Base Transceiver Station
C&W	Carriage and Wagon
CA	Concession Agreement
CCEA	Cabinet Committee on Economic Affairs
CCM	Chief Commercial Manager
CD	Contract Demand
CGM	Chief General Manager
CGST	Central Goods and Services Tax
CKYR	CONCOR siding at Khodiyar
CLW	Chittranjan Locomotive Works
CMLK	Greenfield PFT of CONCOR, Neemrana
CNB	Kanpur Central Jn.
COA	Control Office Application
COD	Commercial Operation Date
CONCOR	Container Corporation of India Limited
CP	Contract Package
CPSEs	Central Public Sector Enterprises
CR	Central Railway
CRB	Chairman Railway Board
CRIS	Centre for Railway Information Systems
CRS	Commissioner of Railway Safety
CSTM	Chatrapati Shivaji Terminus Mumbai
CTP	Civil and Track Package
CWC	Central Warehousing Corporation
D&D	Damage and Deficiency
DAB	Dispute Adjudication Board
DADN	Dr. Ambedkar Nagar
DBCP	Dalurbandh Colliery Siding

Abbreviation	Full Form
DCW	Carriage and Wagon (Direct)
DDSL	Diesel Loco (Direct)
DDU	Pt. Deen Dayal Upadhyaya
DELC	Electric Loco (Direct)
DFC	Dedicated Freight Corridor
DFCCIL	Dedicated Freight Corridor Corporation of India Limited
DHN	Dhanbad Jn.
DKAE	Danakuni
DLI	Delhi
DLW	Diesel Locomotive Works
DMW	Diesel Loco Modernisation Works
DNR	Danapur
DOE	Department of Expenditure
DoPT	Department of Personnel & Training
DPE	Department of Public Enterprises
DPR	Detailed Project Report
EA	Engineering Allowance
ECR	East Central Railway
ECoR	East Coast Railway
EDFC	Eastern Dedicated Freight Corridor
EI	Electronic Interlocking
EIMWB	Electronic In-Motion Weighbridge
ELEC	Electric Defect
EMP	Electrical and Mechanical Package
EMU	Electric Multiple Unit
ENG	Engineering
EOL	Engine-on-Load
ER	Eastern Railway
ERRU	Electronic Rectifier-cum-Regulating Unit
ES	Engineering Services Consultants
FA & CAO	Financial Adviser & Chief Accounts Officer
FD	Fixed Deposit
FLS	Final Location Survey
FOIS	Freight Operations Information System
GAP	Gurpa
GC	General Consultants
GCC	General Conditions of Contract
GM	General Manager
GMC	Kanpur Goods Marshalling Yard
GMF	Grow More Food
GZB	Ghaziabad Jn.

Abbreviation	Full Form
HDN	High-Density Network
HOD	Head of the Department
HPT	Hosapete Junction
HSTs	High Speed Trains
HWH	Howrah
ICDs	Inland Container Depots
ICF	Integral Coach Factory
ICMS	Integrated Coaching Management System
ICW	Carriage and Wagon (Indirect)
IDSL	Diesel Loco (Indirect)
IELC	Electric Loco (Indirect)
IIT	Indian Institute of Technology
IND	Indore
IPAS	Integrated Payroll and Accounting System
IPC	Interim Payment Certificate
IR	Indian Railways
IRCM	Indian Railway Commercial Manual
IRPSM	Indian Railways Projects Sanctions & Management
IT	Income Tax
JBP	Jabalpur
JICA	Japan International Cooperation Agency
JNPT	Jawahar Lal Nehru Port Trust
JPO	Joint Procedure Order
JTBS	Jansadharan Ticket Booking Sewak
JV	Joint Venture
KAN	Khana Jn.
KM	Kilometre
KMPH	Kilometre Per Hour
KQR	Koderma jn.
KR	Konkan Railway
KTPS	Koderma Thermal Power Station
LCs	Level Crossings
LD	Liquidated Damages
LGH	Lalgarh Jn.
LHB	Linke Hofmann Busch
MCF	Modern Coach Factory
MCL/TLHR	Mahanandi Coal Field, Talcher
MEMU	Mainline Electric Multiple Unit
MIU	Maripat
MLA	Member of Legislative Assembly
MLDT	Malda Town

Abbreviation	Full Form
MLR	Mid-Life Rehabilitation
MoF	Ministry of Finance
MoR	Ministry of Railways
MP	Member of Parliament
MPO	Manpur Jn.
MPR	Monthly Progress Report
MPS	Maximum Permissible Speed
MRVC	Mumbai Railway Vikas Corporation
MTS	Multi-Tasking Staff
MVAA	M/s Vedanta Aluminium Limited, Ambodala
MVVNL	Madhyanchal Vidhut Vitran Nigam Limited
NCR	North Central Railway
NDLS	New Delhi
NDPL	North Delhi Power Limited
NER	North Eastern Railway
NEFR	Northeast Frontier Railway
NH	National Highway
NOC	No Objection Certificate
NR	Northern Railway
NRCO	Northern Railway Construction Organization
NTCD	NTPC Siding, Dadri
NTES	National Train Enquiry System
NWR	North Western Railway
OHE	Overhead Equipment
PAC	Public Accounts Committee
PAM	Punctuality Analysis Module
PAN	Permanent Account Number
PCCM	Principal Chief Commercial Manager
PCE	Principal Chief Engineer
PCME	Principal Chief Mechanical Engineer
PCOM	Principal Chief Operations Manager
PI	Panel Interlocking
PKA	Pradhan Khunta Station
PMC	Project Management Consultant
PNBE	Patna Jn.
POH	Periodical Overhauling
PPA	Power Purchase Agreement
PPT	Paradeep Port Trust
PSC	Pre-Stressed Concrete
PQ	Pre-qualification
PRAE	Palla Road

Abbreviation	Full Form
PRYJ	Prayagraj
PSR	Permanent Speed Restrictions
PSU	Public Sector Undertaking
PVVNL	Poorvanchal Vidhyut Vitaran Nigam Limited
RAA	Railway Amendment Act
RB	Railway Board
RCF	Rail Coach Factory
RDSO	Research, Design and Standards Organization
RF	Radio Frequency
RFP	Request for Proposal
RITES	Rail India Technical and Economic Service
RKM	Route Kilometre
ROB	Road Over Bridge
ROH	Routine Over Hauling
RSD	Railway Stores Depot
RTIS	Real Time Train Information System
RTM	Ratlam
RUB	Road Under Bridge
RVNL	Rail Vikas Nigam Limited
RWF	Rail Wheel Factory
RWP	Rail Wheel Plant
S&T	Signal and Telecommunication
SBC	Bangalore
SCR	South Central Railway
SER	South Eastern Railway
SECR	South East Central Railway
SF	Superfast
SIP	Signalling and Interlocking Plans
SLR	Second Class Luggage Cum Parcel Van
SMP	Shambhupura
SOD	Schedule of Dimensions
SR	Southern Railway
Sr. DCM	Senior Divisional Commercial Manager
SSP	Single Super Phosphate
STP	Signal and Telecom Package
SWR	South Western Railway
TA	Traffic Allowance
TAC	Track Access Charge
TC	Tender Committee
TDL	Tundla
TDS	Tax Deducted at Source

Abbreviation	Full Form
TMS	Track Management System
TPC-D	Tata Power Corporation – Distribution
TSR	Train Signal Register
TSR	Temporary Speed Restrictions
TSS	Traction Sub Station
TTPS	Tenughat Thermal Power Station
TUR	Total Unit Rate
UIC	International Union of Railways
UP	Uttar Pradesh
UPPCL	Uttar Pradesh Power Corporation Limited
WCR	West Central Railway
WDFC	Western Dedicated Freight Corridor
WPC	Wireless Planning Commission
WR	Western Railway
WTT	Working Timetable
ZR	Zonal Railway

Overview

The Audit Report consists of audit findings relating to compliance issues in respect of the Ministry of Railways and its various field units. The Audit Report includes two pan India paragraphs and 31 individual paragraphs. A brief overview of the important audit findings and conclusions is given below:

Para 2.1 Punctuality and travel time in train operations in Indian Railways

The salient findings emerging from the review were as follows:

(i) Audit found no perceptible improvement in mobility outcome indicators despite significant investments of ₹ 2.5 lakh crore for infrastructure during the last decade (2008-19). Audit found 0.18 *per cent* improvement in punctuality performance of Express trains, 0.61 per cent improvement in the average speed of Express trains and decrease of 9.72 per cent in the average speed of Goods trains. Further, as against the contribution of 51 per cent of five critical factors (Path, Traffic, Engineering, Block and S&T), only 19.81 per cent of expenditure was made against these factors.

(ii) The target dates for achieving the speed of 160 kmph kept getting revised from 1960 onwards.

(iii) As a rule, to ensure safety, only one train should run in a block section at a time. However, to accommodate higher number of trains in the time table, more than one train are scheduled in a block section. This is referred to as Conflict. A conflict results in providing precedence to one train over other and requirement of additional allowances. The current Working Time Table for the New Delhi- Howrah route has around 12,500 conflicts. It is possible to achieve 100 *per cent* punctuality in the revised timetable.

(iv) As per this time table, an average saving of ~2.5 hours (ranging between 64 to 386 minutes) is possible within existing resources for trains cleared for 130 kmph running between NDLS – HWH stations. Similarly, an average saving of ~5.5 hours (23 per cent) is possible for 110 kmph trains. By grouping trains with similar speeds and conducting maintenance activities during off-peak hour/night time, wherever feasible, Indian Railways can further improve these savings.

(v) An average saving of 22-25 minutes is determined for every 100 Km run of a train cleared for 110 kmph on the most congested route. For trains cleared for 130 kmph, the possible average savings per 100 Km is 10-12 minutes.

(vi) Availability of sufficient capacity on the route can run all passenger carrying trains punctually and also can handle additional freight traffic. Audit found

significant differences between figures claimed and simulated, indicating over pitching of line capacity utilization.

Recommendations

Ministry of Railways may consider;

- ***to fix a target date by which IR will achieve the desired increase in the average and maximum speed of Passenger and Freight trains in their network and strive to achieve it.***
- ***to prioritise the usage of integrated corridor blocks so that effective maintenance of assets of all the departments are carried out with minimal disruption to operations.***
- ***to address critical factors of detention with commensurate expenditure on track alignment, track renewal, signaling, doubling work etc.***
- ***to prescribe the norms for traffic recovery time for reducing the higher allocation of traffic allowance and sub-optimal utilization of infrastructure and resources.***
- ***to work out an implementation strategy for a freight service time-table to ensure guaranteed delivery time of consignments to customers.***
- ***to prepare the Time Table on scientific basis which would lead to generation of additional paths for passenger/freight trains. This would also lead to correct assessment of line capacity utilization.***

Para 2.2 Loss on account of non-realization of Service Tax from licensees: West Central Railway and Southern Railway

Ministry of Railways issued detailed instructions (September/October 2012) regarding levy of Service Tax from the licensees on Goods, Passenger, Parcel and other Auxiliary Services. West Central Railway Administration, however, failed to levy Service Tax from the licensees during the period April 2011 to June 2017. As a result, Indian Railways suffered a loss of ₹5.41 crore as Railway Administration made payment of Service Tax demand from its own earnings. Similarly, Southern Railway Administration made service tax payment of ₹ 22.02 crore from its own earnings.

Para 2.4 Non-levy/ non-collection of shunting charges from the siding owner: East Central Railway

ECR did not follow Railway Board's instructions regarding levy of shunting charges. Consequently, Railway suffered a loss of ₹ 18.37 crore.

Para 2.6 Loss due to allowing excess free time for loading operations in open wagon rakes in a fertilizer siding: West Central Railway

West Central Railway Administration did not implement the instructions of Ministry of Railways (MoR) for allowing restrictive free time in case of combination of manual and mechanized loading. Against allowable five hours free time for loading, free time of nine hours were allowed in a fertilizer siding. Allowing excess free time for loading operations resulted into short realization of demurrage charges of ₹ 2.32 crore during September 2013 to February 2020.

Para 3.1 Implementation of Dedicated Freight Corridor Project in Indian Railways

Audit test checked issues related to execution of four stretches (1486 Km). Major audit findings were as follows:

(i) Dedicated Freight Corridor Corporation of India Limited (DFCCIL) could not fully utilize the World Bank fund resulting in payment of avoidable commitment charges to the tune of ₹16 crore.

(ii) The only source of revenue for the DFCCIL is the user charge or 'Track Access Charge' (TAC). As per TAC approved by MoR in December 2018, "Return on Equity" would not be payable by MoR to DFCCIL as long as the Indian Railways is the sole user. DFCCIL had to repay the debt of ₹ 589.85 crore till March 2021 out of the equity funded by MoR, as no TAC was accrued to DFCCIL.

(iii) Deficiencies in planning for maintenance of rolling stock for DFC, delay in up-gradation of feeder routes and adoption of different moving dimensions in Eastern and Western DFCs.

- Despite expressed constraints for maintenance with the existing infrastructure of Indian Railways, no maintenance facility was created by the DFCCIL.
- Out of total 4844 Route Km, 2346 Route Km (48 *per cent*) of feeder routes were upgraded till November 2020.
- Adoption of different moving dimensions (double stack container movement in WDFC and single stack in EDFC) restricted the inter-portability of traffic between EDFC and WDFC, due to difference in height of overhead traction equipment and loading standard.

(iv) DFCCIL incurred avoidable expenditure to the tune of ₹ 285.21 crore due to incorrect assessment of land and delay in payment of compensation/ award to project affected persons.

(v) The progress of the project got adversely affected due to delay in awarding of contracts and delay in appointment of consultants.

- In WDFC, there was delay of more than 21 months in awarding of contract. The delays in EDFC ranged between 13 and 25 months.
- Abnormal delay upto 32 months was noticed in appointment of consultants for processing and finalization of tender and supporting DFCCIL in overseeing execution of the project.
- DFCCIL incurred extra expenditure of ₹98.27 crore due to extension of currency of consultancy contracts as a result of delay in awarding of contracts and slow progress of works.

(vi) Several extensions of currency of contract were granted due to delay in handing over of land to the contractors, finalization of design and shifting of utilities. DFCCIL incurred avoidable extra expenditure of ₹ 2233.81 crore till March 2021 towards price escalation due to delay in completion of project.

(vii) There was a delay in recovery of mobilisation advance from the contractors concerned due to slow progress of works, resulting in avoidable loss of interest to the tune of ₹ 82.17 crore.

Recommendations

Ministry of Railways may consider -

- ***Fixation of track access charges with provisions for return on equity in accordance with the terms and conditions of Concession Agreement with DFCCIL.***
- ***Expeditious upgradation of feeder routes and finalize strategy for maintenance of rolling stock of DFC.***
- ***Necessary action plan to ensure adherence to the target for progress of works and optimal utilization of borrowed fund to avoid payment of commitment charges.***
- ***Initiating necessary action to monitor actively the progress of DFC works to avoid further slippage of targets and cost.***

Para 3.3 Unfruitful expenditure in construction of Grade Separator due to non-compliance of Railway Board's directives: Northern Railway

Ministry of Railways had issued instructions for ensuring clear sites of work before awarding the contracts. Northern Railway Construction Organization awarded the contracts for work of construction of Grade Separator without ensuring clear sites of work. There were encroachments in both the entry sides. Due to encroachments, the work could not be completed even after 10 years

from its sanctioning. Capital expenditure of ₹ 71.50 crore incurred on the work till 31 March 2021 remained unfruitful.

Para 3.5 Non-recovery of cost of Commercial staff posted in the siding: Central Railway

Central Railway Administration, due to weak internal control, failed to recover the cost of commercial railway staff posted in private sidings from 35 siding owners (including 13 private parties). The outstanding recovery of₹ 23.92 crore pertained to intermittent periods during August 2008 to March 2020.

Para 3.8 Non-recovery of Repair and Maintenance Charges from Private Sidings: South Western Railway

South Western Railway Administration failed to comply with the codal provisions and specific clauses of Private Siding Agreement issued by Ministry of Railways in July 2005. This resulted in non-recovery of ₹ 8.84 crore towards Repair and Maintenance charges from 11 Private Sidings of Bangalore Division.

Para 3.9 Improper planning for setting up of Mid-Life Rehabilitation Workshop of coaches at Anara led to unproductive expenditure: South Eastern Railway

Ministry of Railways approved (February 2010) setting up a Mid-Life Rehabilitation workshop at Anara in South Eastern Railway. The project was however dropped (September 2017) by MoR due to absence of committed funds. As a result, preliminary expenditure of ₹ 8.42 crore incurred on the project was rendered unproductive.

Para 3.11 Failure to implement Ministry of Railway's orders resulted in damage to railway cables: South Eastern Railway and West Central Railway

South Eastern Railway and West Central Railway Administrations failed to ensure the conditions stipulated in Joint Procedure Order related to digging work in vicinity of Signalling Electrical & Telecommunication Cable. As a result, the Zonal Administrations could not impose penalty amounting to ₹7.11 crore on contractors in 537 cases of cable cut.

Para 3.13 Infructuous expenditure on capital infrastructure: South Western Railway

South Western Railway Administration without ensuring availability of land for the approach roads from the State Government entered into a contractual obligation for construction of a four lane Road Over Bridge (ROB). This

resulted in infructuous expenditure amounting to ₹ 16.84 crore (Railway share ₹ 7.06 crore) on creation of ROB without availability of land for approach roads.

Para 3.18 Imprudent decision of opting for Freight Advance Scheme resulted into loss of interest: Container Corporation of India Limited (CONCOR)

CONCOR India Limited opted for Freight Advance Scheme of MoR and paid an advance of ₹ 3,000 crore to the Railways without properly evaluating benefits accruing to the Company. For payment of the advance, the Company encashed Fixed Deposits of ₹ 2,300 crore and took a working capital loan of ₹ 700 crore at the interest rate of 8.45 *per cent* per annum. Subsequently, the Company opted out of the Scheme. This resulted in loss of interest amounting to ₹ 85.69 crore to the Company.

Para 3.21 Infructuous payment of spectrum charges: RailTel

RailTel made a payment of ₹ 13.82 crore to Ministry of Communications during the period October 2006 to September 2018 towards royalty charges for the spectrum allocated. However, RailTel did not utilise the Spectrum allotted as no rollout plan existed for the utilization of the spectrum. As the spectrum allocated had been surrendered without its utilisation, the amount of royalty paid amounting to ₹ 13.82 crore had become infructuous.

Para 4.1 Avoidable expenditure towards procurement of power from Bhartiya Rail Bijlee Company Limited: Central Railway and Railway Board

Indian Railways had incurred avoidable expenditure of ₹ 968.73 crore towards procurement of power from Bhartiya Rail Bijlee Company Limited (BRBCL). This avoidable expenditure includes ₹ 463.30 crore towards fixed capacity charges and ₹ 505.43 crore due to injudicious decision to discontinue power purchase agreement with TATA Power- Distribution and procurement of power from BRBCL at higher tariff.

Para 4.2 Avoidable expenditure due to payment of penalty for excess load: North Eastern Railway and Northern Railway

Despite clear directives of Ministry of Railways for review of Contract Demand and its timely revision, North Eastern and Northern Railway Administrations failed to assess the Contract Demand realistically and take timely action for its revision. Failure in assessment and timely revision of Contract Demand resulted in avoidable payment of penalty of ₹ 16.87 crore by North Eastern Railway and ₹ 15.16 crore by Northern Railway.

Para 4.5 Purchase of Dress materials even after issuance of instructions by Ministry of Railways for payment of Dress Allowance: West Central Railway and South Central Railway

On the recommendations of 7th Central Pay Commission, MoR issued (October 2017) instructions for payment of Dress Allowance to the employees in lieu of Dress materials. However, the Zonal Railway Administrations did not cancel/ short close the existing Purchase Orders for Dress Materials, instead fresh Purchase Orders for Dress materials were issued. Procurement of Dress materials of ₹ 1.15 crore after issue of MoR's instructions was irregular. Dress materials procured were also lying in stock at Stores Depots.

Chapter 1 – Introduction

1.1 Audited Entity Profile

Indian Railways is a multi-gauge, multi-traction system with a total route length of 67,956 Km (as on 31 March 2020). Some important statistics[1] regarding route/track length in Indian Railways are indicated in **Table 1.1.**

Table 1.1

Particulars	Broad Gauge (1,676 mm)	Metre Gauge (1,000 mm)	Narrow Gauge (762/610 mm)	Total
Route Km[2]	63,950	2,402	1,604	67,956
Track Km[3]	1,21,756	2,653	1,957	1,26,366
Electrified Route Km	39,329	-	-	39,329

Indian Railways runs 13,169 passenger trains and 8,479 goods trains every day. During 2019-20, it carried 22.15 million passengers and 3.32 million tonnes freight each day. As on 31 March 2020, Indian Railways had 12.54 lakh workforce and maintained the following infrastructural assets and rolling stock as indicated in **Table 1.2**.

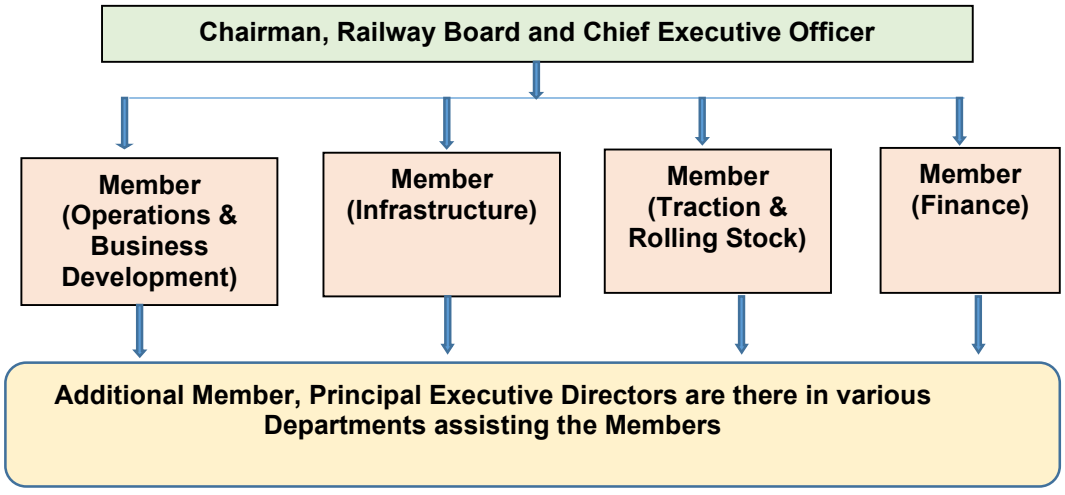
Table 1.2

Infrastructural assets/Rolling stock	Numbers
Stations	7,325
Locomotives	12,729
Coaching Vehicles	76,608
Freight Wagons	2,93,077

Ministry of Railways (MoR) is headed by a Union Minister for Railways (a Cabinet Minister) and two Ministers of State for Railways. Railway Board which is the apex body of Indian Railways, reports to the Minister of Railways. The Board is headed by Chairman, Railway Board & Chief Executive Officer (CRB-CEO) and has four Members viz. Member (Operations & Business Development), Member (Infrastructure), Member (Traction & Rolling Stock) and Member (Finance)[4]. The Board lays down policies on operation and maintenance of train services, acquisition, construction and maintenance of assets. It monitors implementation of policies and instructions across Zonal Railways. Railway Board also regulates pricing of both passenger fares and freight tariffs. The functional directorates under each Member assist and aid in decision-making and monitoring of railway operations.

[1] Source: Indian Railways Year Book 2019-20
[2] The distance between two points on the Railway irrespective of the number of lines connecting them, whether single line, double line *etc.*
[3] Length of all running tracks and tracks in sidings, yards *etc.*
[4] Revised Organizational Structure of Railway Board issued vide MoR's Office Order No.64 of 2020 dated 8 September 2020

The organizational structure[5] of Railway Board is as follows:



Member (Operations & Business Development) looks after Traffic Transportation, Coaching, Tourism & Catering, Commercial, Non-Fare Revenue, Marketing & Business Development and Information Technology.

Member (Infrastructure) looks after Works, Civil Engineering, Bridges, Signal & Telecommunication, Land & Amenities, Station Development and Railway Electrification.

Member (Traction & Rolling Stock) looks after Production Units, Mechanical Workshops, Coaches, Locomotives, Train sets, Environment and House Keeping, Electrical Maintenance of Coaching Stock, Traction Distribution, Power Supply, Renewable Energy and Material Management.

Member (Finance) is responsible for Accounts, Finance, Budget, Revenue and Statistics & Economics.

In addition, Human Resources, Safety, Security, Health, Planning, Infrastructure, Vigilance, Efficiency & Research, Public Relations, Heritage, Transformation Cell, Corporate Co-ordination are the Directorates that report directly to the CRB-CEO. These Directorates are headed by Additional Members and Principal Executive Directors.

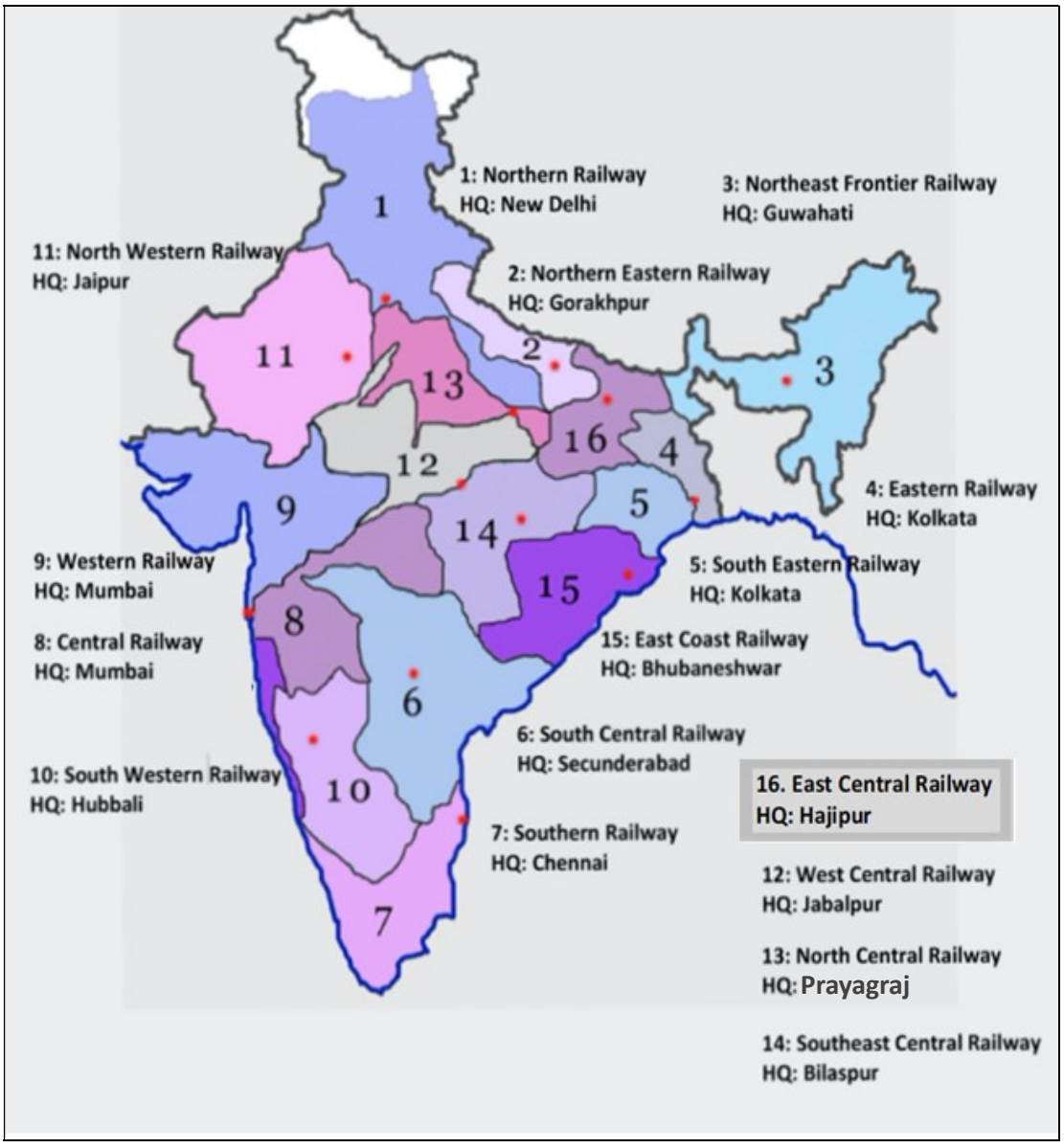
At the field level, there are 17 Zonal Railways including Metro Railway /Kolkata. In addition, there are specialized organizations *viz.,*

- Research Designs and Standards Organization (RDSO), Lucknow for research and standardization;
- Central Organization for Modernization of Workshops (COFMOW) for procurement of specialized machinery;

[5] Ministry of Railways' Office Order No.64 of 2020 dated 8 September 2020

- Locomotive manufacturing units- Banaras Locomotive Works[6] at Varanasi, Chittaranjan Locomotive Works at Chittaranjan and Diesel Loco Modernization Works at Patiala; and
- Coach factories at Kapurthala, Raebareli and Perambur, Rail & Wheel Factory at Yelahanka and Rail Wheel Plant at Bela.

The Zonal Railways jurisdiction and their Headquarters as on 31 March 2020 is shown in the diagram below:



Zonal Railways wise Total Track Kilometers and number of Stations under their jurisdiction as on 31 March 2020 are indicated in **Table 1.3.**

[6] Diesel Locomotive Works, Varanasi renamed as Banaras Locomotive Works vide Gazette Notification No.2020/Elect (TRS)/225/2 dated 27 October 2020.

Table 1.3			
Zonal Railways (Establishment Year)	**Total Track Kms**	**No. of Stations**	**Divisions**
Central (1951)	8827	552	Mumbai, Bhusawal, Pune, Solapur, Nagpur
Southern (1951)	9103	575	Chennai, Trichy, Madurai, Palakkad, Salem, Thiruvananthapuram
Western (1951)	10659	708	Mumbai Central, Ratlam, Ahmedabad, Rajkot, Bhavnagar, Vadodara
Eastern (1952)	7221	453	Howrah, Sealdah, Asansol, Malda
North Eastern (1952)	4893	336	Izzatnagar, Lucknow, Varanasi
Northern (1952)	13558	803	Delhi, Ambala, Firozpur, Lucknow, Moradabad
South Eastern (1955)	6549	334	Adra, Chakradharpur, Kharagpur, Ranchi
Northeast Frontier (1958)	6473	453	Alipurduar, Katihar, Rangia, Lumding, Tinsukia
South Central (1966)	10872	622	Secunderabad, Hyderabad, Guntakal, Guntur, Nanded, Vijayawada
South East Central (1998)	5193	224	Bilaspur, Raipur, Nagpur
East Central (2002)	9954	473	Danapur, Dhanbad, Deen Dayal Upadhyaya, Samastipur, Sonpur
North Western (2002)	8027	473	Jaipur, Ajmer, Bikaner, Jodhpur
East Coast (2003)	6009	285	Khurda Road, Sambalpur, Visakhapatnam
North Central (2003)	6436	413	Prayagraj, Agra, Jhansi
South Western (2003)	5880	307	Hubli, Bangalore, Mysore
West Central (2003)	6617	290	Jabalpur, Bhopal, Kota
Metro Kolkata (2009)	95	24	Kolkata

A fully integrated financial advice and control system exists at Railway Board headed by the Member (Finance). At Zonal level, finance functions are headed by Principal Financial Adviser (PFA). He is assisted by Financial Adviser and Chief Accounts Officers (FA & CAOs). They are responsible for rendering advice and scrutinizing all proposals involving expenditure from the public exchequer.

1.2 Authority for Audit

The authority for our audit is derived from Articles 149 and 151 of the Constitution of India and the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) (DPC) Act, 1971. Audit of expenditure and receipts of MoR and its Autonomous Bodies is conducted under Section 13, Section 16 and Section 20 (1) of the CAG's (DPC) Act respectively.

1.3 Audit Planning

Selection of the units for audit of the Railways is planned on the basis of a risk assessment. The risk is assessed based on the level of budget planned, resources allocated and deployed, extent of compliance with internal controls, scope of delegation of powers, sensitivity and criticality of function/activity, external environment factors *etc.,* previous audit findings, Public Accounts Committee (PAC)'s recommendation and action taken by the MoR, media reports, where relevant, are also considered. Based on such risk assessment, test audit of 5,323 entities/units of the Railways was conducted during 2019-20.

The Audit Plan focused on selected issues of significant nature in terms of policy and its implementation. These included operations, freight traffic, earnings, infrastructure development, passenger amenities, asset management, material management and safety works. Each study brings out important audit findings and conclusions followed by audit recommendations to help improve systems and strengthen internal control mechanism in Railways.

1.4 Reporting

Audits of selected topics were conducted across the Zonal Railways. Relevant records and documents of the field units as well as that of Railway Board were reviewed. Appropriate samples from the population were selected so as to adequately cover the issues under study. The audit findings were issued to the respective Zonal Managements for their response. Audit findings were either settled or further action for compliance was advised depending upon the action taken. Important audit observations, not having been complied with, were followed up through Draft Paragraphs addressed to the General Managers of Zonal Railways. Copies of Draft Paragraphs were endorsed to the FA & CAOs and Heads of the Departments for reply within the prescribed period. Selected issues were taken up as Provisional Paragraphs and issued to the MoR for eliciting their reply before inclusion in Audit Report.

1.5 Structure of the Report

This Audit Report comprises results of scrutiny of transactions relating to expenditure, receipts, assets and liabilities of the units under the control of

MoR. This includes examination of the adequacy, legality, transparency and effectiveness of the relevant rules to maintain and ensure control mechanism over public expenditure. The effectiveness of the rules to safeguard against misuse, waste and losses were also examined.

The Report contains four Chapters. Chapter 1 is introductory in nature and covers issues of cross-cutting nature. The other three Chapters relate to the core functional areas of the three Railway Board Members (Operations & Business Development, Infrastructure and Traction & Rolling Stock). The Report presents audit findings of significant materiality which are intended to aid the Executive in taking corrective actions for better performance and financial management. Detailed findings pertaining to the Zonal Railways on the following subjects are presented in this Report:

(i) Punctuality and Travel time in train operations in Indian Railways

(ii) Implementation of Dedicated Freight Corridor Project in Indian Railways

In addition, 31 individual paragraphs covering audit findings of respective Zonal Railways are presented in Chapters 2 to 4 of this Report.

1.6 Response of the Ministry/Department to Provisional Paragraphs

As per the recommendation of the Public Accounts Committee, Ministry of Finance issued (June 1960) directions to all Ministries to send their response to the draft audit paragraphs within a time limit of six weeks.

A total of 35 Provisional Paragraphs were issued to MoR[7]. At the end of November 2021, MoR's replies were received in respect of 15 Provisional Paragraphs. Replies received were duly considered and suitably incorporated in the Audit Report. The response in respect of remaining Provisional Paragraphs (20 nos.) was awaited from MoR.

1.7 Recoveries at the instance of Audit

Audit had pointed out cases of undercharges/overpayments of ₹ 81.99 crore in various Zonal Railways during the year 2019-20. This included undercharges in realization of freight and other earnings, over payments to staff and other agencies, non-recovery of dues of the Railways *etc*. During the past six years, ₹ 752.07 crore had been recovered/ accepted for recovery by the Railways at the instance of Audit, as detailed in **Table 1.4.**

[7] CRB, Members concerned and Member (Finance)

Table 1.4-Recovery at the instance of Audit during 2014-15 to 2019-20	
Year	**Amount Recovered/accepted for recovery (₹ in crore)**
2014-15	101.26
2015-16	80.27
2016-17	162.91
2017-18	193.13
2018-19	132.51
2019-20	81.99
Total	**752.07**

During 2019-20, an amount of ₹ 81.99 crore was accepted for recovery by various Zonal Railways and other field units. Of this, ₹ 61.71 crore was recovered and ₹ 20.28 crore was agreed to be recovered by the Zonal Railways. Four Zonal Railways accounted for recoveries exceeding ₹ 10 crore each[8]. Out of ₹ 81.99 crore, ₹ 52.83 crore pertained to transactions already checked by Railways' Accounts Department and ₹ 28.86 crore pertained to other than those checked by Accounts Department. As a result of further review carried out by Accounts Department, another ₹ 0.30 crore was recovered/agreed to be recovered by the Zonal Railways.

1.8 Remedial action on Audit Paragraphs included in the Audit Reports

As per the Public Accounts Committee (PAC) recommendations[9], Ministry/Departments of the Government of India should furnish corrective/remedial Action Taken Note (ATN) on all paragraphs raised in the Audit Reports within four months after laying of the Report in the Parliament.

On the Audit Paragraphs selected by PAC, discussions/oral evidence is taken by PAC. After the oral evidence, PAC issue Reports containing their observations/recommendations on which action is to be taken by the Ministry. The Action Taken Reports (ATRs) on the PAC Reports are submitted by the Ministry to the PAC after audit vetting.

The status of pending ATNs as on 30 September 2021 has been given in **Annexure 1.1**.

Some of the important cases, where MoR had made appropriate changes and issued instructions during 2019-20 for streamlining their internal process are illustrated in **Table 1.5.**

[8] NER (₹ 10.73 crore), NR (₹ 11.30 crore), SER (₹ 11.92 crore) and SWR (₹ 12.24 crore)
[9] Ninth Report (Eleventh Lok Sabha) presented to the Parliament on 22 April 1997

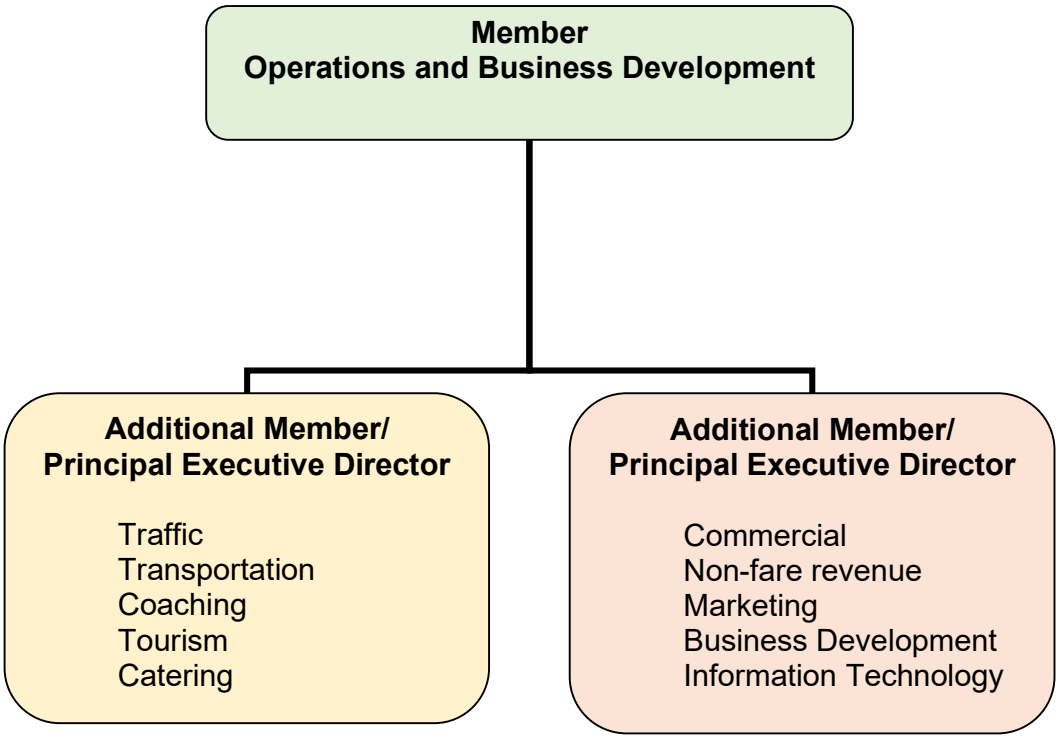
Table 1.5		
Para No./Report No.	**Audit Observations /Recommendations**	**Action taken by Railways**
Para No. 4.6 of Report No. 14 of 2017 - Premature rejection of Electronic Rectifier - cum-Regulating Unit (ERRU) in South Eastern Railway	ERRU, a type of electronic based maintenance free item, became defective without serving its full life and remained in defective/breakdown condition in workshop/ coaching depots of South Eastern Railway.	To arrest the problem, Research Designs and Standards Organization (RDSO) made efforts for upgrading the specification. Firms, who could not rise to the occasion, have been delisted from the Approved Suppliers List.
Para 2.4 of Report No. 5 of 2018- Incorrect entry of train timing of terminating trains in Integrated Coaching Management System (ICMS) led to compromise in data integrity	Railway entered the arrival timing of terminating trains at Prayagraj station incorrectly in ICMS. This led to compromise in data integrity. As the information fed into ICMS is reflected in National Train Enquiry System (NTES), the incorrect entries caused inconvenience to passengers by showing wrong timings of arrival of trains at Prayagraj station. Similar position of incorrect data entry of arrival/departure time of trains may prevail at other stations. MoR may issue instructions to Zonal Railways to ensure correct entry of the arrival/departure timings in NTES (either through direct entry in NTES or through entry in Control Office Application or through data loggers) so that passengers get accurate information on arrival/departure of trains.	To address the issue of wrong data feeding and consequent discrepancy in NTES/Punctuality Analysis Module (PAM) vis-à-vis actual train timing, MoR has taken a decision to automate train running information input by installing data loggers at selected locations. MoR is working on Real Time Train Information System (RTIS) wherein devices will be installed on locomotives, and through satellite, information regarding train location and running will be fed into ICMS/PAM/NTES. RTIS system is in pilot stage and will be rolled out soon.

Table 1.5		
Para No./Report No.	**Audit Observations /Recommendations**	**Action taken by Railways**
Para 2.15 of Report No. 5 of 2018 - Undue advantage taken by Jansadharan Ticket Booking Sewaks (JTBSs) by depositing de-monetized specified bank notes with the Railways post-demonetization	No upper limit for deposit the cash by the JTBSs (for issue of tickets) was fixed by MoR. In absence of upper limit for cash deposits by JTBSs, JTBSs took undue advantage and deposited large amounts of cash with the railways in de-notified denominations instead of depositing the same in the banks.	MoR issued (August 2019) instructions that JTBSs shall be allowed to deposit the maximum amount equivalent to 15 days daily average transactions of the JTBS during previous financial year subject to condition that the said amount does not fall below the prescribed lower limit of ₹ 10,000. In case of newly appointed JTBS, this limit can be decided by the Zonal Railways concerned with approval of associate finance.
Para 6.1 of Report No. 5 of 2018 - Receipt of wagons not due for Periodical Overhaul (POH) in Dahod Workshop (Western Railway) led to detention and consequent loss of earning capacity of these wagons	During the period from June 2013 to March 2017, 434 wagons not due for POH were received in Dahod workshop. Inspection and approval was not being carried out by workshop staff before accepting the wagons for POH. These wagons hindered operational activities as they occupied track inside the workshop and were returned back to the Zonal Railways without carrying out any work on them after being detained at the workshop for long periods. This led to avoidable loss of potential earning capacity of ₹ 16.46 crore due to detention.	MoR issued instructions to Workshops and Open Line for proper co-ordination, prior to booking of wagons due for POH, to avoid detention in future.

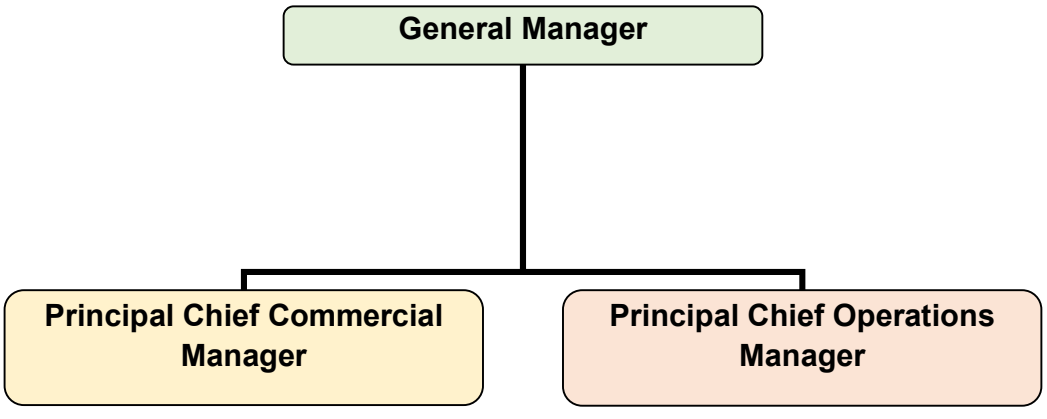
Chapter 2 – Operations and Business Development

Member (Operations and Business Development) at Railway Board is assisted by Additional Members/Principal Executive Directors for fulfilling his responsibilities.

Railway Board Level



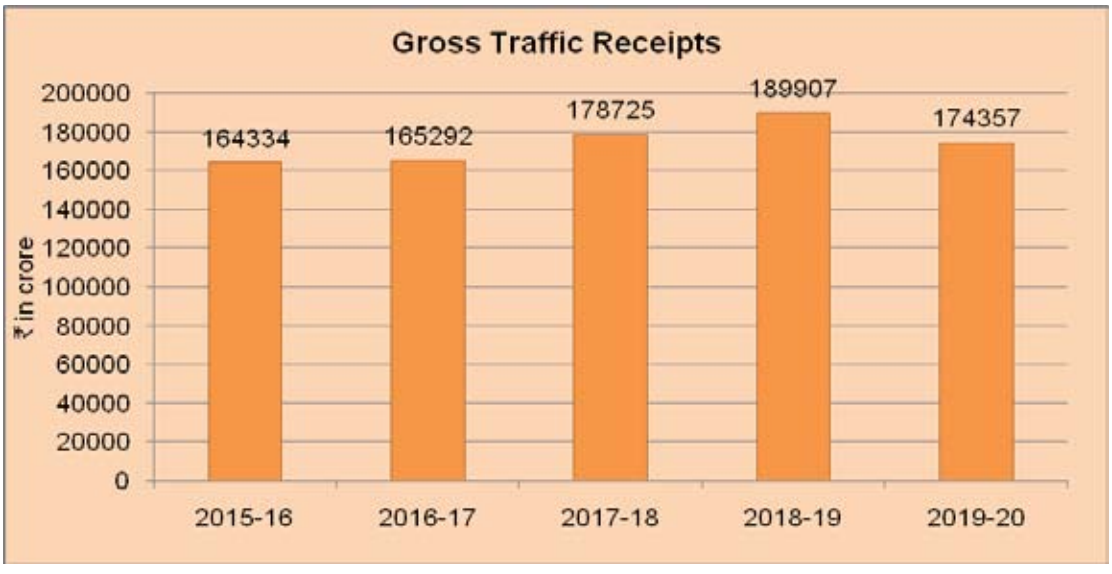
Zonal level



At the Zonal level, the Traffic Department has two departments, viz. Operating and Commercial. These are headed by Principal Chief Operations Manager (PCOM) and Principal Chief Commercial Manager (PCCM) respectively, who work under the overall supervision of General Manager of the Zonal Railway. At the divisional level, the Operating and Commercial Departments are

headed by Senior Divisional Operations Manager (Sr.DOM) and Senior Divisional Commercial Manager (Sr.DCM) respectively, who report to Divisional Railway Manager (DRM) of the concerned Division.

The total traffic operating expenses during the year 2019-20 was ₹ 29, 865 crore[10]. Total gross traffic receipt during the year was ₹ 1,74,357 crore[11]. A comparative graph of Gross Traffic Receipts for the last five years is shown below:



During 2019-20, annual growth rate of passenger originating dropped by 4.19 *per cent*[12] over the previous year. Passenger earnings in 2019-20 decreased by 0.78 *per cent*[13] as compared to previous year. In 2019-20, freight loading decreased by 1.07 *per cent*[14]. The freight earnings decreased by 10.94 *per cent* as compared to the previous year. Sundry earnings in 2019-20 decreased by 16.20 *per cent* from ₹ 6,996 crore to ₹ 5,863 crore when compared to the previous year.

During the year, apart from regular audit of vouchers, tenders *etc*., 1,242 offices of the Commercial and Operating departments were audited.

This Chapter includes a Pan India Paragraph on 'Punctuality and travel time in train operations in Indian Railways' in addition to five individual paragraphs

[10] Sub Major Head 3002-3003 (07)-Operating Expenses - Traffic in 2019-20
[11] Includes Passenger Earnings-₹ 50,669.09 crore, Freight Earnings-₹ 1,13,487.89 crore, Other Coaching Earnings-₹ 4,640.79 crore and Sundry Earnings-₹ 5,862.75 crore, Clearance for Traffic Outstanding (Suspense)-₹ (-) 303.92 crore
[12] Indian Railways carried 8,085.74 million passengers during 2019-20 as against 8,439.06 million passengers in the previous year
[13] ₹ 51,066.65 crore in 2018-19 and ₹ 50,669.09 crore in 2019-20
[14] 1,221.48 million tonne in 2018-19 to 1,208.41 million tonne in 2019-20

discussing compliance issues in the implementation of rules and regulations on Passenger and Freight Business in Indian Railways.

2.1 Punctuality and travel time in train operations in Indian Railways

2.1.1 Introduction

Efficient management of operations in running trains is critical to enhance efficiency of operations in Indian Railways. Delay in running of Passenger/Goods trains results in poor quality of service to passengers/customers leading to dissatisfaction. 'Punctuality' and 'Travel time' are thus two important mobility outcome indicators for operations in Indian Railways.

The audit exercise highlights the extent to which IR could have improved punctuality and reduced travel time within existing resources.

2.1.2 Audit Objectives

The audit objectives were to assess:

i. Whether Indian Railways addressed all the critical factors commensurate to their criticality?

ii. Whether there is any scope of improvement for Indian Railways to reduce travel time and improve punctuality within the existing resources?

2.1.3 Scope

Given that outcomes change over a period of time, Audit compared the outcomes in train operations viz. Travel time and Punctuality between 2012-13 and 2019-20.

To analyse train operations, Audit also selected four months each during 2015-16 and 2018-19, respectively. Periods of different seasons *viz*. Summer, Rainy, Regular and Foggy (May, July, October, and January) seasons of 2015-16 and 2018-19 were selected to cover most weather-related challenges. The route of New Delhi (NDLS)- Howrah (HWH) was selected for the simulation analysis.

2.1.4 Source of Criteria

The provisions and instructions contained in the following documents are used as audit criteria:

- Global benchmarks, UIC standards;
- Budget documents, speeches & announcements;
- Indian Railways Vision 2020 (December 2009);
- Speed Policy and Stoppage Policy;
- Operation Chetak (2008) and Mission Raftaar (2016);
- Codes and manuals of Indian Railways;

- Circulars issued by Ministry of Railways, Zonal Railways; and
- Trains at a glance July,2019

2.1.5 Methodology

Entry conferences were held (September 2019) at Ministry of Railways and in 16 Zones with the major stakeholders before the commencement of field audit. Audit scrutinized records related to train operations in the departments of Operations, Engineering, Mechanical (Carriage & Wagon), Signal & Telecommunication and Electrical departments at Ministry of Railways, RDSO, and Zones/Divisions.

The field units analysed data of ICMS[15], FOIS, TMS, Working Time Table, Data Warehouse, TSR and Complaint Management System. Audit findings were shared (April 2021) with the Ministry of Railways and an Exit conference was held in August 2021. Response of the Ministry of Railways has been incorporated in the Audit Report.

2.1.6 Sample

All 2951 Mail/ Express trains of 'Trains at a glance', July 2019 were analysed for the review. Sample of routes and sections, traffic nodes viz. junctions, yards and Goods shed, coaching and freight trains and major works selected in 16 Zonal audit offices are detailed in **Annexure 2.1**. All sections of New Delhi- Howrah route including all 92 pairs of MEMU and 152 pairs of Passenger trains were selected for the Simulation Analysis.

2.1.7 Acknowledgement

We acknowledge the co-operation extended by the Ministry of Railways, Zonal Railways, Loco pilots, Controllers, Traffic Inspectors, CRIS, and MRVC during the field audit and simulation exercise.

2.1.8 Audit findings

Audit reviewed the Policy adopted by Indian railways with relation to factors impacting the two mobility outcomes – Punctuality and Travel Time.

Review of Speed Policy

IR introduced "Mission Raftaar" in 2016-17 aiming to double the average speed of freight trains from 25 Kmph to 50 Kmph and to increase the average speed of Mail/Express trains from 50 Kmph to 75 Kmph by the end of 2021-22.

[15]ICMS – Integrated Coaching Management System, FOIS – Freight Operations Information System, TMS – Track Management System, TSR – Train Signal Register

However, the average speed of Mail/Express trains and Goods trains in 2019-20 was only 50.6 Kmph and 23.6 Kmph, respectively.

China: Improvement in average speed
In the two decades since 1990, average passenger speeds have increased by more than 60 per cent in China. Before 1997, the railway speed in China was only 80 to 100 Kmph. After six rounds of national railway speed acceleration campaigns between 1997 and 2007, the railway speed has accelerated to 120 to 300 Kmph.

Thus, the targets in respect of average speed are yet to be achieved by IR. IR has adopted rolling stock with the rated capacity of 100 to 160 Kmph and tracks with Maximum Permissible Speed (MPS) of 100-130 Kmph in certain sections of its network. However, audit analysis revealed that scheduled speed of 97.9 *per cent* Mail/Express trains was below 75 Kmph. Details are indicated in **Table 2.1**.

Table 2.1: Average Scheduled speed of 2951 Express trains – 'Trains at a Glance 2019'

Range of average speed (Kmph)	Number of Express trains
Below 30	60 (2.0 *per cent*)
30 to 40	219 (7.42 *per cent*)
40 to 50	933 (31.61 *per cent*)
50 to 55	578 (19.58 *per cent*)
55 to 75	1099 (37.42 *per cent*)
Above 75	62 (2.1 *per cent*)

Audit compared the average speed of Express trains during 2019-20 with that of 2012-13. **Table 2.2** indicates that the Travel time for similar distances travelled increased in EMU and Passenger Trains category and marginally decreased in Mail/ Express category.

Table 2.2: Travel Time comparison

Train Type	2012-13[16]		2019[17]-20	
	Number of trains	Travel time Hours:Minutes	Number of trains	Travel time Hours:Minutes
EMU (for 50 Km)	4728	1:13	5396	1:19
Mail /Express (for 1000 Km)	**3187**	**19:52**	**4058**	**19:47**
Passenger trains (for 1000 Km)	4201	27:37	3715	29:51

Ministry of Railways stated (November 2021) that average speed of passenger

[16] In 2012-13 the average speed of EMU, Mail/Express (M/E) and Passenger trains was 40.7 Kmph, 50.4 Kmph and 36.1 Kmph respectively.
[17] In 2019-20 the average speed of EMU, M/E and Passenger trains was 37.9 Kmph, 50.6 Kmph and 33.5 Kmph respectively.

trains is dependent on various factors. The average speed of passenger trains has gradually increased keeping in pace with the up-gradation in the coaching stock, track and related infrastructure. Further, there has been an exponential increase in the number of passenger services, with IR on an average introducing around 200 trains per year, without commensurate enhancement of the infrastructure works. Under the recently concluded exercise of rationalization of Time Tabling, undertaken with the assistance of IIT Mumbai using their traffic simulator, IR has been able to enhance the speeds of over 2000 trains. Under the exercise, the travelling time of more than 900 trains have been reduced by more than an hour while for 1600 trains the travelling time have been reduced by more than 30 minutes. 362 passenger trains have been converted into Mail/Express trains by speeding up while 120 Mail/Express have been converted into super fast service. An increase of 5 per cent in the average speed of passenger train services has been achieved, by rationalization of Time Table.

Results of zero based time tabling exercise undertaken by Ministry of Railways itself suggested that the optimum utilization of resources was not exploited earlier.

Maximum Permissible Speed (MPS): The target of achieving 160 Kmph speed of Coaching trains and 100 Kmph speed of Freight trains, was fixed on several occasions[18] between 1960 to 2016-17. The timeline to increase the speed was constantly revised. However, the same has not been achieved until 2019-20. Thus, even after many years of planning and targeting, there has been no change in the MPS of Rajdhani and Shatabdi trains since their induction. Rajdhani/Shatabdi trains and other Mail/Express trains have a maximum permissible speed (MPS) of 130 Kmph and 110 Kmph respectively in India. As of March 2020, the top speed in India is 160 Kmph and that too for a few special trains in limited segments.

At the end of December 2019, out of 9890 RKMs of Golden Quadrilateral – Golden Diagonal routes over the IR network, only 3030 RKMs (30.6 *per cent*) are fit for train operation at the speed of 130 Kmph.

Audit also analysed[19] the scheduled speed of trains across zones, which indicated that:

[18] (1) Modernisation Plan -2005-10 (in November 2004) - 150 kmph –Delhi Patna Howrah and Delhi Chennai. (2) IR Vision 2020 (2009) - 160 to 200 kmph. (3) Work sanctioned in 2017 for increasing speed to 160 kmph in New Delhi Howrah and New Delhi Mumbai route.
[19] ICMS report No. 704

- The average scheduled speed of Express trains[20] was highest in NCR (61.98 Kmph) and lowest in NER (44.84Kmph).
- Out of 16 zones, the average speed of Express trains was more than 55[21] Kmph only in five zones (NCR, NWR, SECR, SER and WCR).

Ministry of Railways replied (November 2021) that with the induction of LHB Coaches, which have certified speed of 130 kmph, trains running with such coaches have also been charted at 130 kmph.

Audit noticed that there are also some trains in which LHB coaches were inducted but they are still scheduled at MPS of 110 kmph only.

2.1.8.1 Punctuality performance – Coaching Trains

IR measures the punctuality of trains at the terminating stations. In other countries, it is measured at the originating point, intermediate station, and at terminating stations.

In addition, for measuring punctuality, IR provides an allowance of 15 minutes delay with reference to the scheduled time. Other countries have a much stricter threshold as shown in **Table 2.3**.

Table 2.3: Yardstick for measuring punctuality in different countries

Country	Punctuality Yardstick
Japan	In seconds[22]
Netherlands	3 minutes
Germany and Russia	5 minutes
Great Britain	10 minutes
India	**15 minutes**

Even with a low benchmark and higher threshold, the punctuality of Mail/Express trains over IR declined from 79 *per cent* (2012-13) to 69.23 *per cent* (2018-19) that too at the terminating stations only. As per the ICMS report, the poorest punctuality among the zones was in NCR during 2012-13 and 2018-19.

In 2015-16, out of 5.86 lakh trains, 1.27 lakh Express trains reached the destination station with delay. During 2018-19, number of delayed trains increased by 43 *per cent*. Out of 6.22 lakh trains, 1.82 lakh trains did not meet the punctuality yardstick of 15 minutes. Three zonal railways – NCR, ECR and

[20]All type of train groups including Sub-urban (ICMS report No. 704 – Total Trains 10591)
[21]The criteria laid down by IR to designate a Mail/ Express train as Superfast is 55 Kmph.
[22] In Japan, a train arriving before scheduled time is also considered as punctuality loss

NR – contributed 69 and 67 *per cent* in total delay[23] of IR during 2015-16 and 2018-19.

Review of the Complaint Management System by Audit revealed that there was a sharp increase in the number of complaint cases on punctuality in IR. During the period 2015-16, 2016-17 and 2017-18 the number of complaints that were lodged in the system for late running of trains was 9112, 20,025 and 35,793 respectively. The complaints increased to 40,077 (an increase of 340 *per cent* over the year 2015-16) in 2018-19.

Audit analysed the data for Mail/Express trains for 2016-17, 2017-18 and 2018-19 from ICMS report number 201 and noticed that on an average 13,15,456 trains are reported through ICMS *per annum.* Of these, only 29.64 *per cent* of trains (3,89,877 trains) reached on time (RT) and 20.17 *per cent* of trains (2,65,391 trains) arrived before time (BT). Remaining 50.19 *per cent* of trains (6,60,188 trains) were delayed. Before time cases indicates poor timetabling by provision of extra running time.

Ministry of Railways stated (November 2021) that IR measures punctuality on terminating basis. However, monitoring of running is done on continuous and real-time basis. To put the punctuality performance in perspective it is to be noted that between 2012-2013 and 2018-2019, the train services have increased in numbers by 20 per cent.

Audit is of the view that Punctuality measured on terminating basis does not conform to global best practices. Audit noticed that by computerized timetabling, grouping of trains, conflict resolution and integrated maintenance, punctuality of trains can be improved.

2.1.8.2 (a) Average speed

As against the objective of Mission Raftaar, the average scheduled speed of Mail/Express trains in ECR, ER, NER, NFR, NR and SWR remained below 50 Kmph. The minimum average schedule speed was 44.85 Kmph for NER and maximum was 62.04 Kmph for NCR. The zone wise details are indicated in **Annexure 2.2.**

The average speed of Mail/Express trains over IR remained at the same level even after four years of implementation of 'Mission Raftaar'. The actual average speed of Superfast/Mail/Express trains over IR during 2014-15 to 2018-19 is indicated in **Table 2.4.**

[23]ICMS report No. 35 & 71

Table 2.4:Actual average speed of Superfast/Mail/Express trains over IR		
Year	**Average speed of Mail/Express trains**	**Number of trains as reported through ICMS**
2014-15	51	5,57,023
2015-16	50.95	5,66,231
2016-17	50.61	5,78,542
2017-18	50.25	5,77,740
2018-19	50.20	5,93,358

Ministry of Railways replied (November 2021) that one of the components of Mission Raftaar was replacement of conventional Passenger Trains with fast moving MEMU services. During 2016-17 to 2019-20, 326 trains have been gainfully converted into MEMU services. Besides, under the rationalization exercise 120 Trains (in single) over ECR, ER, NER, NFR, NR and SWR have been speeded up to Superfast category. Besides, over Indian Railways, an increase of 5 per cent in the average speed of passenger train services has been achieved. Over ECoR, the average speed of trains increased from 53.28 kmph to 55.05 kmph.

Audit noticed that before implementation of Mission Raftaar, the average speed of EMU trains in 2015-16 was 41 kmph. Despite induction of fast moving EMU services, the average speed decreased to 37.9 kmph during 2019-20. Thus, no appreciable improvement in the average speed of EMU trains was achieved despite conversion of trains into MEMU/DEMU.

2.1.8.2 (b) Analysis of specific trains

(1) Audit randomly test checked travel time (Originating to Destination basis) of 300 trains[24] for the year 2012 and 2019. It was observed that there has been an overall average increase of 15 minutes in travel time for these trains.

Like Passenger services, the average speed of freight services also declined. Against the prescribed speed of 100/75 Kmph in Operation Chetak, the planned average speed of Goods path in different sections of IR is lesser. For example, the planned speed of Goods trains in Prayagraj division of NCR is less than 30 Kmph in UP & DN direction between DDU-PRYJ and PRYJ-GMC sections. In mixed traffic regime, the slower speed of Goods trains creates conflicts with other trains.

Ministry of Railways replied (November 2021) that train services increased by more than 1.5 times over 10 years period. The average speed of Mail/Express

[24] 10 *per cent* of all Express trains of Trains at a glance (July, 2019 and July 2012)

trains during 2006-07 was 48.5 Kmph while during 2018-19 it was 50.2 Kmph. Under the rationalization of Time Table exercise, an increase of 5 per cent in the average speed of passenger train services has been achieved within the existing infrastructure. Under the exercise, the travelling time of more than 900 trains have been reduced by more than an hour while that for 1600 trains the travelling time have been reduced by more than 30 minutes.

Audit is of the view that the increase of only 3.5 *per cent* of average speed in over 10 years is not a perceptible achievement despite upgradation of track infrastructure, rolling stock and signalling system.

(2) Audit analysed 50 Express trains having worst punctuality in 2015-16 and 2018-19. 23 trains were common in these two years. During 2015-16 and 2018-19, the best punctuality performance of these 50 trains was 21.86 *per cent* and 13 *per cent*, respectively. Despite the provision of 24 *per cent* allowances[25] (EA +TA), the average delay per trip for these trains was 231 minutes (15.71 *per cent* of the transit time) in 2015-16 and 225 minutes (15.57 *per cent* of the transit time) in 2018-19. ***Some of these trains, like North East Express (12505), Kaifiat Express (12226) were having zero per cent punctuality in 2018-19 i.e., none of these trains reached on time on any day during the year of operations.***

2.1.8.2 (c) Criteria of Superfast trains in IR

In May 2007, IR decided that if the average speed of a train, in both Up and Down directions, is a minimum 55 Kmph on Broad Gauge and 45 Kmph on Metre Gauge, it would be treated as a Superfast (SF) train.

The benchmark of 55 Kmph for classifying a train as Superfast is itself low, given the MPS of rolling stock and sectional speed. There has been no change in the criteria of classification of SF trains since 2007.

Audit found that, out of 478 Superfast trains of IR, the scheduled speed of 123 Superfast trains was less than 55 Kmph.

Ministry of Railways stated (November 2021) that the extant policy relating to categorisation of services into Superfast train stipulates that the trains should have an average end to end speed of above 55 Kmph so as to qualify as a super fast service.

The reply is silent on the fact that 123 trains categorised as Superfast were actually scheduled for running at average speed less than 55 kmph fixed as per the extant policy norms.

[25] EA- Engineering Allowance, TA- Traffic Allowance

2.1.8.3 Punctuality: Goods trains

As indicated in **Table 2.5**, similar to Passenger services, the average speed of freight services also declined in the Railway system:

Table 2.5:Travel time

2012-13[26]		2019-20[27]	
Number of Goods trains	**Travel time for 1000 Km Hours:Minutes**	**Number of Goods trains**	**Travel time for 1000 Km Hours:Minutes**
7421	39:12	8479	42:22

As against the target of IR to double the average speed of freight trains, the actual average speed of freight trains declined by 7.45 *per cent*. The slow-moving freight trains reduce track availability, thereby impacting the passenger trains also.

Most of the zones have not incorporated Goods paths (time window for operation of freight train) in their Working Time table. Also, the schedule of freight trains is largely not laid down/ fixed. As a result, punctuality in the running of freight trains cannot be measured.

2.1.8.3(a) Guarantee in delivery time

Audit observed that IR has not fixed time of delivery of consignment and schedule for running for Goods trains. Path for freight services are provided after the schedule running of coaching trains. There is no guaranteed /assured delivery time even for the regular freight trains.

In SR, the timetabled services[28] were tried for running of auto rakes in two routes[29]. Audit analysis revealed that the actual time taken was more by 34 to 134 *per cent* of the notified time by the Ministry of Railways.

Recent initiatives: IR attempted to introduce Time table for Goods trains. In October 2020, time table for 97 Goods trains were introduced. However, the average speed of these trains was scheduled at 36 Kmph only (Range – 55 Kmph to 20 Kmph), *i.e.* 28 *per cent* less than the target of 50 Kmph.

[26] Average speed of Goods train in 2012-13 was 25.5 Kmph
[27] Average speed of Goods train in 2019-20 was 23.6 Kmph
[28] Ex Melpakkam (MLPM)- Greenfeild PFT of CONCOR Neemrana served by Kathuwas(CMLK) notified vide Railway Board circular No.2015/TC(FM)/4/8dated 11/07/2016 and Ex Melpakkam (MLPM)-Changsari (CGS) notified vide Railway Board circular No.2015/TC(FM)/4/8dated 16/01/2019
[29] Ex Melpakkam (MLPM) - Greenfield PFT of CONCOR Neemrana and Ex Melpakkam (MLPM)-Changsari (CGS).

2.1.8.4 Investment made by IR and its outcomes

IR spent considerable amount for procurement of rolling stock and development of infrastructure with little improvement in reduction in travel time and resultant punctuality performance.

Investment of IR for Infrastructure during the last decade and corresponding Mobility outcomes in terms of punctuality and average speed of trains are indicated in **Table 2.6**.

Table 2.6: Investment and Outcomes(₹ in crore)

Year	Investment					Mobility Outcomes		
	New Line	Gauge Conversion	Doubling	Electrification	Track Renewal	Punctuality of M/E trains	Average speed M/E trains	Average speed of Goods trains
2008-09	3151	2989	1831	783	4141	69.1	49.9	25.7
2009-10	3638	3320	2372	713	2629	74	50	25.8
2010-11	5262	2845	2115	640	2604	69	50.1	25.6
2011-12	5327	2527	2251	830	3210	77	50.3	25
2012-13	5292	2401	2470	964	3604	79	50.4	25.5
2013-14	5801	2874	2961	1265	3666	82.67	50.6	25.9
2014-15	7107	3520	3859	1387	3734	79.37	50.8	24.2
2015-16	13210	3616	10472	2265	4368	77.51	50.9	23.4
2016-17	14320	3770	9093	2871	5076	76.69	50.6	23.7
2017-18	8195	2880	11240	3770	7728	71.39	50.3	23.3
2018-19	9396	4055	15168	5931	8242	69.23	50.2	23.2
Total	**80699**	**34797**	**63832**	**21419**	**49002**			
	Total Expenditure ₹ 2,49,749 crore					**Source: IR yearbooks for the respective years**		

There is a significant increase in capital investment since 2015. However, the increase in investment towards infrastructure creation and asset acquisition over the decade did not yield results in terms of achieving the outcomes of reducing travel time (higher average speed), improved punctuality or guaranteed delivery of Goods.

Ministry of Railways replied (November 2021) that IR regularly monitors and takes corrective action for cases of punctuality loss at Divisional, Zonal and Railway Board levels. The decline in performance is to be seen with respect to the reasons on case to case basis including external factors beyond control of Railway administration. In the current Financial year upto 30 September, 2021, the punctuality of Indian Railways has been recorded upto 94.29 per cent (as compared 75.38 per cent in 2019-20 to 94.29 per cent in 2020-21 which is an increase of more than 25 per cent).

The reply is not convincing as the total contribution of external factors for the two year period (2017-19) was merely 12.89 *per cent*. The achievement of

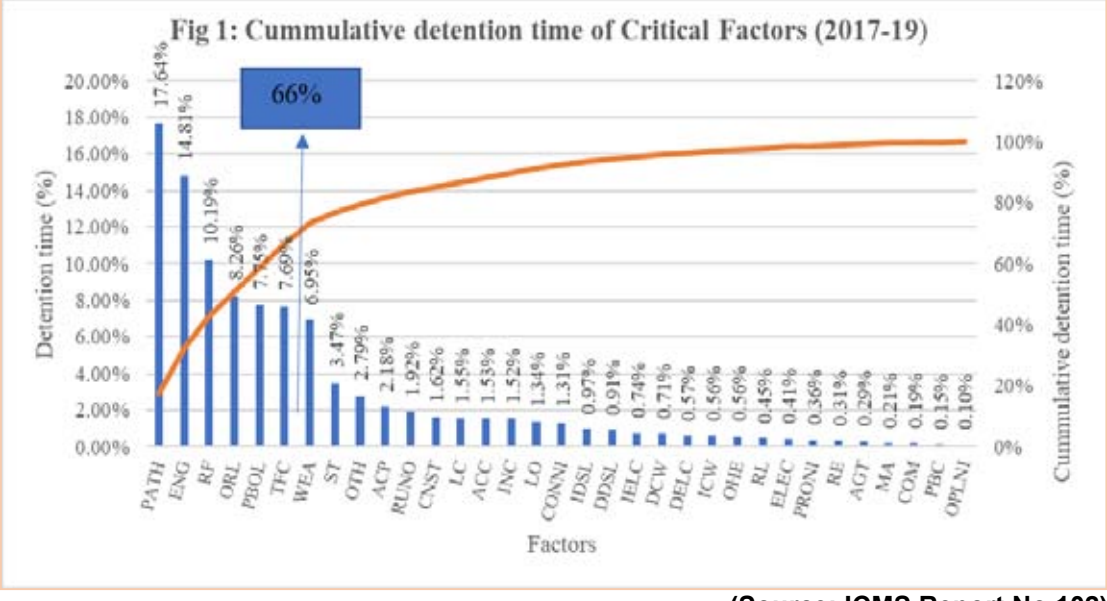
2020-21 is not relevant as very limited number of special trains (excluding passenger trains) were in operations due to Covid pandemic.

2.1.8.5 Critical Factors impacting Punctuality

Audit assessed the critical factors that impact Punctuality of Coaching trains.

The ICMS[30] captures all the incidents that caused the train operations' delay and these incidents are classified under 33 factors. Audit analysed the ICMS data for the period 2017-18 and 2018-19 covering all Mail/Express trains in all the 16 Zonal Railways to assess the critical factors for the delay in train operations.

Out of 33 factors, major six factors caused 66 *per cent* of detention to trains over the IR network. These factors are Out of path, Engineering, Re-scheduling of trains by various Zonal Railways (ZR), delay from other Railways, Planned block open line and Traffic. A Pareto chart of incidents and the detention to trains during 2017-18 and 2018-19 is depicted in figure 1. All the major six factors are internal and amenable to control by IR. The list of factors is enclosed as **Annexure 2.3.**



(Source: ICMS Report No.102)

During 2017-18 and 2018-19, 1,62,581 and 1,78,980 train services were delayed on account of these 33 factors as seen from ICMS Report No.102.These factors contributed to a total detention of 6.65 crore minutes to

[30] Integrated Coaching Management Systems (ICMS) is used in Indian railways for the management of coaching operations and generating reports for managers.

Mail/Express trains over IR for the two years. The ZR wise details of trains detained during 2017-18 and 2018-19 is depicted in **Annexure 2.4.**

Out of 33 factors, 27 factors of punctuality loss are internal factors controlled by Railways and the remaining six factors are external factors [31]. The total contribution of external factors for the two-year period (2017-19) was 12.89 *per cent*[32].

Of the 16 ZRs, more than 60 *per cent* of detentions occurred in Northern Railway (NR), North Central Railway (NCR) and East Central Railway (ECR). Trains were detained in these three ZRs for 4.19 crore minutes during these two years. The delay due to "Engineering" and "Rescheduling of trains within different Railways" account were the top two critical factors for NR and "availability of path" and delay due to the "Engineering" were the top two critical factors for ECR. For NCR, the "availability of path" (occupancy free section) and delay due to "Traffic" account (High density of unscheduled heterogeneous type of trains) were the top two factors for causing detention to Mail/Express trains. Details are indicated in **Table 2.7**.

Table 2.7: Top two controllable factors 2017-18 and 2018-19 in ZRs

Zonal Railways	Factors *(per cent)*	Total *(per cent)*
NR	Engineering (27.56)	42.50
	Rescheduling of trains within different Railways (14.94)	
ECR	Engineering (14.91)	32.48
	Out of Path (17.57)	
NCR	Out of Path (35.26)	54.91
	Traffic (19.65)	

These three ZRs have not adequately controlled the top two out of the six controllable internal factors.

Despite monitoring detention to train continuously, IR has not devised measures to address the internal factors adequately. Besides, the trend of detention to trains on this account continued year after year.

In reply, Ministry of Railways stated (November 2021) that external factors such as fog, agitation, alarm chain pulling, run over etc also cause traffic

[31] The external factors include adverse weather conditions (fog), intermittent natural calamities such as heavy rains, mid-section run over cases involving cattle and humans, multi-faceted law and order problems including public agitations and bandh, miscreant activities such as theft of Railway Asset, Alarm Chain Pulling etc. These six factors were not analysed in Audit.
[32] Weather - 6.95 *per cent*, ACP - 2.18 *per cent*; Runover - 1.92 *per cent*; Law & Order -1.34 *per cent*; Agitation - 0.29 *per cent* and Miscreant Activities - 0.21 *per cent*.

congestion leading to detentions. Besides, continuous monitoring are also done at different levels to ease traffic congestion through infrastructural inputs. Introduction of new trains on existing tracks affects the timings of earlier introduced trains. To put the punctuality performance in perspective it is to be noted that between 2012-2013 and 2018-2019, the train services have increased in numbers by 20 per cent.

Audit already pointed out in the report that the contribution of external factor is only 12.89 *per cent* (2017-19), and six internal factors, which contributed to 66 *per cent* and could have been controlled well by IR, were not addressed adequately. The punctuality performance which was 79 *per cent* during 2012-13 decreased to 75.69 *per cent* during 2019-20.

Out of 33 factors responsible for punctuality loss, Audit analysed the internal factors – Path availability, delay on Engineering account, delay due to Traffic block (PBOL) and Rescheduling of trains.

2.1.8.5(a) Path availability

Path i.e. occupancy free section, is the primary requirement for smooth running of trains. The trains starting on right time but get delayed due to non-availability of path indicate inefficient monitoring mechanism. Following are the assessed causes of non-availability of path:

(i) Conflicts in Time Table

As a rule, to ensure safety, only one train should run in a block section at a time. However, to accommodate higher number of trains in the time table, more than one train are scheduled in a block section. This is referred to as Conflict. A conflict results in providing precedence to one train over other and requirement of additional allowances.

One of the reason for punctuality loss in ECR, NR and NCR is the non-availability of path i.e. congestion in the section, indicating the lack of capacity to run trains. It happens, inter alia, because of inbuilt conflicts of path existing in the time table i.e. more than one train is charted simultaneously in the same section. Audit carried out simulation analysis on RailSys software for the New Delhi - Howrah route. The results indicated 12,466 conflicts of coaching trains running in the route. Similarly, as per simulation exercise done by CRIS on SATSaNG[33], there are more than 808[34] conflicts in Prayagraj Division. These

[33] Software Aided Train Scheduling and Network Governance
[34] 41 in CYZ-TDL, 458 in TDL-CNB, 84 in CNB-PRYJ, and 225 in PRYJ-DDU section conflicts exist in the working timetable of Prayagraj Division effective from 01 July 2019.

are due to extra allowances, side-tracking, and movement through loop lines etc.

Ministry of Railways stated (November 2021) that Line capacity is the major cause of conflicts in the time table. On trunk route of WR at several sections, the line capacity utilization is over 150 (with maintenance margin). This is a severe constraint in framing the time table of the new trains.

Conflict in the time table can be resolved / minimized by computerized time tabling and grouping of similar type of trains.

(ii) Congestion at Traffic nodes

Sectional capacity increased with doubling/tripling/automatic signalling, but the handling capacity of traffic nodes (Junction/yard) were not raised in proportion, resulting in bottlenecks. There is higher line capacity utilization in the adjacent section of the major junctions due to receipt/ dispatch and accumulation of multidirectional traffic; trains get bunched at Major Junctions. For example, the line capacity utilisation near Kanpur Central Junction is 175 *per cent* (Kanpur-Juhi) and in Prayagraj area, it is around 137 *per cent*. Similarly, near Patna junction (PNBE), the line capacity utilization was 172.6 *per cent* in Rajinder Nagar (RJPB)-PNBE and 170 *per cent* in Danapur (DNR)-PNBE section.

Impact of intense capacity utilisation affects traffic at the nodes due to the traction change, reversal, crew change time, watering and other reasons associated with the commercial halt's requirement. The junctions in saturated routes become a speed breaker and time saved in between sectional running does not result in overall reduction in travel time and/or improvement in Punctuality.

The current practice of the faster train overtaking a slower one reduces the line capacity. Each precedence results in a loss of about 15 minutes in sectional capacity. The damage to mobility is in direct relation to the number of precedence it encounters during its run.

Ministry of Railways stated (November 2021) that availability of terminals / routes is essential to facilitating smooth arrival and departure, running of trains. However, with new trains introduced every year and growing congestion at terminals, the line capacity utilization is adversely affected.

(iii) Control mechanism & ownership (Zones vs Routes)

The Control Organization of IR is responsible for the asset utilization and management, in a dynamic situation, round the clock for moving trains on its entire network.

There are multiple command & control centres in IR. The Operation Control system are currently divided into 16 zones, further subdivided into 68 divisions and also been extended to Area Control levels and more than 7000 stations[35]. Section oriented command & control creates artificial boundaries at Zonal/Divisional interchange points. There were regular cases of punctuality loss in handing over / taking over at the interchange points. Interchange points are the artificial boundaries between Zones and Divisions. Some examples are given in **Table 2.8.**

Table 2.8: Delay of Goods trains at interchange points

Name of the interchange point	Zones	Range of detention during 2018-19
Jharsuguda	SER – SECR	2-11936 minutes
BHC	ECoR – SCR	151-248 minutes
Odur	SR – SCR	5-40 minutes
NKJ	SECR – WCR	171 -262 minutes
Gudur	SCR – SR	2-213 minutes
ITR	SECR	66-186 minutes
Coaching train delayed in 2018-19 at Interchange point		
Gudur	SR - SCR	1384
Duvvada	SCR - ECOR	758
Nagpur	CR-SECR	482

Route-bound operation, Centralised & Integrated control with automated tools of traffic control are not available in Indian Railways. Voice commands & distributed control system exist in IR. These are mostly manual & section oriented. Congested nodes are managed through mostly informal communication structure between section controllers of adjacent sections, together with cabins that control the movement through some key points.

All the station resources are bunched together at one location and detailed decisions such as loop/platform allocation were taken manually, which is subjective. The control mechanism should be computerised in route-bound manner to avoid delays at the interchange point.

Ministry of Railways stated (April 2021) that the monitoring and planning of coaching train services are done on real time basis through Integrated Coaching Management System. The control charting is also automated in the control office Application (COA), which is integrated with ICMS.

[35] Total stations 7321 in 2018-19. Station Master is overall In-charge of the station.

The reply of the Ministry of Railways is not convincing as decisions such as loop/platform allocation are still being done manually.

(iv) Junctions/yards as Speed breakers

Audit noticed abnormal detention of loaded Goods trains at the junctions/yards for selected months during the year 2015-16 and 2018-19.

The major detention took place at Chunar (CAR), GMC, Panki (PNK), Tundla (TDL), Subedarhanj (SFG) stations of NCR; DDU, GAYA, Gomoh (GMO), DHN and Pradhan Khunta (PKA) of ECR and Barddhaman (BWN), ASN, Dumdum Jn (DDJ), Andal (UDL) and Barachak(BCQ) of ER of the NDLS-HWH route. The average detention at the choking points of NCR was 1:18 hours to 78:48 in 2015-16 and 01:22 hours to 50:45 hours in 2018-19. In ECR, major detention took place at in the DDU-PKA route. More than 29 and 19 *per cent* of through freight trains were halted in GMC Yard during the month of July, October and January of 2015-16 and 2018-19. Reasons of halt in most of these cases are the change of crew.

Besides, the average detention in rake examination at the sick line of GMC Kanpur increased from 3 hours in 2015-16 to 5 hours in 2018-19. The main reason for higher detention was the shortage of rake examination facilities viz. staff and types of equipment. Results of test check of other Zonal railways are indicated below.

SR	In Tondiarpet Marshalling yard, it was observed that out of 3,782 Goods trains handled, 1,770 (48.31 *per cent*) trains were detained during 2015-16. During 2018-19, 51 *per cent* of the trains were detained out of 3,362 trains. *The main reason for detention was rake formation, path, Train Examiner (TXR). Average detention time was more than two hours during 2015-16 and 2018-19.*
SCR	In Vijayawada Goods yard, on an average 16 trains *per day* were detained at the yard due to cross over movements and each train was detained for 40 minutes *per day*. *There is no Crew Management System (CMS) in the yard and crew are attending the duties from BZA Crew lobby by 4-wheeler resulting in detentions on an average 6 to 7 trains per day by 45 minutes.*
SER	In Bondamunda yard, the average detention in case of rake examination at the Marshalling Yard for loaded rakes were 4:55 hours in 2015-16 (408 rakes) whereas in 2018-19 it was 4:00 hours. (216 rakes). Average detention of Premium rakes[36] increased from 5:35 hours in 2015-16 to

[36] For Brake Power Certificate, rakes are classified into two categories-Premium and Close Circuit. Premium Rakes are run on any route of the Indian Railways while Close Circuit rakes run in predefined path.

	5:49 hours in 2018-19. The average detention of originating trains deteriorated from 4:02 hours. in 2015-16 to 4:34 hours in 2018-19.
SWR	During selected months of 2018-19, 64.98 *per cent* through trains were halted in Hosapete Junction (HPT) yard on account of change of crew besides shortage of rake examination facilities in HPT yard. *Non-availability of shunting facilities in south yard, non-provision of starter signal on Line Nos. 8 and 9 etc. also affected the speed of freight trains.*
WCR	New Katni Junction yard, shortage in rake examination facility viz. staff and type of equipment existed. In Itarsi yard, due to non-availability of proper receiving lines, there was around 45 minutes detention per train in cross over movement. There is no fencing in Itarsi yard.

Thus, frequent stabling of freight rakes due to lower priority for assigning path to coaching services with higher priority and abnormal detention of rakes has adversely affected the efficient delivery of freight services. Also, the abnormal detention of Goods trains resulted in slowing down of the average speed. Despite high horsepower locomotives introduced by the Railway Administration to increase the average speed of Goods trains, there was a decrease in the average speed of Goods trains during 2018-19, compared to 2015-16.

(v) Time table preparation and Allowances

In IR, time table is prepared manually and the existing timetables are being modified based on needs. In comparison, globally, simulators and computerised systems are used in the preparation of the time table. The running time of trains is fixed on scientific calculations. Though IR has simulators but does not use the same for time table preparation.

International Union of Railways (UIC) recommended a time supplement of three to five *percent* for passenger trains up to speed of 140 Kmph. The UIC has provided guidelines[37] for provision of running time supplements in timetables. In comparison, average allocation of allowances[38] in selected 100 trains was 24 *per cent* of the running time. Maximum allowance of 38 *per cent* was noticed in Balia – Sealdah Express and a 7 *per cent* provision of allowances was noticed in Prayag (PRG)-Kanpur Central (CNB) Inter City Express.

[37] UIC leaflet 451-1

[38] Allowances are extra time values factored with the aim to maintain punctuality of operation in a Timetable. **Engineering Recovery Allowance** is additional time included in train schedules to cover the impact of planned temporary speed restrictions associated with engineering works on the network. **Traffic Recovery allowance** is provided to make Up of train's delay due to line and block section occupancy in heavy traffic.

For "Engineering[39] Allowance", IR has prescribed yard stick and for "Traffic[40] Allowance", no yardstick has been prescribed. This resulted in provision of ad-hoc time allowance. There were wide variations (between 7 to 38 *per cent*) in the allocation of allowances across trains and zones. As a result, similar trains with similar infrastructure had varied scheduled speeds in different zones across the route.

Ministry of Railways replied (April 2021) that the purpose of Traffic Allowance is to provide time/cushion for the unforeseen precedence, loading time, detentions etc. The very nature of these events are unpredictable and unforeseen, as such, prescribing yardstick for traffic allowance does not seem to be tenable. Ministry also stated that traffic allowances were pegged at a maximum of six minutes per 100 Km to take care of unforeseen and unpredicted events.

(vi) Asset failure

Asset failure is one of the reasons for the primary and secondary delay. The Primary delays, also called initial delays or source delays, are those delays that are caused by a failure/disturbance[41]. Slack in the timetable can reduce the size of a disturbance before it is measured as primary delay. The primary initial delays of trains may cause a whole cascade of secondary delays of other trains over the entire network. When the network utilization is high, there is a high probability of delay propagation, which leads to a lower punctuality. Secondary delays, or knock-on delays, are delays which are caused by earlier delays. Due to the interdependence in railway systems, a large part of the delays consists of secondary delays.

Asset failures are directly linked to the availability of Asset which, in turn significantly impacted the Punctuality and travel time of train operations. Asset failures are captured through Report 352 of ICMS under five classes viz., Blocks, Electrical, Engineering, Mechanical and Signal & telecommunication. Audit analyzed the data relating to asset failures as reported through ICMS for the year 2018-19. During this year, 4,10,059 cases of asset failures occurred under the five classes. Consequent to the failures of Asset, 5,86,955 trains were delayed.

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[39] Engineering is a factor of punctuality loss. It includes delay on activities of Engineering department including block bursting, extra caution deployed, rail/ weld failure etc.
[40] Traffic is a factor of punctuality loss. It causes delays due to precedence, crossing, freight convoy, waiting for signal/ platform, shunting, regaining etc.
[41] Mistakes, malfunctions or deviating conditions within a railway system or its environment, which can influence the railway traffic.

More than 65 *per cent* of asset failures occurred in NR, SCR,CR,NCR and WR. Audit noticed that asset failure was rampant in Indian Railways. There were more than one lakh failures of Signal in a year (2012-13, 2015-16 and 2018-19). Despite zero-tolerance policy of IR for Rail fracture/ weld failure, there were consistent and increasing trend of asset failures over IR as indicated in **Table 2.9**.

Table 2.9: Asset failure over IR

Year	Rail/ Weld fracture	Loco failure	Coach Detachment	Hot axle	OHE	Signal
2012-13	5781	5035	1335	955	368	1,68,259
2015-16	3237	4638	916	726	378	1,38,985
2018-19	5391	24,147	1755	572	2759	1,14,368

Source: Efficiency and Research Directorate, MoR

Ministry of Railways replied (April 2021) that some reduction in the asset failures was noticed in 2019-20 and 2020-21 (upto October 2020) in comparison to 2018-19 due to technology upgradation and initiatives.

Audit however noticed that the asset failure cases of hot axle[42] increased by 21 *per cent* in 2020-21 in comparison to 2019-20 despite running of less number of trains due to pandemic.

(vii) Integrated maintenance

In 2016, the IR advised that Inspection/testing/maintenance of track/ signalling/railway electrification asset requires fixed time-integrated corridor blocks for maintenance of asset or dedicated corridor blocks as per world railway practices. Such blocks have to be integrated where all departments take advantage of the block.

Provision of corridor blocks for maintenance was made in the working timetable of the divisions in the Indian Railways. However, maintenance activities were not integrated. There were multiple Block demands from maintenance departments (Engineering, Electrical, Track Machines, Signal and Telecommunication) for their fixed Asset. For example, the share of combined block in 11 Zones[43] in March 2019 was 2.2 per cent only. The

[42] Hot axle in a railway vehicle occurs when inadequate wheel-bearing lubrication or mechanical flaws (bearing failure) cause an increase in temperature. If undetected, the bearing temperature can continue to rise until there is a bearing "burn-off" which may cause a derailment.

[43] NCR, ECR, NR, ER, SECR, SER, SWR, ECOR, NWR, NEFR, SCR

balance 97.8 *per cent* of the blocks were availed by various departments in isolation.

Ministry of Railways replied (November 2021) that Zonal Railways have been instructed to schedule integrated maintenance activities involving all the maintenance departments, within the stipulated corridor block period, in order to achieve optimal output.

2.1.8.5(b) Train delay on Engineering account

Detention on account of "Engineering" is classified under 12 categories and the major categories are 'Extra caution deployed', 'Block bursting', 'Rail/Weld failures', and 'Waterlogging'. During 2015-16, 4.89 *per cent* of delay occurred on account of engineering asset failure over IR. This rose to 14.81 *per cent* during 2018-19. The range across all the Zonal Railways during 2015-16 was between 1.25 *per cent* (NCR) and 18.85 *per cent* (CR). The delay ranged between 4.21 *per cent* (NCR) and 25.74 *per cent* (NR) during 2018-19 in the Zonal Railways. The temporary speed restrictions are imposed due to track defects or to facilitate the works to be carried out in the tracks. Any delay in completion of the works/removal of defects in the track will adversely affect the mobility of trains in terms of reduction of speed. Increasing detentions on account of the Engineering Asset failures indicate a need for effective maintenance of the track.

(i) Temporary Speed Restrictions (TSR)

Para 308 of Indian Railway Permanent Way Manual stipulated speed restrictions to be imposed during various sequences of work and the time lines for the same. Caution orders are issued by the Operating Department to restrict the speed of the train for carrying out repairs to tracks. Temporary speed restrictions are to be imposed for a short duration either on account of defects in track and related equipment or to facilitate repairs to the track, Over Head Equipment like electric wire and signalling installations.

Audit observed that the number of trains detained on account of extra caution drive has increased over years resulting in decrease in the actual average speed of the trains.

Because of extra caution drive, the number of trains delayed increased sharply from 1,823 during 2016-17 to 51,040 during 2018-19. More than 70 *per cent* of caution drive over IR was imposed by NR. The imposition of caution drive increased over ECoR, NWR and SR also where more than 500 cases were noticed during 2018-19. In 2016-17, 88 *per cent* of the cases (5,747) pertained to NR.

The excessive caution drive trend has not been curtailed by closely monitoring the ongoing maintenance work duly fixing target time for completion.

Audit analysed the time taken to complete works such as doubling which impact punctuality the most and are indicated in **Table 2.10[44].**

Table 2.10: Completion time since sanction

Type of work	No. of works and completion time in years from sanction			The average time taken in completion
	1-2 Years	2-5 Years	> 5 Years	
Doubling	2	15	22	7.5 yrs
Traffic facility	107	233	126	4.5 yrs
Track Renewal	191	340	240	4.6 yrs
Signal	107	299	157	4.6 yrs
Total 1839 works *(per cent)*	**407 (22)**	**887 (48)**	**545 (29)**	**Overall average 5.3 years**

IR acknowledged this issue in the White paper of 2015. Delay in completion of the works resulted in non-improvement of line capacity and non-achievement of consequent benefits arising out of enhanced capacity.

The reasons for the lagging of ongoing maintenance works are inadequate provision of the block, absence of integrated block, higher line capacity utilisation, shortage of track machines, labour problem and fund constraint.

(ii) Permanent Speed Restrictions (PSR)

Permanent Speed Restrictions are permanent in nature based on the conditions of the track. PSR is a serious bottleneck that restricts mobility and impedes speed on IR network. The imposition of speed restrictions on 'Engineering' account without a time-bound action for removal of speed restrictions wherever feasible adversely impacted the speed of trains. Audit noticed through a test check of status of PSRs over Nine ZRs that 2,092 PSRs (CR-149[45], ECR-87[46], ECoR-159, NCR-321, SCR-292, SECR-68, SER-275, SR-56 and WR-685) are yet to be removed for increasing the average speed of trains.

In NCR, the analysis of DDU-GZB (UP line) revealed that out of total 29 PSR, 19 PSR are concentrated in PRYJ yard, CNB yard and TDL yard. The details of 19 PSRs in NCR revealed that six PSRs existed for more than twenty years and three PSRs are existed for less than twenty years. Details in respect of

[44] The age profile of those works were not included in which completion date was not mentioned in the IRPSM.
[45] Mumbai, Bhusawal and Nagpur
[46] Dhanbad, Deen Dayal Upadhyay and Danapur Division

ten PSRs were not available. These PSRs were imposed on account of existence of points and crossings and therefore their continuance is justified. Audit observed that though the issue of removal of permanent speed restrictions (PSR) was discussed long back, no time bound action plan was prepared for complete removal of possible PSRs. Besides, action plan for removal of the existing PSR within five years, as envisaged in Mission Raftaar was also not complied.

2.1.8.5(c) Planned block for maintenance activities (PBOL)

Track is a basic requirement for train operations. Travel time and Punctuality of trains are directly affected with ongoing work of maintenance on the track due to imposition of Temporary Speed restrictions, traffic block for maintenance and Asset failures. In NCR, two-hour maintenance block consumed 11 *per cent* line capacity.

(i) Provision of integrated corridor block

Corridor Block is the fixed timing notified in the Working Time Table of Zonal Railways for maintenance works. Audit analysed the provision of integrated corridor blocks for the NDLS-HWH route. As against the prescribed norms of IR, i.e. one corridor block of 240 minutes or two corridor blocks of 150 minutes each, the Corridor block of only 120 minutes was provided in the GZB-DDU route of NCR. Whereas, in the DDU-HWH routes (via Gaya and PNBE), one to three corridor blocks were provided for a duration ranging from 120 minutes to 270 minutes in ECR. Thus, the corridor block was provided less than the norms in NCR whereas in ECR, it was provided more than the norms. In NR and ER, the provision for the corridor blocks was made as per norms. Therefore, the prescribed norms for provision of corridor block were not taken care of in NCR and ECR portion of NDLS-HWH route.

Examination of Block register maintained in engineering control offices revealed that the block was not provided as per the provision made in the Working Time Table. The prime reasons for deviation from the corridor block were the train's late running, introduction of new/special train and running of all Goods trains without any scheduled timing. Besides, blocks were provided less than the demanded block. Less availability of blocks in heavy traffic sections may lead to poor maintenance of the track, thereby leading to trains' failures and detention.

Ministry of Railways replied (November 2021) that in the rationalized time table, provision of 3 hours dedicated maintenance blocks has been made to provide corridor for all the planned maintenance activities so that trains do not get hampered due to corridor blocks.

(ii) Trains scheduled in corridor block

During planning for the corridor block for maintenance, 12 scheduled trains time were under the 7-corridor block in UP line of PRYJ Division in NCR. In ECR, total of 101 trains Deen Dayal Upadhayaya (DDU-10), Dhanbad (DHN-14) and Danapur (DNR-77) timing was under the 43 corridor block hours. This further hampered the maintenance work, as corridor blocks could not be utilised due to these trains' running during the time of availability of corridor blocks.

Ministry of Railways replied (November 2021) that in the rationalized Time Table, train schedules have been modified in such a manner that they do not have to be regulated for corridor blocks.

(iii) Block bursting[47]

Blocks are granted by the Operating Department to various departments for carrying out maintenance works and are granted for a fixed time period only. When the blocks that have been granted are utilized by the various departments over and above the time limit, the block is said to have been burst. The extra time taken has a cascading effect on the train operations *viz*, detention to Rolling Stock, punctuality loss etc.

Examination of data revealed that despite the daily provision of corridor block for maintenance, frequent cases of block bursting were noticed in the year 2018-19 in NCR, ER, ECR and NR. In the six divisions[48] of NCR, ER and ECR falling in NDLS-HWH route, total 4,659 trains were delayed on account of 1,905 cases of block bursting. The average time of block bursting ranged between 38 minutes to 103 minutes. The block bursting resulted in unscheduled stoppage of trains at stations that lead to delay.

Ministry of Railways replied (November 2021) that bursting of planned block takes place due to lack of proper coordination between men, machine and materials. Sometimes the machine deployed at the site fails at the time of functioning. On some other occasions, sufficient manpower either could not be assessed or provided, whereas sometimes material being used also fails. All these conditions lead to bursting of blocks. Attempts are being made to improve this situation.

[47] Availing extra time of block for maintenance activities than provided by the Operating department
[48] PRYJ of NCR; DHN, DDU, DNR of ECR; HWH, ASN of ER

(iv) Maintenance practices

Maintenance practices followed are directly linked with Asset failures, which influence asset availability, i.e., asset uptime/downtime. Asset failure is an appropriate measure for maintenance systems and practices followed, as it may significantly impact Punctuality and travel time of train operations. Out of 33 factors, 10 factors[49] such as failures due to Signal & Telecom, Engineering, OHE, Electric, C&W, Diesel locos and Electric Locos are directly/indirectly related to Asset failures. As per Audit analysis, the contribution of Asset failure in punctuality loss against overall loss ranged between 9.35 *per cent* (NCR) and 37.42 *per cent* (NWR) in all the 16 ZRs and overall contribution over IR was 22.20 *per cent* during 2018-19.

Audit test checked the maintenance practices in some of the aspects of Engineering, S&T and Mechanical department. Due to non-availability of sufficient block, delay in proposal, approval and shortage of track machines, the deep screening[50] work was overdue up to 20 years.

During 2018-19, the cases of overdue maintenance & failures and its impact were as follows:,

- 782 nos. of Rail/weld failure were reported in 10 division of 5 zonal railways in which 5,644 trains were delayed.
- 16,019 trains were detained on account of 8,464 Signal failures in 8 divisions of six zonal railways. The average detention per signal failure was 51 minutes.
- 4,009 trains were detained on account of 1,601 Track circuit failures noticed in 6 divisions of three zonal railways. The average detention per Track circuit failure was 49 minutes. The major reason for track circuit failure was cable cutting.
- 3,119 trains were detained on account of 1,393 Point failures in six divisions of NCR, ECR and ER. The average detention per Point failure was 44 minutes.

2.1.8.5(d) Rescheduling

IR initiated action for standardization of rakes to enable flexibility in train operations and improve Punctuality. As on 01July 2019, 1000 rakes out of 2700 have been standardized/integrated. Thus, the rake standardization has

[49] DDSL, IDSL, DELC, IELC, DCW, ICW, OHE, ENG, ST and ELEC
[50] Deep screening is the process of cleaning the Ballast and maintaining the Ballast height in the tracks as per norms

been done to an extent of 37 *per cent* only but the timeline has not been fixed for complete standardization.

Analysis of rescheduling cases in zonal railways revealed that in 86 *per cent* cases reason of rescheduling was late arrival of link rake. Zone wise details of rescheduling due to late arrival of link rake are given in **Table 2.11**.

Table 2.11: Zone wise details of rescheduling due to late arrival of link rake

Zonal Railways	Total rescheduling 2018-19	Rescheduling cases due to late arrival of link rake 2018-19	Zonal Railways	Total rescheduling 2018-19	Rescheduling cases due to late arrival of link rake 2018-19
NR	13198	12279	NWR	1686	1510
ECR	8793	7976	NFR	1667	1395
NCR	8049	7188	WR	1509	1241
NER	6394	5919	ECOR	1241	838
WCR	3893	3176	SECR	1146	795
ER	3169	2778	SR	1488	781
CR	2417	1836	SCR	1074	777
SER	2172	1644	SWR	778	590
Total cases in IR				**58674**	**50723 (86 *per cent*)**

Source: ICMS Report No. 307

Status of rake standardization at PRYJ, CNB, PNBE, Gaya, HWH, Bangalore, Gorakhpur, Jaipur and Marwar Junction of NCR, ECR, ER, SWR, NER, NWR revealed that the rakes of coaching trains were not standardized. The number of coaches in trains varies from 7 to 25 coaches.

The attempt to standardize the rakes has not gained momentum in all the zones and the non-standardization of rakes impacted the Punctuality.

Ministry of Railways replied (November 2021) that traffic pattern on IR is not uniform and accordingly the rake composition is also not uniform. However, to the extent possible, Indian Railways have been making efforts to standardize rake composition of trains. With the initiation of conversion of ICF coaches into LHB, IR have enhanced its efforts towards standardization and instructions have been issued in October, 2020, for standardizing rakes classifying trains into four broad categories.

2.1.8.6 Key factors in travel time

Travel time is the time taken by a passenger on the train from the originating point to the destination. It is in the endeavour of IR to reduce the travel time so that the passengers spend minimum time on the train.

Factors of travel time include: (i) Distance, (ii) Hauling power, (iii) Load of the train, (iv) Permissible speeds, (v) Speed restrictions, (vi) Gradients and curves

and (vii) Stoppages – Halt Time and time required for acceleration and deceleration. These factors for Travel time were examined in Audit. Results are given below:

2.1.8.6(a) Permissible speed of Coaching Trains

Indian Railways Vision 2020 documents envisaged that use of shared tracks by both freight and passenger traffic, speed differential between passenger and freight trains and the precedence accorded to passenger trains exacerbate the effect. Consequently, neither the freight nor the passenger services run optimally. Freight services suffer the most.

The MPS of track in the ZRs was upto 110/130 Kmph and potential speed of rolling stock varied between 100 and 160 Kmph. The electric and diesel locomotives are also capable of MPS of 110 to 160 Kmph. Despite this, the schedule average speed of coaching trains ranges between 2.64[51] and 110.93[52] Kmph (Special Train)/103.44[53] (regular trains) The Maximum and Minimum average schedule speed is for the trains running in NCR jurisdiction in both the cases.

The average speed is one of the key indicators of the overall railway productivity and efficiency in operations and utilization of Asset. The actual average speed of all types of coaching trains (excluding suburban trains) during 2018-19 ranged from 33 Kmph (NER) to 52.30 Kmph (WR). The overall actual speed of IR was 43.5 Kmph in 2015-16, which remained almost stagnant at 43.90 Kmph in 2018-19. In NCR, the maximum speed of coaching trains has been increased up to 130 Kmph/160 Kmph, but the average speed of Mail/Express trains was hovering around 48 Kmph.

Therefore, despite having the higher capacity of locomotives, rolling stock, track, the actual average speed of coaching trains was not commensurate with the potential of infrastructure and rolling stock. It was also noticed that the average schedule speed of some coaching trains was fixed on much lower side and there was vast variation in the average schedule speed of coaching trains.

Ministry of Railways replied (November 2021) that all out efforts are being made out to speed-up and improve the punctuality of the trains within the existing infrastructure. Further, exercise of rationalization of Time Table is an ongoing process on Indian Railways.

[51] Train No. 55325
[52] Train No. 01988D
[53] Train No. 22435

Audit noticed that the scheduled speed of coaching trains were fixed on lower side and not based on the rated capacity of the rolling stock and MPS of the section. The allocation of higher rate of allowances and multiple stoppages including acceleration/deceleration cycle time are major reasons of slow speed. Therefore, to ensure optimum utilization of resources, fastest available path remained untapped.

(i) Stoppages

Ministry of Railways provided 2219 additional stoppages on experimental basis for six months over Indian Railways during the period of five years[54], in addition to temporary stoppages provided by General Manager of the Zone concerned during festivals and special occasions. Audit examined the 2951 trains of "Trains at a Glance"- (2019) and noticed that the average number of stoppages for a train in IR were about 23 and the overall average halt time at all the stations combined for these trains was 2 hours 7 minutes.

Certain trains, like Avadh Assam Express and Toofan Express have more than 100 stoppages**.** Stoppage-wise analysis is indicated in **Table 2.12.**

Table 2.12:Stoppage-wise analysis of all Express trains of "Trains at a Glance"(2019)

Number of stoppages	No of trains	Average stoppage time (H:M:S) during a single trip	Acceleration and Deceleration cycle time in minutes (@5 minutes per stoppages
0-5	181	0:16:05	25
6-10	468	0:37:40	30-50
11-20	954	1:18:39	55-100
21-50	1166	3:04:49	105-250
51-75	139	5:36:58	255-375
76-100	33	7:09:31	380-500
More than 100	10	9:18:36	500+

Longer and frequent stoppages create congestion at Junction points and en-route which reduce over-all speed. Increase in number of stoppages impedes the reduction of travel time. It increases operational cost, cycle of acceleration/deceleration, and conflicts (precedence[55] & crossings[56]). It also demands additional infrastructure viz. loops, Platforms and Signals at stations.

Ministry of Railways replied (November 2021) that Indian Railways has undertaken rationalization of Time Tabling exercise in a scientific manner with

[54] 1st January 2014 to March 2019
[55] Precedence is overtake by another train
[56] Preference of a train by placing another train in loops

the assistance of mixed traffic Simulator of IIT-Bombay on Golden Quadrilateral & diagonals. The Time Table of the entire Indian Railways network has been rationalized accordingly.

(ii) Stoppages at major Junctions

Kanpur (CNB), Prayagraj (PRYJ), Deen Dayal Upadhyaya (DDU), Patna Junction (PNBE Junction) are the busiest traffic nodes and hubs of multiple routes. Provision of Halt time at the junctions in the working time table of coaching trains was analyzed in Audit and it was observed that the halts at junctions were not standardized and varied widely. Test checks of halts of trains at the junctions of various ZRs are as under:

Stoppage time of Vande Bharat:
Stoppage of Vande Bharat (T-18 22435/22436) at CNB and PRYJ Jn. is only for 2 minutes. The halt time includes Crew change at PRYJ. On the similar pattern the stoppages of trains may be considered for reduction by Railways to reduce the travel time and decongest busy traffic nodes.

NCR Kanpur Central Junction	48 *per cent* of trains (154 out of 319 trains) have more than 5 minutes scheduled stoppage. Halt time for 65 trains was not equal in UP and DN direction. Schedule halts of seven trains were more than 15 minutes.
NCR Prayagraj Junction	70 *per cent* of trains (130 out of 186 trains) have more than five minutes schedule stoppage. Halt time for 54 trains were not equal in UP and DN direction. Schedule halts of 78 trains (42*per cent*) were more than 15 minutes.
ECR Patna Junction	92 *per cent* (117 out of 126 trains) have more than 5 minutes schedule stoppage. Schedule halts of 87*per cent* of trains (110 trains) were 10 minutes.
ER Bardhaman and Asansol Junctions	Halts of trains were from two minutes to 42 minutes.
WCR Bina junction	Scheduled halts of 11 trains (8 *per cent*) were more than 15 minutes.
SER Kharagpur station	Out of 90 trains, 54 trains (60 *per cent*) have scheduled stoppage of 5 minutes and 27 trains (30 *per cent*) have scheduled stoppage of more than 5 minutes.

Ministry of Railways stated (November 2021) that the stoppage time for intermediate stations is two minutes. The stoppage time of trains beyond two minutes is needed to meet operational requirements. With a view to further

rationalise train operations, Indian Railways, to the extent possible, has decided to discontinue the practice of running of slip coaches and link trains to avoid shunting enroute. Besides, initiatives such as powerful hydrant for speedy refilling, mechanized cleaning etc. are taken to rationalize the stoppages.

Audit noticed that despite the provision of mechanized cleaning and quick watering arrangement for coaches at major stations, stoppage timing remained unchanged. Instances from ZRs are mentioned below.

Continuation of unjustified stoppages **SR:** Only 30 out of 697 stoppages **SCR:** 325 out of 383 stoppages **ECOR:** 53 out of 146 stoppages
Experimental stoppages **ER:** Of 10 long-distance Mail/Express trains at three stations are continued for more than five years. Eight out of ten trains were not commercially justified. **SECR:** total 125 experimental stoppages running, out of which 113 were not justified commercially (90.4 *per cent*).
Prolonged continuation of temporary stoppages **NEFR:** 129 temporary stoppages for more than 11 years **NWR:** 35 temporary stoppages for more than 16 years **SECR:** 109 temporary stoppages for more than 10 years
Stoppage during odd hours **ER:** 83 trains stopped during odd hours (between 0000 and 0400 hours) at 16 Stations. Out of the above, the stoppage of 58 trains at 16 Stations was found to be commercially unjustified as per MoR's policy. **SECR:** Out of 125 temporary stoppages, 13 stoppages (10.4 *per cent*) provided at odd hours **CR**: 11 stoppages at odd hours
Stoppages in quick succession **ER:** 6 stoppages were provided to the Superfast Train no. 12339 within a distance of 50 km. Similarly, for Train no. 13151, within a span of 7.52 km (Andal–Raniganj) two stoppages and within a span of 5.78 km (Kulti-Kumardubi) three stoppages were provided.

Therefore, these practices restricted the speed of trains and reduced line capacity of the section. IR should evaluate these stoppages at fixed intervals so that the stoppages could be rationalized and mobility of trains improved.

Ministry of Railways replied (November 2021) that a thorough review of all stoppages, including experimental stoppages, existing over Indian Railways, is being undertaken, stoppages having low footfall are being identified and proposed for withdrawal.

2.1.8.6(b) Goods train operations

Goods train operations involve the supply of empty wagons for loading of traffic, picking up and collection of loaded wagons from Goods sheds and sidings, the grouping of loads and formation of trains for varying distances in marshalling yards, arrangement of locomotive and crew, and constant monitoring of the movement of trains of loaded as well as empty wagons right up to the destination.

(i) Increasing trend of movement of Goods trains with lower speed up to 20 Kmph

Audit analysed the average speed of Goods trains (both outward and inward traffic) for the selected months of May, July, October and January of the year 2015-16 and 2018-19 in seven zonal Railways.

- In NCR, ECR and ER, 82 *per cent* to 95 *per cent* of the loaded rakes moved with an average speed range of 1-20 Kmph during 2015-16 which increased in NCR and ER to 87 *per cent* and about 98 *per cent* during 2018-19. Similarly, in the case of empty rakes, 67 to 80 *per cent* was running with average speed of 1 -20 Kmph in 2015-16 which was increased in NCR to 74 *per cent* and in ER to 88 *per cent* in 2018-19.

- In four zones (SER, ECoR, SCR and SR), 70 *per cent* of the total rakes moved with average speed range of 1-20 Kmph during 2015-16 which was increased to 75 *per cent* in 2018-19. 29 *per cent* of rakes were moved with average speed range of 20-40 Kmph during 2015-16 which was declined to 24 *per cent* during 2018-19.
- The percentage of rakes in the lowest speed range of 1-20 Kmph increased from 86.01 *per cent* (2015-16) to 88.17 *per cent* (2018-19) in NWR, 82.92 *per cent* (2015-16) to 88.39 *per cent* (2018-19) in NER, 69.02 *per cent* (2015-16) to 78.83 *per cent* (2018-19) in NEFR and 74.05 *per cent* (2015-16) to 76.06 *per cent* (2018-19) in WCR. However, slight improvement in case of SER i.e. 81.30 *per cent* (2015-16) to 70.70 *per cent* (2018-19) in the same speed range was noticed.

The analysis indicated that the speed of freight trains declined rapidly and majority of rakes were operated in a lower speed range up to 20 Kmph.

Over the period 2015-16 to 2018-19, IR had increased its rolling stock (1,025 locomotives and 37,929 wagons). However, average speed of Goods trains was in decreasing trend. The efforts taken to increase the average speed of Goods trains have not yielded fruitful results. The declining trend in the average speed of freight trains resulted in increased congestion as trains

moved very slowly, thereby, straining the track and infrastructure which were already saturated.

As per the prescribed parameters of RDSO, the rated capacity of speed of wagons is 60-75 Kmph in loaded condition and 80-95 Kmph in empty conditions. Audit analysed the speed of Goods trains in loaded and empty conditions from the FOIS data with reference to the parameters prescribed by RDSO in six[57] zonal railways. The analysis of FOIS data revealed that all six zonal railways could not achieve even the halfway mark of the prescribed speed for loaded and empty rakes. ER and SER could not achieve even one fifth of the prescribed speed for loaded and empty rakes.

(ii) Right Powering

In Mission Raftaar, right powering of freight trains to increase the average speeds of trains as well as to improve traffic throughput was accorded approval with Horsepower-Trailing Load (HP/TL) ratio close to 2.0. Appropriate HP/TL ratio saves about 10 to 12 minutes in the time taken to attain the maximum speed level. Internationally, this ratio is between 2-2.25. On IR, due to increase in trailing load from 2400 ton/3200 ton in 1970 to 5308 ton in 2016, HP/TL ratio has dropped from a level of 1-1.30 to a level of 0.94-1.13 over the same period.

Instances indicating lack of right powering in ZRs leading to slow speed of Goods trains and consequent loss of line capacity are mentioned below.

ER	30 out of 138 rakes (22 *per cent*) have gross load more than the hauling capacity of engines and hence multi engines were utilised for such rakes which could have been hauled by single engines with appropriate hauling capacity.
ER, SECR and NCR	During 2018-19, there were 64, 156 and 65 cases of stalling of Goods trains due to inadequate powering in hauling heavily loaded rakes.
NCR	201 trains[58] were delayed for 5,116 minutes due to 65 cases of stalling.
NWR	Ajmer division 60 trains were stalled in the sections during the period 2016-17 to 2018-19. At selected freight terminals[59], during May 2018, out of 141 freight trains, only six trains were running with right powering standards. In four cases, the HP/TL ratio was less than 1, Multiple Unit was provided to increase the ratio by more than 1. However, in 10 cases, no multiple units were provided to increase the ratio

[57] SR, SER, NCR, ECR, ER, and ECoR
[58] 110 coaching and 91 Goods
[59] CMLK, BGKG and LGH

As per Ministry of Railways circular[60] there would be no WAG-5 SU locomotive hauling freight trains. But in ER[61], three freight trains during May and July 2018 were hauled from DBCP to NTCD by WAG-5 SU locomotive. It was also provided that all freight trains running in CC+8 and other similar routes with trailing load of 5000 metric tonnes and above would be hauled by multiple units of WAG-7 locomotives (2 locomotives). In ER[62], three freight trains during May 2018 and January 2019 were hauled by Single WAG-7 or WAG-9 SU locomotive. In SECR, out of 211 freight trains, 160 freight trains were under powered. The cases of Loco stalling increased from 80 in 2015-16 to 156 in 2018-19. Therefore, MoR instructions with respect to hauling of load were not adhered to.

2.1.8.7 Expenditure made to address the critical factors

Audit analysed critical factors for Punctuality and travel time and the expenditure incurred by Railways during last ten years. It was also observed that the expenditure was not prioritized in order of the criticality. IR did not address all the critical factors commensurate to their criticality.

As the outcome indicators (Input/Output) were not fixed by IR, the direct correlation of Infrastructure development work and its outcomes such as Punctuality and travel time could not be established. An analysis was made by audit to correlate the critical factor and investment made by IR in infrastructure work. Details are summarized in **Table 2.13.**

Table 2.13:Critical factors vis-à-vis investment made by IR

Critical factor	% share	Items of Expenditure (2009-10 to 2018-19)	% share	Expected expenditure for critical factors (₹ in crore)	Actual expenditure incurred (₹ in crore)
Path	17.64	Doubling, 3rd/4th line	9.74	1,12,318	62,003
Traffic	7.69	Traffic facilities and yard remodelling	1.41	48,964	8,982
Engineering & Block	22.56[63]	Track renewal	7.05	1,43,645	44,860
S&T	3.47	Signal & Telecommunication work	1.62	22,094	10,320

It was observed that as against 51.36 *per cent* of critical factors which contributed for punctuality loss in IR, only 19.82 *per cent* of expenditure was

[60] letter No. 2016/mobility/4/1 dated 07.09.2016
[61] Dalurbandh Colliery Siding (DBCP),
[62] Dalurbandh Colliery Siding (DBCP),
[63] Engg – 14.81*per cent*, Planned Block Open Line (PBOL) 7.75 *per cent*,

made against five critical factors. These factors are Path, Traffic, Engineering, Block and S&T. Therefore, IR did not address all the critical factors commensurate to their criticality.

2.1.8.8 Train operations in New Delhi Howrah route- Simulation exercise

NDLS – HWH (HDN 1) is the most congested route of the IR. There are more than 225 stations on NDLS – HWH route with inter-station distances varying from 1 km to 15 km. Average inter-station distance is 7.8 km[64].

The total distance of HWH-NDLS is about 1445 Km via Gaya and 1523 Km via Patna. The route falls under the zonal jurisdiction of Eastern, East Central, North Central and Northern Railways. The busiest corridor of IR is serving highly populated cities like New Delhi - Kanpur, Prayagraj, Varanasi, Patna, and Kolkata.

The average speeds of coaching trains and freight trains on NDLS-HWH route are 60.9 Kmph and 23.9 Kmph respectively. Thus, on an average coaching trains and freight trains take 23:55 hours and 61 hours respectively to travel a distance of 1445 Km. The fastest train on this route viz., Rajdhani Express takes 17 hours[65].

Analysis of causes of train delay revealed that over Ghaziabad –Deen Dayal Upadhyaya section of NDLS-HWH route, (a stretch of 747 km) non-availability of path (34 *per cent* of total delay) was the biggest reason for train delays. Analysis of sub-factors of out of path running of trains revealed that out of 12,101 incidences (of out of path running), 9169 incidences (76 *per cent*) were due to repercussion impact of the past delayed running. If these delays were addressed at primary stages, their cascading impact could have been minimised. During 2018-19, trains were delayed by 17,427 hours, due to 9,169 incidences of the repercussion of past delay (ICMS Report No 4D).

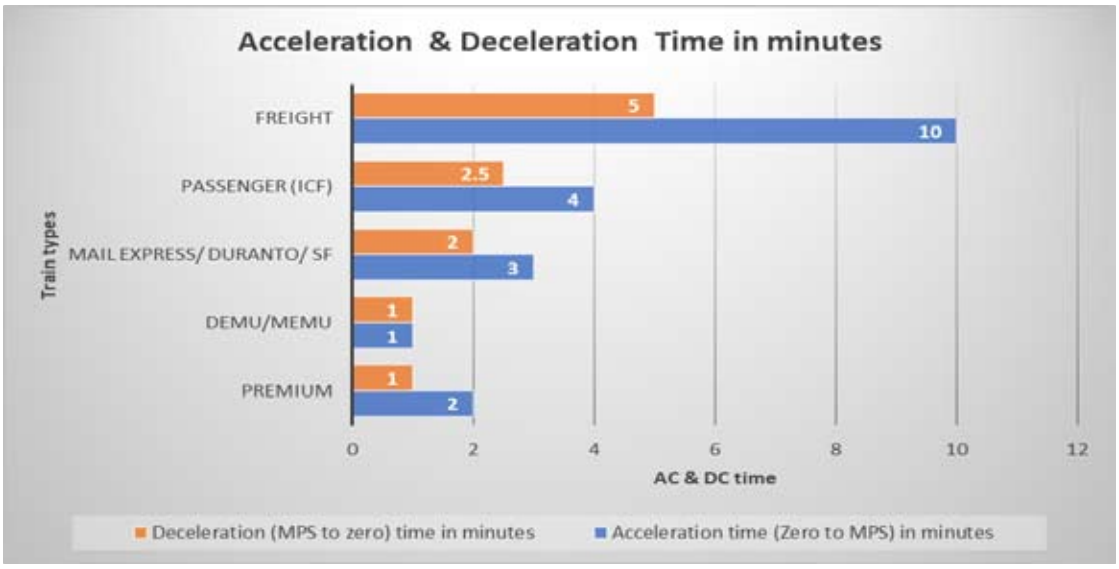
Ministry of Railways stated (April 2021) that the initial delays have an impact on availability of path in travel ahead as the scheduled path is often lost. There are many external factors beyond the control of Railways, which have been the causes of delays.

Audit noticed that the contribution of external factors during 2017-19 was about 12 *per cent* only. Therefore, there is a need to minimize the primary controllable delay to reduce the cascading effect.

[64] Source : DPR- work raising of speed to 160/200 Kmph on existing NDLS-HWH route
[65] Source : DPR- work raising of speed to 160/200 Kmph on existing NDLS-HWH route

On 1445 route-km of the section, there are 460 Level crossings (LC) averaging one LC every three to four Km, 87 Permanent Speed Restriction (PSR) averaging one PSR in every stretch of 17 Km. In addition to the above there are 199 turnouts with potential of speed less than 30 Kmph, limited fencing and weak formation in 3.2 Km. Frequent restrictions prevented trains from achieving and sustaining sectional speeds. The absence of high-speed thick web switches and improved Switch Expansion Joints also contributed to lesser speed and loss of punctuality.

Due to the existence of Speed restrictions (PSR and TSR) and multiple halts of trains, the impact of acceleration / deceleration on travel time results in further delays. This is shown in the following bar graph.



Punctuality of Selected trains in NDLS – HWH route

The average punctuality performance of the eight pair of trains running between NDLS-HWH was merely 27 *per cent* in 2015-16 and 29 *per cent* in 2018-19. Punctuality performance of nine trains[66] was less than 10 *per cent* in the year 2015-16 and 2018-19.

Ministry of Railways stated (November 2021) that 755 Km of GZB-DDU section of NDLS-HWH route is with NCR with major junction stations like Khurja, Aligarh, Tundla, Etawah, Kanpur, Prayagraj, Naini, Chheoki, Chunar. In Zero Base Time Tabling, all Rajdhani type High Speed Trains are scheduled to run in minimum 8 hours 5 minutes on DDU-GZB section at 130 Kmph speed with enhanced rate of Engineering and Traffic Allowance of 16 minutes per 200 Km at an average speed of 93.40 Kmph. All other LHB stock

[66] 12324, 12323, 12249, 12250, 12329, 12330,12304,12273 and 12303

Mail/Express trains are also charted at 130 Kmph speed. Speed restrictions (PSR/TSR) are imposed by respective departments for maintenance of assets as a safety measure which cannot be avoided.

Reply is not appropriate. Punctuality performance is measured against the given time schedule. All halts at major junctions and PSR / TSR were already factored in the prescribed schedule of the Time Table.

Speed of trains in different zones in the route

The details of the travel time and average speed of trains in all the four zonal railways for the eight pairs of trains for both routes of HWH-NDLS routes are indicated in **Table 2.14.**

Table 2.14: Average Speed of trains in zones in Kmph

S. No.	Train No.	NR	NCR	ECR	ER
Via Gaya					
1a	12324	22.80	65.81	59.76	62.51
1b	12323	21.59	70.09	58.66	67.38
2a	12313	31.63	92.05	78.14	78.26
2b	12314	38.80	91.17	79.34	74.46
3a	12301	36.38	93.54	77.12	84.40
3b	12302	38.80	95.19	77.41	83.26
4a	12249	26.54	94.36	82.25	81.97
4b	12250	23.13	95.55	83.58	71.68
5a	12329	24.16	64.13	63.91	68.04
5b	12330	22.49	72.10	62.28	57.91
Via Patna					
6a	12303	33.45	81.78	57.63	67.01
6b	12304	38.80	76.64	55.03	58.48
7a	12273	35.06	84.62	54.54	70.77
7b	12274	40.42	89.87	58.95	58.20
8a	12305	36.38	93.54	58.95	78.63
8b	12306	38.80	95.19	63.61	77.26

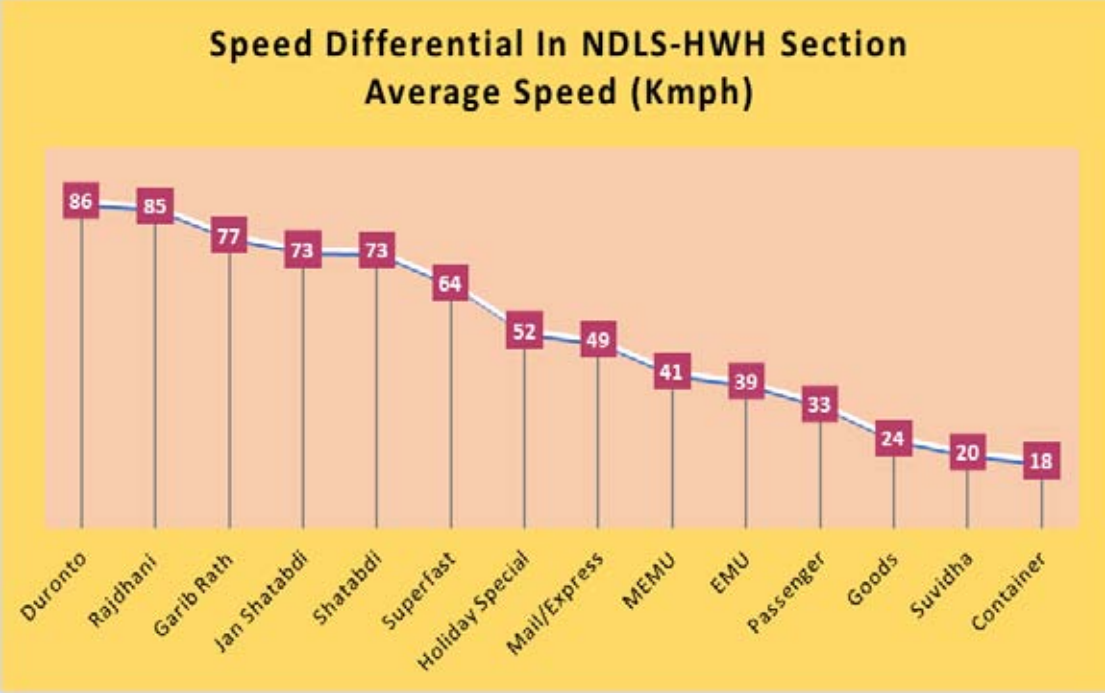
As can be seen, there is a wide variation in average speeds of same trains (i.e. same rolling stock) across zones. It could be due to multiple factors such as slack and allowances. Even though GZB-DDU section of NCR is the most congested section of the route, the average speed of all these trains is highest in NCR portion and lowest in NR portion.

The reasons for higher speed in NCR (755 Km) is increase in capacity due to induction of Automatic Signalling (GZB-CNB, PRYJ—DDU), sectional speed of 130 Kmph and provision of comparatively low allowances. In NR (29 Km) the reason for lower speed is due to higher line capacity utilisation (Tilak Bridge -188 *per cent*, Sahibabad-222 *per cent*), terminal constraints, conflicts due to running of suburban trains and low scheduled speed due to congestion.

MoR acknowledged (November 2021) the above stated observations.

Speed differential

The maximum permitted sectional speed over the NDLS-HWH section is 130 Kmph. While the average speeds of trains range between 18 Kmph to 86 Kmph, there are 14 different average speed groups of trains in NDLS - HWH route. The present practice of the faster train overtaking the slower one is consuming the line capacity. Each precedence results in a loss of about 15 minutes running time along with commensurate loss in sectional capacity.



Ministry of Railways stated (November 2021) that in Zero Base Time Tabling, there are only 4 types of coaching trains according to speed i.e. (i) 130 Kmph (Rajdhani & HSTs), (ii) 110 Kmph (other Express/Conventional Passenger Trains), (iii) 100 Kmph (MEMU services) and (iv) 96 Kmph (EMU services). In present Zero Base Time Tabling, the trains have to be grouped according to speed and stoppages as far as possible. But all trains could not be grouped due to reasons like terminal constraints, time for service, convenient time for arrival and departure at major terminal stations. This has resulted in an increase of average speed of coaching trains and maintenance of corridor block and freight paths with clear corridor.

Simulation of NDLS-HWH route by RailSys Software

One of the foremost reasons offered by the railway administration for explaining poor timeliness of trains was the 'lack of line capacity' on various routes. On the entire NDLS – HWH route there are many sections where the line capacity utilization was reported to be more than 100 *per cent*. IR have

made large capital investment on track infrastructure during 2008-09 to 2018-19 for improving punctuality and reducing travel time. IR have introduced high horse power locos, double distant signalling, 30 Kmph cross-overs, computerized operations etc. but a commensurate increase in line capacity has not materialized.

It was hence decided to simulate the trains running on NDLS – HWH route with the latest available ground infrastructure and modern rolling stock fed into an established simulation software.

The train operations were simulated for the entire NDLS-HWH route on RailSys software[67]. It was done to assess the scope of reduction in travel time, improvement in punctuality of trains and identification of freight paths within existing infrastructure. The analysis was conducted on RailSys software of MRVC under the advice of a former Chairman, Railway Board as consultant[68].

Ministry of Railways stated (November 2021) that it seems that simulation did not include PSR time loss and major junction constraints such as Kanpur, Allahabad in the sectional run time. Software is not ensuring that train halting at any station has platform on main line or not. In junctions multiple cross-overs, rake reversals, loco reversal, surface crossings and other operational constraints are not included in the simulation exercise. The headway running between two trains are shown as six minutes which is operationally not justified. The headway running of trains to be decided by considering all cross movements and operational constraints enroute.

Reply is not convincing as Simulation was conducted on the simulation software owned by the Indian Railways. The models developed in simulation of New Delhi Howrah route on the basis of Working Time Table 2019 are available at MRVC/Mumbai. All PSR, Terminal constraints and headway as per permitted capacity of section and rolling stock were included in the Simulation exercise. Using the platform occupancy tool of RailSys software, decisions regarding the platform allocations for the trains were made. Also, by using a visual tool of the software, the platform working of major yards were considered. All this helped in making judicious use of available platform and loop lines which streamlined the operations and reduced the number of cut-across movements.

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[67] There are quite a few railway simulation software options available; out of which two are available to IR: SATSang (developed by CRIS, India) and RailSys (developed by RMcon, Germany). RailSys software is currently available only with MRVC (Mumbai Rail Vikas Corporation), Mumbai.

[68] Shri Vivek Sahai

Constraints

The magnitude of the work can be understood by the sheer number of nodes that were needed to be created to cover 225 stations in the 1,445 Kms long corridor. In total, 13979 nodes were created, which included 4,481 signals and other points and crossings. One of the key challenges faced during infrastructure creation was that the Signalling and Interlocking Plans (SIP) were not uniform across the zones in the route. SIP of NR and NCR differed from that of ECR and ER zones.

Principles and methodology followed in Simulation

The simulation of the entire corridor from New Delhi (NDLS) to Howrah (HWH) (in both UP and DN direction) included Anand Vihar Terminus (ANVT) and Old Delhi (DLI) in the NDLS side and both Main Line via Bandel and Howrah Bardhhaman chord line via Dankuni in the HWH end.

- The software was used to create a replica of the existing infrastructure of the NDLS - HWH corridor with all the signals, crossovers, stabling lines, loop lines, platforms, permanent speed restrictions and any such restrictions as per the Commissioner of Railway Safety (CRS) guidelines.
- The signals were placed with their respective overlaps of 120m approx.
- The signals overlap and block sections were incorporated in absolute block and automatic block sections accordingly.
- The speed restrictions of crossovers were designed as per the CRS guidelines.
- The different train-type templates were created with all existing combinations of locos, a number of coaches and their speed clearances.
- Audit took the originating time of trains as sacrosanct[69] in simulation. Hence, the HWH timing for UP direction trains and NDLS/ANVT/DLI timing for DN direction trains were kept as it is for the simulation purpose. Similarly process was followed for the time at which other trains enter the NDLS-HWH corridor from various junctions like

[69] While doing simulation care was taken to retain the origin time of the train and in case of train entering NDLS-HWH corridor from adjoining corridors their time of entering NDLS-HWH corridor was kept sacrosanct. In some cases, these times were altered by a few minutes to ensure their punctual and efficient running.

Tundla, Cheoki, Gomoh, Dankuni etc. Once these timings were provided along with the specifications of the train type, the simulation gave us the standard run time for the given routes.

In the simulated time table of New Delhi – Howrah route, audit incorporated the running of 88[70] pairs of MEMU, 147 trains in UP direction and 143 trains in DN direction. Even though UIC 406 recommends a standard allowance of 3-5 *per cent* of the total running time, a conservative figure of 10 *per cent* has been adopted. The simulation took into account all the variable like MPS, PSR, 10 *per cent* allowance and gave us standard running time between stations. After taking into consideration all the cascading effect, each train and its conflicts were then resolved in the simulated Time Table.

Before giving any preference or additional halts or additional dwell time at any existing halt, the platform utilisation and availability were thoroughly considered. The junctions like Deen Dayal Upadhyaya, Kanpur Central, Prayagraj, Gaya, Barddhaman, in particular, were a major challenge as they exchanged many trains across divisions. Using the platform occupancy tool of RailSys software, decisions regarding the platform allocations for the trains were made. Also, by using a visual tool of the software, the platform working of major yards were considered. All this helped in making judicious use of available platform and loop lines which streamlined the operations and reduced the number of cut-across movements. Once the task of infrastructure creation of the NDLS-HWH corridor was accomplished in the RailSys software, the existing trains (244 pairs) from working timetable of July, 2019 of the six divisions[71]involved were populated in the system.

The Working Timetable (WTT) had around 12,466 conflicts. Out of these conflicts, 4900 caused minimum interference of upto five minutes to the operation. Other conflicts, however, were causing major blockages. Analysis of conflict with respect to the existing WTT revealed that major reasons for these were

- 130 Kmph train preceded by 110 Kmph trains
- Mail Express train preceded by EMU/MEMU trains
- Slack in EMU/MEMU running time
- Inconsistent running times due to erratic allowances
- Differential halts and dwell timings of preceding train

[70] In MEMU 4 pairs of trains and 5 trains in UP direction and 9 trains in DN directions were kept inactive in simulation exercise.
[71] New Delhi, Allahabad (Prayagraj), Mughalsari, Dhanbad, Asansol, and Howrah

- Unscientific side-tracking to give preferences
- Platform occupancy and management at major terminals

Each conflict was unique and required differential treatment; however, certain principles were followed to resolve them. Firstly, unnecessary preferences to similar speed trains were avoided and given only in case of excessive halts of preceding trains. Secondly, preference was planned wherever the train had a public halt; to avoid unnecessary side- tracking. And, most importantly, the principle of uniform allowances as against the erratic and unscientific allowances was followed.

Ministry of Railways stated (November 2021) that the methodology adopted in simulation, mainly layout of stations yards is not as per actual and taken in a very simplified manner. Overall 10 per cent extra time provided in simulation is not sufficient.

Reply of MoR was not convincing as UIC 406 recommends a standard allowance of 3-5 *per cent* of the total running time, in Simulation exercise a conservative figure of 10 *per cent* was adopted. Results of zero based time tabling exercise undertaken by Ministry of Railways itself suggested an increase of 5 *per cent* in the average speed of passenger train services, by rationalization of Time Table.

Results of Simulation

The following findings emerged from simulation:

i. The Working Time Table of all the concerned divisions need to be recast to remove all conflicts.
ii. The current Time Table in use can't be expected to deliver high standards of punctuality. On the other hand, it is possible to achieve 100 *per cent* punctuality in the revised Time Table obtained through a scientifically designed simulation.
iii. Preparation of time – table on scientific basis leads to generation of additional paths for passenger/freight trains. This leads to a conclusion that the current calculation of line capacity of various sections does not exploit the full potential of the available infrastructure.
iv. It is beneficial to spread the engineering allowance (EA) throughout the run of the trains instead of loading it on the last block section before a major station. This action alone can increase the line capacity of the section substantially.
v. Provision of Traffic Recovery Time (TR) and Operational Recovery Time (OP) should be totally dispensed with. It reduces line capacity.
vi. The first step towards recasting the Working Time Table is to fix the inter station running time for all types of trains – both passenger and

freight, accurately. Running staff need to be trained exhaustively to achieve prescribed time schedule at every block station en route.

vii. The EMU/MEMU rakes are introduced in a section to provide very fast commuter services in a section during the morning and evening peak hours. The unique selling property (USP) of these rakes is super fast acceleration and deceleration. In addition they can be started with a short halt time (In Mumbai Suburban System a halt of 30 seconds is normal). Both these properties of these rakes have not been exploited in the time – table of this route. The inter station running time gives very low average speeds and halts of five minutes or more are ubiquitous, which is contrary to the characteristics of EMU operations. This needs immediate amelioration.

Ministry of Railways stated (November 2021) that in rationalization of Time Table exercise, Time Tables have been re-charted with removal of conflicts. In exercise of rationalization of Time Table, help of IIT Bombay and inputs from SATSaNG software have also been taken into consideration. High standard of punctuality can be achieved by practical time table and resolving all conflicts rather than theoretical timings. Further, simulated time will help in improvement in time tabling. Simulator has all filled data which is very large. The rationalization of Time Table has helped in speeding up of trains and increasing maintenance corridor from 2 hours to 3 hours on trunk routes of NCR and also increased freight paths. However, time tabling is a continuous exercise which takes into account small inputs given in infrastructure from time to time.

Output of Simulation- new Time Table

After conflict resolution in running time and rationalisation of ad-hoc allowances, a new Time Table for the NDLS-HWH trains has been formulated. In the UP direction there are 235 trains. In the Down direction there are 231 trains. The simulation exercise did not cover nine trains on the UP direction and 13 trains on the Down direction. Under normal conditions, it is possible to achieve 100 *per cent* punctuality in the revised time table.

Ministry of Railways stated (April 2021) that the simulated time table has taken into account the coaching trains. It is possible to achieve near 100 per cent punctuality, but for the untoward incidents, abnormalities, asset failures and speed differential which takes longer time to clear the block section if running ahead. The punctuality figure for 2021 improved after zero based time table. Further foggy weather each year, for about 3 months deteriorates the average actual figure of punctuality.

Average savings in journey time

After collating the complete data, we could quantify average savings in journey time for all Mail/Express trains on the NDLS-HWH route. The quantified data are given in **Table 2.15**

Table 2.15: Average savings in run time

Train type	Total Train Km	Total Time saved (in min)	Savings per 100 Km
110 Kmph Down direction	37000	9233	25
110 Kmph UP direction	37081	8147	22
130 Kmph Down direction	18361	1925	10
130 Kmph UP direction	18576	2245	12
EMU/MEMU UP direction	9069	3148	17*
EMU/MEMU Down direction	8938	2818	16*

***Savings per 50 Km run**

The exercise informs that for every 100 Km run,

- An average saving of 22-25 minutes is possible for trains cleared for 110 Kmph;
- An average saving of 10-12 minutes is possible for trains cleared for 130 Kmph

For EMU/MEMU trains which have shorter runs compared to Mail Express trains, the possible savings per 50 km is 16-17 mins.

For 130 Kmph trains (8 pairs[72] of Trains) covering the entire distance between NDLS HWH stations, an average saving of 147 minutes in travel time is possible. The range of reduction of travel time is 64 minutes to 386 minutes.

For 110 Kmph trains (Train No 12819/12323, 12820/12324) covering the distance between NDLS HWH stations, there is scope for reduction in travel time of 328 minutes in Up direction and 336 minutes in the DN direction.

Ministry of Railways stated (November 2021) that under the recently concluded exercise of rationalization of Time Tabling, undertaken with the assistance of IIT Bombay using their traffic simulator, IR has been able to enhance the speed of over 2000 trains. Under the exercise, the travelling time

[72] Train No 12259/12249, 12301/12305, 12303/12381, 12313, 12302/12306, 12304/12382, 12314

of more than 900 trains have been reduced by more than an hour while for 1600 trains the travelling time have been reduced by more than 30 minutes. 362 passenger trains have been converted into Mail/Express trains by speeding up while 120 Mail/Express have been converted into super fast service. An increase of 5 per cent in the average speed of passenger train services has been achieved, by rationalization of Time Table.

The saving in travel time for trains cleared for 130 Kmph and 110 Kmph are shown in **Table 2.16**.

Table 2.16: Savings in travel time of trains cleared for 130 kmph

No.	Name	Origin	Destination	Distance	Runtime in minutes		Saving in travel time
					RailSys	Existing	
12250	Howrah Yuva Express	ANVT	HWH	1450	944	1025	81
12302	Rajdhani Express (Gaya)	NDLS	HWH	1450	943	1020	77
12314	Sealdah Rajdhani Express	NDLS	DKAE	1436	954	1021	67
12276	Humsafar Express	NDLS	ALD	633	393	485	92
12424	Dibrugarh Rajdhani Express	NDLS	DDU	785.5	495	553	58
22436	Vande Bharat Express	NDLS	ALD	633	383	383	0

Savings in travel time of trains cleared for 110 kmph

No.	Name	Origin	Dest.	Dist	Runtime in minutes		Saving in travel time
					RailSys	Existing	
12323	HWH - ANVT SF Express	HWH	ANVT	1437	1007	1335	**328**
12321	HWH- CSMT Mail (via Gaya)	HWH	ACOI	804	691	802	111
12559	Shiv Ganga Express	ALD	NDLS	635	423	690	**267**
12349	Bhagalpur- New Delhi SF Express	MPO	NDLS	997	724	926	202

NDLS HWH (HDN 1) is the most congested route of the IR. This route suffers from endemic capacity constraints, making it a veritable quagmire for the punctuality of all trains operating on it. Our Simulation exercise demonstrated substantial savings in travel time (as mentioned above) in the most congested and difficult section of Indian Railways, it is assessed that similar reduction should materialise all over Indian Railways.

Ministry of Railways stated (April 2021) that compaction exercise has been undertaken wherein trains with same speed potential have been bunched together to achieve better mobility and minimise precedence of train services.

The exercise duly provides for the engineering allowance of 6 minutes per 100 Km (for 110 kmph section) and 8 minutes per 100 Km (for 130 Kmph section) and pegs the Traffic Allowance at a maximum of 6 minutes per 100 Km.

Audit is of the view that the saving could be enhanced by grouping of similar speed trains and through integrated maintenance.

Line capacity

Line capacity is an important operating resource which is used for managing the existing services and for investment planning for augmentation/expansion of network.

IR calculates line capacity by Master chart method. The charted capacity for each section is worked out by actual charting of paths in Master Charts. Passenger train path based on scheduled time is plotted first and then Goods train paths are interpolated based on the availability of window for running freight trains. Chartered capacity is based on the train schedule, which included engineering and traffic allowances. While yardstick has been prescribed for engineering allowance, no scientific method of allocation of traffic allowances is prescribed by IR. This leads to different interpretations, and this method is subjective.

As per the Line Capacity utilisation statement (2019-20) of NCR, the most congested sections in Ghaziabad – Deen Dayal Upadhyaya (GZB- DDU) section of Prayagraj division are Kanpur - Juhi West (**172 *per cent***); Subedarganj - Fatehpur and Chanderi - Kanpur (**142 *per cent***); Fatehpur - Chanderi **(144 *per cent*)**; Mirjapur - Chheoki **(134 *per cent*)**; and Panki - Shikohabad - Tundla **(133 *per cent*).**

A simulation analysis was carried to assess the line capacity of network from Maripat to Block Hut K (MIU-BHK) section of NCR. For the purpose of simulation, RailSys software of Mumbai Rail Vikas Corporation (MRVC) was used and UIC 406[73] standards were adopted.

The simulation of 116 trains in DN direction Maripat – Block Hut K(MIU-BHK) and 117 trains in UP direction (BHK-MIU) revealed that 33 to 91 free paths are available as against the present calculation of over-utilisation of line capacity.

Table 2.17 shows the line capacity utilisation in various sections of the route with the existing passenger carrying trains on the section.

[73] The UIC 406 capacity method defines railway capacity as “the total number of possible paths in a defined time window”.

Table 2.17: Details of the Line Capacity utilisation (without M/B) generated in Simulation				
Section	**Total Line capacity Passenger trains**	**Passenger trains, WTT, 2019 (% utilization)**	**Existing freight path, WTT, 2019**	**Free paths- Passenger trains**
UP direction				
Maripat – Tundla	153	70 (45.7)	37	46
Tundla – Kanpur Central	194	85 (43.8)	33	76
Kanpur Central – Prayagraj	116	51 (44)	32	33
Prayagraj –Block Hut K	175	65 (37)	32	78
DN direction				
Block Hut K – Prayagraj	182	62 (33.9)	34	86
Prayagraj – Kanpur Central	124	56 (44.9)	32	36
Kanpur Central – Tundla	185	87 (46.9)	32	66
Tundla – Maripat	200	73 (36.5)	36	91

There is ample idle line capacity which can be further exploited, and also there is ample scope to further streamline the operations to improve their punctuality.

- The claim of higher line capacity utilisation in GZB- DDU section was not found correct in simulation analysis.
- The assessed reason for higher utilisation figures of line capacity in GZB-DDU section was heterogeneous traffic, overtakes, terminal constraints- higher headway and conflict in paths which arise due to Timetabling issues (unscheduled traffic, lack of grouping and Zonal boundaries).

Line capacity utilisation forms a basis of decision making for future expansion projects. Hence, it must be calculated scientifically. A realistic assessment of line capacity utilisation would help planning the train operations to improve the speed and punctuality. Projects to be sanctioned in future should consider revised line capacity calculation.

Ministry of Railways replied (November 2021) that adequate/sufficient availability of Line Capacity is the most significant factor for Rail Transport. There are many factors affecting line capacity including mixed mode of traffic (freight & passenger), large number of trains, speed differential of rolling stock, terminal constraints, weather conditions, maintenance blocks etc. The simulation in ideal conditions may not reflect the reality at ground level of

actual operations. Simulators, however, give a fair evaluation for planning. There will always be a visible gap between simulation results and outputs from ground operations. Recently, Indian Railways has launched Vision-2024 with projects to be completed on top priority for overall improvement of services.

Audit noticed that the excess over the charted line capacity utilization are shown in the calculation for master chart method. Therefore, the calculation is not based on the optimum utilization of capacity. It was established in simulation study conducted by different agencies such as Audit, CRIS and in NITI Aayog Report that there is scope to exploit the ample idle line capacity. It was also seen from the results of Zero Based Time Tabling exercise undertaken by IR that there was scope for improvement of charted line capacity.

Additional Freight train paths in a few section

In the simulation, the availability of freight paths was calculated in the following sections (both UP and Down) after taking into consideration a two-and-half-hour maintenance block.

- Dankuni -Asansol
- Dhanbad –Gaya
- Maripat –Block Hut K

One of the common concerns for train operations is the sparing out time for the scheduled engineering and other technical maintenance on the tracks. In the exercise, all the daily passenger trains were plotted, and then the graphical timetable feature of the software was used to ascertain the location and time of the maintenance blocks. The present practice of blocks being given during the daylight time was followed. With all these factors in place, the maintenance block location and time were identified in both Down and UP direction with minimum impact on the passenger train movements.

Table 2.18 shows the available freight paths in UP and Down direction.

Table 2.18: Line Capacity in UP direction

Section: UP direction	Freight Trains	Passenger trains	Line capacity utilisation with 02:30 hours maintenance block (per cent)	Total Line Capacity
DKAE - PRAE	50	63	90.90	124
KAN-ASN	55	45	61.80	162
DHN – GAYA	44	40	87.00	96
DN direction				
GAYA – GAP	40	27	74.20	90
GAP-KQR	40	26	57.10	115
KQR-DHN	40	33	90.20	81

Table 2.18: Line Capacity in UP direction				
Section: UP direction	**Freight Trains**	**Passenger trains**	**Line capacity utilisation with 02:30 hours maintenance block (per cent)**	**Total Line Capacity**
ASN - DKAE	40	95	101.00	134

In the simulation exercise, a 2:30 hours maintenance block led to a drop of 14 *per cent* in the line capacity. Capacity utilisation (after adding maintenance block) and free path available in NCR portion is indicated in **Table 2.19.**

Table 2.19: Line capacity utilisation in NCR portion of NDLS- HWH (UP)				
Section	**Total Line capacity for passenger trains in 24 hours**	**Passenger trains currently operational in 24 hours**	**Line capacity utilisation by existing passenger trains with maintenance block (per cent)**	**Free paths available for passenger trains**
MIU – TDL	153	70	60	83
TDL – CNB	194	85	58	109
CNB – ALD	116	51	58	65
ALD – BH K	175	65	51	110
DN direction				
ALD – BH K	182	62	58	120
ALD – CNB	124	56	59	68
CNB – TDL	185	87	61	98
TDL – MIU	200	73	51	127

The line capacity utilisation status reflects the availability of free path for Operation. These paths could be utilized for both passenger and Freight Operations. In a reply to an audit query, NCR Administration stated that for maintenance corridor, a provision of 3 hours has been provided in the upcoming Zero Based Timetabling. In addition, an increase of 10 *per cent* in the number of Goods path is envisaged

These results of simulation and comparison proved that the present methodology to calculate Line Capacity needs to be revisited. If timetabling is carried out scientifically, the existing infrastructure itself provides adequate cushion for handling trains efficiently.

Ministry of Railways replied (November 2021) that at present, preparation of time–table of trains are done manually on master chart. However, in current time tabling exercise help of IITB and SATSaNG software of CRIS has been taken for framing of time table. This has resulted in increased time for maintenance corridor from 2 hours to 3 hours on main lines and also increased number of freight path. However, capacity constraint are due to 'Junction Nodes i.e. junction and cross movement of trains'. The infrastructural inputs are required on these nodes on priority. Some works of grade separator on these are sanctioned as grade separator for removal of these cross movement but have long gestation period.

2.1.9 Conclusion

Indian Railways despite investing ₹ 2.5 lakh crore on track infrastructure during 2008-09 to 2018-19 have failed to improve on the mobility outcomes viz., punctuality and travel time reduction. The average speed of Mail/Express and freight trains is still around 50 Kmph and 23 Kmph, respectively. There has been insignificant improvement in speed of Shatabdi and Rajdhani since their induction in 1970s. Out of 478 super fast trains of Indian Railways, the scheduled speed of 123 super fast trains (26 *per cent*) was less than the specified speed of 55 Kmph.

The overall average halt time at all the stations for 2951 trains from the Time Table of 2019 were more than two hours. Indian Railways was running 62 Express trains having more than 75 stoppages. Longer and frequent stoppages created congestion at Junction Points and enroute which reduced the overall speed.

Six main internal critical factors contributing 66 *per cent* of total detention of trains were identified as controllable. Indian Railways did not address these critical factors commensurate to their criticality.

Asset failures had an increasing trend over the previous years. Despite the provision of integrated corridor blocks in the working time table, maintenance activities were not integrated.

Despite having higher capacity of rolling stock/infrastructure, the average speeds of coaching trains are not commensurate with their potential. The halts at junctions are not standardized and they vary widely. Besides, IR has neither standardized the provision of time supplement required for operating reasons nor adopted Global norms. Provision of higher allowances resulted into longer travel time and sub-optimal use of infrastructure.

Indian Railways has no guaranteed delivery time for Goods consignment. This was due to non-scheduling of Goods trains operation. Non-availability of path, congestion at traffic nodes, conflict of paths, longer hour of run in the scheduled Goods paths, delay of through trains in crew change, lack of right powering etc. are the major reasons which resulted in slow speed of Goods trains and adversely affected delivery of freight services.

Audit conducted a simulation exercise using established software with the assistance of an external expert. It revealed that the current Working Time Table for the New Delhi-Howrah route has around 12,500 conflicts. Simulation indicated that there were significant differences between line capacity utilisation figures claimed and those obtained in simulation, indicating over pitching of line capacity utilization. Thus, there is a significant scope of

improvement to reduce travel time and improve punctuality within the existing resources.

Preparation of Time Table on scientific basis leads to generation of additional paths for passenger/freight trains. Audit framed a new Time Table for the New Delhi-Howrah route based on the results of simulation. Simulation exercise informs that for every 100 km run, an average savings of 22-25 minutes is possible for trains cleared for 110 Kmph. Similarly, for trains cleared for 130 Kmph, an average savings of 10-12 minutes is possible. Under normal conditions, it is possible to achieve 100 *per cent* punctuality in the new Time Table.

2.1.10 Recommendations

Ministry of Railways may consider;

- ***to fix a target date by which IR will achieve the desired increase in the average and maximum speed of Passenger and Freight trains in their network and strive to achieve it.***
- ***to prioritize the usage of integrated corridor blocks so that effective maintenance of assets of all the departments are carried out with minimal disruption to operations.***
- ***to address critical factors of detention with commensurate expenditure on track alignment, track renewal, signaling, doubling work etc.***
- ***to prescribe the norms for traffic recovery time for reducing the higher allocation of traffic allowance and sub-optimal utilization of infrastructure and resources.***
- ***to work out an implementation strategy for a freight service time-table to ensure guaranteed delivery time of consignments to customers.***
- ***to prepare the Time Table on scientific basis which would lead to generation of additional paths for passenger/freight trains. This would also lead to correct assessment of line capacity utilization.***

Ministry of Railways replied (November 2021) that the recommendations, as made by the Audit, for improvement in average and maximum speed, punctuality and other aspects of trains operation have been noted. Indian Railways would make sincere efforts within its infrastructure / resources for betterment of its services, both passenger and freight operations. As regards target date for achieving the desired increase in the average and maximum speed of Passenger and Freight trains, it is stated that improvement in average speed and other related issues is an ongoing process & subject to

availability of resources including rolling stock, locomotives & infrastructure like tracks, OHE, signaling gears etc.

2.2 Loss on account of non-realization of Service Tax from licensees: West Central Railway and Southern Railway

Ministry of Railways issued detailed instructions (September/October 2012) regarding levy of Service Tax from the licensees on Goods, Passenger, Parcel and other Auxiliary Services. West Central Railway Administration, however, failed to levy Service Tax from the licensees during the period April 2011 to June 2017. As a result, Indian Railways suffered a loss of ₹ 5.41 crore as Railway Administration made payment of Service Tax demand from its own earnings. Similarly, Southern Railway Administration made service tax payment of ₹ 22.02 crore from its own earnings.

As per provisions[74] of Finance Act, 1994, renting of immovable property includes renting, letting, leasing, licensing for use in the course of furtherance of business or commerce and is liable to levying of Service Tax. Licensing of space at railway stations comes under the definition of renting of immovable property and is a taxable service.

In September 2012, Ministry of Railways (MoR) issued instructions to Zonal Railways for levy of Service Tax @ 12.36 *per cent* in all cases of renting of immovable property with the exception of Negative List and Exemption List In the MoR's instructions ibid, it was clearly mentioned that Service Tax should be collected at the time of entering into transaction of renting/leasing of immovable property[75].

In October 2012, MoR issued detailed Accounting procedure for levy of Service tax on Goods, passenger, parcel and other auxiliary services. Zonal Railways were instructed to compile and issue a consolidated list of all Auxiliary Services on which Service Tax is leviable. In cases, where the Agreements are alive and supporting clauses are available, Zonal Railways may pass on the tax liability to the customer, wherever possible. In cases, where Agreements are alive but no supporting clause exists, Zonal Railways shall examine incorporating the same duly negotiating with the contracting party and pass on the tax liability to the customer. In cases, where there is no such possibility, the liability may be assessed and Nodal Directorate in the MoR may be informed for further instructions.

[74] Section 65 (90 a) read with Section 105 (zzzz) of Chapter V of Finance Act, 1994
[75] Para 3(ii) of MoR's letter No. 2012/LML/25/15 dated 28 September 2012

2.2 (a) West Central Railway

Audit observed that no action was found to have been taken by the West Central Railway (WCR) Administration in compliance of MoR's instructions issued on Service Tax. No Service Tax was collected from the licensees and deposited with the Tax Authority. The Tax Authority since April 2009 periodically issued Demand Notices for payment of Service Tax on the sundry earnings received from the parties under heads viz. Parking Stand, Catering Stalls, ATM, Commercial Plots, Leasing of SLR/Asstt. Guard Cabin, Parcel Van and Space given for Advertisement *etc*. The Tax Authorities worked out the total Service Tax and penalty liability of ₹ 12.50 crore[76] against WCR Administration for the period April 2011 to June 2017**.** Against the Demand Notices of Tax Authority, WCR Administration filed appeals/petitions which were dismissed during February to August 2019.

In December 2019, Superintendent, CGST & Central Excise/Jabalpur advised[77] FA & CAO/WCR to avail the benefit of the 'Sabka Vishwas Scheme' and deposit ₹ 5.02 crore against the Service Tax liability of ₹ 12.50 crore. The WCR Administration decided (December 2019) to avail the benefit of the Scheme "Sabka Vishwas (Legacy Dispute Resolution Scheme, 2019)" and made payment of ₹ 5.02 crore to the Tax Authority in February 2020 from its own earnings. The competent authority (Additional General Manager/ WCR), while approving for payment under Sabka Vishwas Scheme 2019 directed (December 2019) to recover the Service Tax from the concerned licensees.

Audit observed that WCR Administration failed to compile and circulate the consolidated list of Auxiliary Services on which Service Tax was leviable to the Divisional Authorities as mentioned in MoR's instructions of 01 October 2012. Due to non-receipt of instructions from Zonal level, the Divisional Authorities could not levy/collect the Service Tax from the licensees for the Auxiliary Services. Despite demand notices for Service Tax issued by the Tax Authority, Zonal Railway Administration failed to issue instructions to the Divisional Authorities for levy/recovery the Service Tax.

In January 2020, Principal Chief Commercial Manager (PCCM)/WCR approached[78] the MoR for issuing the necessary Guidelines on Service Tax liability imposed by Service Tax Department on various Auxiliary Services[79].

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[76] Service Tax of ₹ 8.773 crore and Penalty of ₹ 3.723 crore=₹ 12.496 crore, say ₹ 12.50 crore

[77] Vide letter No. GL-6/62/R-I/JBP/Railway/ST/2018 dated 23 December 2019

[78] Vide lettter No.WCR/HQ/JBP/C/Law/Service Tax dated 06 January 2020

[79] Parking Stand, Catering Stalls, ATM, Commercial plots, leasing of parcelspace and space given for advertisement

In reply, MoR stated (February 2020)[80] that instructions in this regard had already been issued to all Zonal Railways on 01 October 2012 and directed PCCM to take suitable action in concurrence with Zonal Associate Finance.

Thus, due to non-levy of Service Tax from the licensees, WCR Administration had to make an avoidable payment of ₹ 5.41 crore[81] from its own earnings to the Tax Authority. Railway Administration could not recover the Service Tax from the concerned licensees as the Security Deposits of the licensees were returned on expiry of contract period.

The WCR Administration, in its reply, stated (January 2021) that the quoted letter of MoR of 1 October 2012 was not received and hence no appropriate action seems to have been taken. They further stated that both the Departments i.e. Railways and CGST & Central Excise being of Central Government, it was decided to accept the proposal of Superintendent, CGST & Central Excise/Jabalpur to avail the benefit of Sabka Vishwas Scheme to avoid further litigation and unnecessary expenditure.

Reply of Zonal Railway Administration that the quoted letter of MoR was not received, was not acceptable. Audit observed that the ibid letter of MoR was received on 19 October 2012 and sent to Chief Commercial Manager and Financial Advisor and Chief Accounts Officer/WCR on 25 October 2012 for further necessary action.

The matter was referred to the MoR in August 2021; no reply was received (November 2021).

2.2 (b) Southern Railway

Audit observed that SR Administration had paid Service Tax to an extent of ₹ 80.22 crore (₹ 58.20 crore + ₹ 22.02 crore) during the period from October 2012 to June 2017. Out of ₹ 80.22 crore, the Service Tax of ₹ 58.20 crore was levied and collected from the concerned parties but ₹ 22.02 crore was paid to Revenue Authorities from the Railways revenue in October 2017 without collecting/levying from the concerned parties/contractors. This was on the basis of summons received from the Directorate General of Central Excise Intelligence, Chennai (March 2017). Audit noticed that SR Administration distributed (October 2017) ₹ 22.02 crore among all Divisions with instructions to form a multi-disciplinary team to revisit all contracts *etc.* during the period

[80] Vide letter No. 2004/TG IV/39/24/Service Tax dated 19 February 2020

[81] Zonal Railway Administration had pre-deposited a sum of ₹ 0.39 crore with the Tax Authority against the Demand Notices of February 2019 and June 2019 on Service Tax.

from Octobter 2012 to March 2014 and identify the parties to collect the Service Tax paid by the Railway Administration.

However, no such action was taken by any Division and as such no Service Tax was collected (June 2020). The possibility of collecting the same is very remote as the contract period was over five years old.

A show cause notice No. 96/2018 dated 06-09-2018 was received from the Directorate General of Central Excise Intelligence, Chennai regarding non-payment/short payment of service tax amounting to ₹ 91.23 crore. SR Administration replied to show cause notice in October 2018 and September 2019. SR Administration did not agree on some issues of service tax on Sundry earnings and requested Revenue Authority to give more time to collate the records and submit a categorical reply in full compliance of requirement.

While the dispute lies unresolved, the Government has come up with an Amnesty Scheme Sabka Vishwas Legacy Dispute Resolution Scheme (SVLDRS) 2019, which allows for a rebate on the outstanding tax dues, besides waiver of interest and penalty. Since, this scheme was beneficial, SR filed an application (January 2020) under the scheme with the approval of Principal Financial Advisor (PFA) to avail the benefits of the scheme and minimize the outgo towards service tax dues. SR also requested to close the case, as Service Tax of ₹ 80.22 crore has already been paid by SR and the balance payment is NIL, by virtue of 50 *per cent* of rebate under the scheme. However, the final order on the above issue is still awaited.

Thus, the failure of the SR Administration to comply with the instructions of the Railway Board had resulted in irrecoverable loss of ₹ 22.02 crore due to payment of Service Tax from its revenue which ought to have been levied and collected from the contractors/licensees.

The matter was referred to MoR in January 2021. In their reply, MoR stated (July 2021) that instructions have been issued to Zonal Railways to ensure compliance to Service Tax guidelines. All the divisions have reviewed the contracts during the said period and have initiated action to recover the service tax from the concerned parties. An amount of ₹ 0.41 crore have been recovered so far and earnest efforts are being made to recover the remaining amounts from the licensees/contractors wherever due.

2.3 Avoidable loss due to operation of uneconomic halts: Northern Railway

Despite no sale of tickets since 2011-12 at two halts in Moradabad Division, Northern Railway Administration did not take steps for closure of halts. This was also in violation of Ministry of Railways' instructions related to closure of un-remunerative halts. Operation of the two halts resulted in loss of ₹ 20.55 crore incurred on operating expenses for stoppage of trains during 2011-20.

Halt stations are small way side railway stations where very few trains stop. Such railway stations generally are not staffed by railway personnel but by a contractor. As per Para 1908 of Indian Railway Code for Traffic Department (Commercial), a periodical examination of existing halts should be made and the possibility of converting such halts into Flag stations, wherever justified, should be considered on a programmed basis. In June 2005, Ministry of Railways (MoR) issued the revised comprehensive guidelines[82] regarding operation of halts. As per the revised guidelines, if the halt station is un-remunerative and also not justified on passenger amenity grounds, it could be closed by the Railway Administration itself. Zonal Railways should consider the closure of halt stations where average number of passengers is less than 25 per day (outward) on branch lines.

MoR notified the cost of stoppage[83] of the trains from time to time. MoR, while reviewing the stoppage policy (May 2006), stated that at least the cost of stoppage should be recovered. Provision of stoppages without proper commercial and operational justification affects the line capacity, speed of the train and increases coaching losses as well. MoR stated that total cost of tickets sold at the station should be more than the cost of stoppage.

Examination of records of Senior Divisional Commercial Manager/Moradabad/Northern Railway revealed that in case of two halts i.e. Hazrat Nagar (HZN) and Sonekpur (SPB) in Moradabad Division, sale of tickets was nil since 2011-12. Audit noted that a pair of trains[84], running over Raja-Ka-Sahaspur (RJK) - Sambhal-Hatim Sarai (SHTS) section continuously stopped at these halts. The contractors, appointed for sale of tickets, at these halts had left due to no sale of tickets and no commission.

[82] Para IX of MoR's Commercial Circular No. 26 of 2005 issued vide letter No. 99/TGIV/Halts/Policy dated 24 June 2005

[83] Cost of additional fuel/energy consumption, Cost of train km lost, Loss of time for deceleration, acceleration and halt time

[84] Train nos.54397 (3SRM) and 54398 (4SRM)

Matter of operation of un-remunerative halts was taken up (March 2015) with the Divisional Authorities of Moradabad. In reply, they stated (March 2018) that the two halts were connected with road and the road transport was available throughout the day. In order to minimise the loss over uneconomic line, Moradabad Division had recommended closure of Hazarat Nagar (HZN) and Sonekhpur (SPB) halts in July 2012 and matter referred to Northern Railway Headquarters. The matter was pending despite issue of various reminders in years 2013, 2014 and 2015.

Audit also noted that Moradabad Divisional Authorities did not pursue the matter with Northern Railway Headquarters after July 2015. Northern Railway Administration failed to take a decision for closure of these two un-remunerative halts. Audit further observed that one pair of Trains running on this section was cancelled from 7 November 2016. However, with effect from 4 November 2015, running of three pairs of Diesel Electric Multiple Unit (DEMU) trains[85] was started on this section with stoppage at these two halts.

Audit worked out the cost of stoppage of train at the two halts at the rates notified by MoR. Cost of stoppage of train for two minutes notified by MoR was ₹ 5,145 in 2006-07 and ₹ 21,207 in February 2016. Based on the rates notified by MoR, cost of stoppage of trains worked out to ₹ 20.55 crore during the period 2011-12 to 2019-20.

Thus, non-compliance of MoR's directives for closure of two un-remunerative halts over Moradabad Division of Northern Railway resulted in avoidable loss of ₹ 20.55 crore during the period 2011-12 to 2019-20.

Matter was taken up with the Northern Railway Administration in July 2020. In reply, NR Administration stated (November 2021) that proposal sent by Moradabad Divisional authorities was incomplete and they were asked (November 2020) to submit fresh proposal. Fresh proposal from Moradabad Division was received on 13 October 2021 and after approval by the General Manager/Northern Railway, notice for closure of these halts with immediate effect was issued on 22 October 2021.

From the above, it is evident that Zonal Railway Administration initiated action in November 2020 only after audit raised the issue with the General Manager in July 2020. Moradabad Divisional authorities took another 10 months in submitting the fresh proposal for closure of halts to Northern Railway Headquarter.

[85] Nos.74302, 74304, 74306/74301, 74303, 74305

Matter was referred to MoR in September 2021; no reply was received (November 2021).

2.4 Non-levy/non-collection of shunting charges from the siding owner: East Central Railway

ECR did not follow Railway Board instructions regarding levy of shunting charges. Consequently, Railways suffered a loss of ₹ 18.37 crore.

Railway Board's Rate Circular No. 14 of 2009 stipulates that shunting charge is leviable for the utilization of railways locomotives (Diesel/Electric) to perform shunting operation in a siding irrespective of the fact whether the siding is notified for charging freight on through distance basis or otherwise. Shunting charge is levied on the basis of actual shunting time and prevailing "All India Engine Hour Cost (AIEHC) for Train Engine or Shunting Engine as the case may be.

Koderma Thermal Power Station (KTPS) siding notified on 21 September 2012 is a private siding of Damodar Valley Corporation (DVC) served by Hirodih station over Dhanbad Division of East Central Railway. Audit observed that the siding was commercially notified on 01 July 2015 and the freight was being levied on through distance basis. The siding handled rake of Hopper wagons (BOBRN) for unloading by using railway engine. The Hopper line has a capacity of 22 wagons for unloading at one time. Thus, the unloading of rake containing 59 Hopper wagons was to be done in three parts by using railway engine from placement of the rake to its release/despatch. However, no shunting charges for the period from September 2012 to October 2018 were levied by ECR Administration. Reasons for non-levy of shunting charges were not found on record.

On being pointed out by Audit (February 2018), ECR Administration preferred the shunting charges bill amounting to ₹ 1.07 crore for the period from February 2014 to November 2017 in November 2018, revised bill amounting to ₹ 3.04 crore for the period from September 2012 to November 2017 in January 2021 and bill amounting to ₹ 1.76 crore for the period from December 2017 to October 2018 in October 2020. Shunting charges from November 2018 and onwards have been recovered from siding owners by ECR Administration.

However, shunting charges amounting to ₹ 5.21 crore for the period from September 2012 to October 2018 as assessed by Audit is yet to be recovered from the siding owner.

In another case, Tenughat Thermal Power Station (TTPS), a private siding was served by the Dumri Bihar station over Dhanbad Division of ECR. Audit

observed that there was full rake facility in the siding for handling Hopper wagons. The siding is in round shape where unloading facility for 16 Hopper wagons is available at a time. Once the unloading of first batch of Hopper wagons (16 Nos.) completes, the railway engine pulls the rake and place next 16 nos. of wagons for unloading. Thus, unloading of rake containing 59 Hopper wagons completes in four successive pulls. Finally, the rake is drawn out from the siding premises by railway engine. During the whole process of unloading of rake, railway engine was utilized and remained attached with the rake. However, no shunting charges were levied by ECR Administration for the period from June 2017 to August 2019. Audit assessed the shunting charges due for recovery from siding owner for the period from June 2017 to August 2021 amounting to ₹ 13.16 crore.

Thus, railway suffered a loss of ₹ 18.37 crore due to non-levy/collection of shunting charges in KTPS and TTPS sidings. Railways need to take immediate action to levy and recover shunting charges from siding owners.

The matter was taken up with ECR Administration (December 2020). Railway Administration replied (November 2021) that in case of KTPS siding, shunting charges were not levied and recovered due to negligence on the part of new staff posted there. The shunting charges were now levied and recovered from September 2012 onwards.

In case of TTPS siding, it was stated that as it comes under the Engine on Load scheme, the railway engine could be utilized within prescribed free time by the siding owner without incurring any additional cost. Hence, no shunting charges were leviable for utilizing the Railway engine for unloading purpose.

The reply to the extent of TTPS siding was not acceptable as agreement for EOL scheme was executed *w.e.f.* 27 October 2021. Hence, shunting charges prior to October 2021 were recoverable from siding owner for utilizing the railway engine for unloading of rakes.

The matter was referred to the MoR in October 2021; no reply was received (November 2021).

2.5 Loss of potential earnings due to avoidable detention of locomotives: Western Railway

Failure of Railway Administration to enforce contractual obligations by CONCOR and ensure compliance of Railway Board directives regarding installation of EIMWBs, led to avoidable detention of locomotives. As a result there was a loss of potential earnings amounting to ₹ 5.62 crore.

Railway Board issued (February 2007) guidelines for installation and maintenance of Electronic In-Motion Weighbridge (EIMWB) within the premises of private sidings at their own cost. These were amended in June

2007, permitting installation of Weighbridge partially or wholly on Railway land with approval of Railway Board due to inescapable constraints. These were further relaxed (August 2012) stating that, where installation of EIMWB is not possible within the siding premises due to operational and technical constraints, permission may be granted by the General Manager of the Zonal Railways to install weighbridge on Railway land, the location of which will be decided by the PCOM in consultation with PCCM, PCME and PCE.

CONCOR siding at Khodiyar (CKYR) on Ahmedabad Division was commissioned in July 2010. A draft agreement regarding private siding at Khodiyar, was sent to CONCOR by Sr. Divisional Commercial Manager/Ahmedabad (May 2011). This agreement was signed by CONCOR after a delay of 14 months in July 2012. As per clause 9 (a) of the said agreement, 'the Applicant (i.e. CONCOR) shall provide and maintain at their own expense a suitable EIMWB, weigh bridge house and weighbridge siding etc. within the siding limits'.

During audit of Viramgam Station conducted in November 2016, it was observed that deviating from clause 9 (a) of the said agreement, CONCOR did not install EIMWB at Khodiyar siding. Instead, CONCOR rakes originating from Khodiyar siding were being weighed en-route at Railway owned EIMWB at Viramgam. Analysis of data in this regard for the period August 2012 to March 2021 revealed that en-route weighment of 5698 rakes were carried out at Viramgam during this period and total time taken for these weighments was 7766 hours and 24 minutes, averaging 1 hour and 36 minutes per rake.

Further, Audit observed that an application was submitted (December 2013) by CONCOR for construction of two additional lines (No. 4 and 5) beyond existing 3rd line for operation of trains within Inland Container Depot (ICD)/Khodiyar. Thereafter, it submitted (July 2015) the 'Detailed Project Report' (DPR). Sr. DCM/ADI informed (August 2015) CCM/ CCG that CONCOR had been requested long back to install EIMWB as per the agreement but the same had not been installed. CGM/ CONCOR clarified (December 2015) that the siding is taken off on 4 degree curvature, as per RDSO specifications, so provision of EIMWB on this entry point was ruled out. Hence, alternate location was sought from Railway and agreed to provide EIMWB by CONCOR in financial year 2016-17. In March 2016, CONCOR confirmed that it would bear the cost of two EIMWBs at suitable locations as decided by Railways on deposit terms. This was also reiterated in 17 December 2015 and 22 April 2016. CONCOR reminded (August 2016) Railway Administration to finalize the location on Railway Land for setting up of EIMWBs.

After prolonged delay, Divisional Railway Administration Ahmedabad finalized the location (November 2019) for installation of EIMWB at Viramgam where Railway owned EIMWB was already installed and its codal life of eight years was expiring on 26/06/2020. GM/WR approved the proposal for installation of EIMWB at Viramgam with consent of PCOM, PCE, PCME and PCCM. However, CONCOR showed unwillingness (December 2019) at this location citing the reasons that it will be difficult to maintain and operate EIMWB at Viramgam which is distant from CKYR and no administration office is available nearby Viramgam and requested for an alternate location at or near CKYR.

Audit further observed that all the five lines of CKYR –CONCOR siding are feasible for installation of EIMWB after carrying out minor modification work as observed in the joint site inspection conducted (20 January 2021) by supervisors of Commercial, Operating and Engineering Departments of Ahmedabad Division and representative of CONCOR. No further action has been taken by Railway Administration thereafter. As a result of improper action by the Railway Administration in the matter and delay tactics of CONCOR by diverting the issue for not complying with the clauses in the agreement avoidable detention of locomotives still continues due to en-route weighment of CONCOR rakes at Viramgam station.

It was also observed that actual time required for weighment of a rake was 12 minutes (July 2018). However, Audit has adopted the time frame of 30 minutes to complete the entire weighment process as informed by the Chief Goods Supervisor of M/s Gateway Rail Freight Limited, Viramgam (GRFV) and M/s. Hasti Petro Chemical & Shipping Limited, Sanand (MHPL) Sidings of Western Railway. Analysis of this data revealed that during the period from October 2017 to March 2021, only 270 (10.38 per cent) out of 2600 rakes were dispatched within 30 minutes of arrival for weighment at VG Station. Total avoidable detention of locomotives due to extra time taken for en-route weighment of the rakes at Viramgam in the absence of EIMWBs in Khodiyar siding premises has been worked out to 4804 hours and 29 minutes (after allowing 30 minutes for complete weighment process), resulting in loss of potential earnings of ₹ 5.62 crore due to detention of Locomotives during the period from August 2012 to March 2021 (based on All India Engine Hours cost).

This issue was initially taken up with WR Administration in October 2019. In their reply, WR Administration stated (November 2021) that the siding agreement was signed between Railway and CONCOR in 2010. Clause for installation of weighbridge was included in the agreement. However, due to technical constraints installation of weighbridge was not feasible.

Subsequently CONCOR agreed to provide weighbridge at a location identified by Railway. As installation of weighbridge in CKYR, siding was not feasible, the rakes originating from the siding had to be weighed en-route. The loss worked out by Audit is notional. Moreover, Viramgam (VG) was found to be best suitable location for installation of EIMWB.

The reply was not acceptable as WR Administration did not make sincere efforts to get the EIMWB installed at CONCOR siding at Khodiyar as per agreement executed by Railway with CONCOR. The installation of EIMWB is feasible on all the five lines of CKYR –CONCOR siding after carrying out minor modifications work as observed during the joint site inspection.

Further, WR Administration conducted Joint Inspection in January 2021 *i.e.*, after more than 10 years from the date of commissioning of Khodiyar Siding. The loss worked out by Audit cannot be termed as notional as the same has been worked out on the basis actual engine hourly cost. The proposal for installation of EIMWB at Viramgram is still pending with CONCOR Corporate office (June 2021).

Thus, failure of Railway Administration to enforce contractual obligations by CONCOR and to ensure compliance of Railway Board directives in this regard has led to loss of potential earnings of ₹ 5.62 crore due to detention of Locomotives during the period August 2012 to March 2021. The loss would continue unless prompt action is taken for installation of EIMWBs at Khodiyar.

The matter was referred to MoR in September 2021; no reply was received (November 2021).

2.6 Loss due to allowing excess free time for loading operations in open wagon rakes in a fertilizer siding: West Central Railway

West Central Railway Administration did not implement the instructions of Ministry of Railways for allowing restrictive free time in case of combination of manual and mechanized loading. Against allowable five hours free time for loading, free time of nine hours was allowed in a fertilizer siding. Allowing excess free time for loading operations resulted in short realization of demurrage charges of ₹ 2.32 crore during September 2013 to February 2020.

Railway allows free time for loading/unloading of different types of wagons. The different free time is allowed for mechanized loading/unloading and manual loading/unloading activities. More free time is allowed in case of manual loading/unloading activity in comparison to mechanized loading/unloading. Railway imposes demurrage charges for time taken in

loading/unloading beyond permissible free time to discourage the detention of wagons and improve their availability for freight traffic. Demurrage charge[86] is levied for the detention of railway's rolling stock after the expiry of free time allowed for such detention.

As per Rate Circular No. 74 of 2005[87] issued in December 2005, for open wagons free time for manual loading was prescribed as nine hours and five hours for mechanized loading. In October 2006, Ministry of Railways (MoR), in a clarification issued[88] to East Central Railway, stated that in the cases where both manual and mechanized type of operations are used in combination for loading/unloading of a rake, the more restrictive free time i.e. free time for mechanized loading will be permitted. This was reiterated by MoR in August 2013 while clarifying the free time permissible in case of both mechanical and manual loading/unloading of a rake to Northern Railway.

Scrutiny of records and loading activity of Chambal Fertilizers Limited siding (CFCS)/Bhonra in Kota Division of West Central Railway revealed that loading of Urea and Single Super Phosphate (SSP) bags in the rakes of Open wagons (BOXN/BOXNHL) were done by the combined procedure i.e. mechanized and manual both. The sealed bags of fertilizers were carried from Plant shallow on automated conveyer belt and auto loader suite dropped the fertilizer bags in the open wagons. Thereafter, one or two persons were making sequence/stacking the bags in the wagons. Thus, the loading was done using both mechanized and manual operations and accordingly the prescribed free time for mechanized loading in open wagons was to be allowed.

Audit, however, noted that instead of five hours prescribed for combined loading, Railway Administration allowed nine hours free time for loading of fertilizer bags in open wagons rakes at CFCS/Bhonra for 690 rakes of 40,025 open wagons during the period from September 2013 to February 2020. Allowing excess free time for loading operations resulted in short realization of demurrage charges of ₹ 2.32 crore.

The matter was taken up with the West Central Railway Administration in November 2020. In reply, Railway Administration stated (March 2021) that WCR has followed the Railway Board's policy on free time which specifies rolling stock free time for mechanized and manual loading only. There is no separate column in policy circular specifying free time for combined

[86] Demurrage charge is levied at the rates notified by MoR from time to time.
[87] Ministry of Railways letter No. TC-I/2005/201/2 dated 19 December 2005
[88] Ministry of Railways letter No. TC-I/2005/201/2 Pt.I dated 30 October 2006

mechanized and non-mechanized loading for open wagons or closed wagons. They further stated that combination of loading i.e. mechanized and non-mechanized is possible only in bulk commodities which are amenable to both manual and mechanized loading. The fertilizer plant do not have mechanized loading and manual labour is used for stacking/loading in wagons.

Railway Administration's reply was not acceptable. Loading of the Urea and SSP bags in the rakes of open wagons (BOXN and BOXNHL) was performed by the combined operations (i.e. Manual and Mechanized both) and free time of nine hours was allowed instead of five hours as clarified by MoR in October 2006 and August 2013. Audit observed that the clarification for allowing restrictive free time for combined operations for loading/unloading of a rake was issued by MoR only to the concerned Zonal Railways[89] who had sought the clarification and not to all the Zonal Railways for similar application. Failure of MoR to circulate the clarification to all Zonal Railways for allowing restrictive free time (applicable for mechanized loading/unloading) for combined operations of loading/unloading of a rake resulted into loss of demurrage charges.

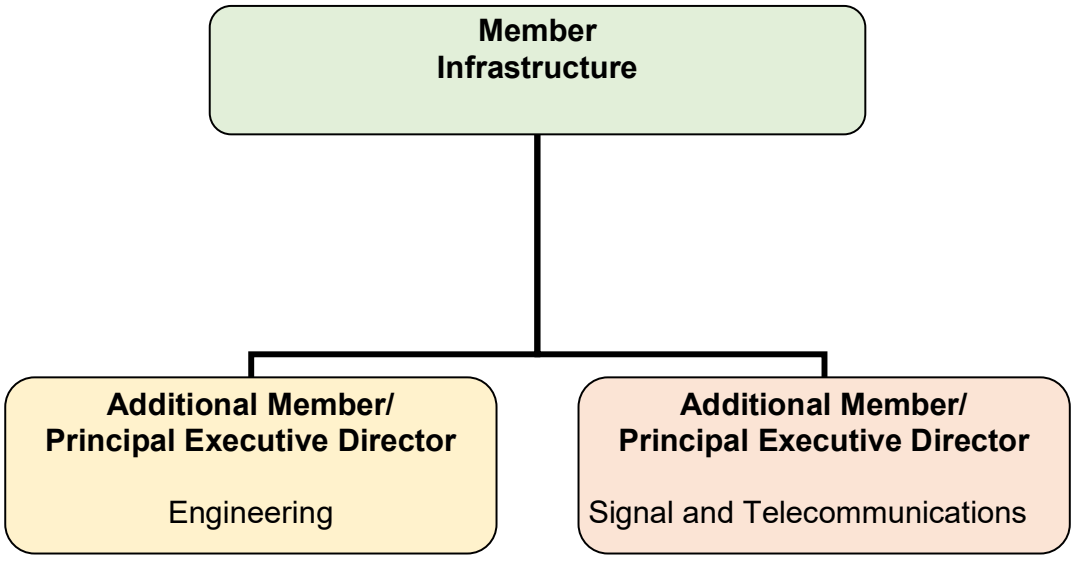
The matter was referred to the MoR in September 2021; no reply was received (November 2021).

[89] East Central Railway (October 2006) and Northern Railway (August 2013)

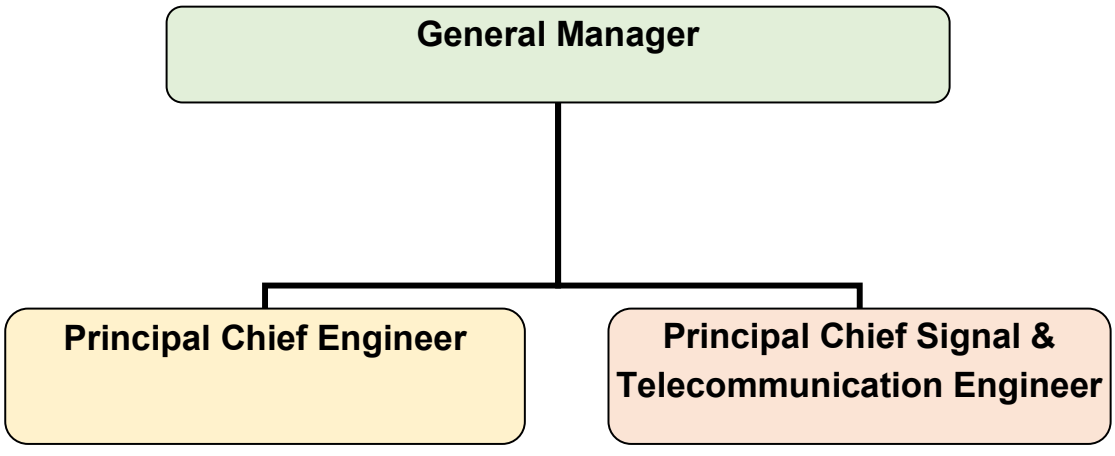
Chapter 3 - Infrastructure

Member (Infrastructure) at Railway Board is responsible for maintenance of all fixed assets of Indian Railways, such as, Tracks, Bridges, Buildings, Roads. In addition, he is responsible for construction of new assets, such as, new lines, gauge conversion, doubling and other expansion and developmental works. He is assisted by Additional Members and Principal Executive Directors.

Railway Board Level



Zonal Level



At Zonal level, with the General Manager heading the Zone, the Engineering Department is headed by Principal Chief Engineer (PCE). He is assisted by various Chief Engineers for maintenance of Tracks, Bridges, Buildings, Roads *etc.* Each Zonal Railway also has a construction organization headed by a

Chief Administrative Officer (Construction) who is responsible for major construction works of Zonal Railway. He is assisted by various Chief Engineers (Construction).

Member (Infrastructure) at Railway Board is also responsible for Signal & Telecom Departments of Indian Railways. The Signal & Telecom Directorate at Railway Board is responsible for all the issues regarding procurement and maintenance of Signal & Telecom assets over Indian Railways. In the Railway Board, Member (Infrastructure) is assisted by Additional Member (Signal) and Additional Member (Tele).

At Zonal level, the Chief Signalling and Telecom Engineer (CSTE) is responsible for overall supervision and maintenance of S&T assets.

For enhancing efficiency and safety in train operation, modern signalling plays a very vital role. The Signalling Department handles induction and maintenance of signalling systems. The Telecom Department is responsible for telecommunication services in Railways.

In 2019-20, the total expenditure on repair and maintenance of assets[90] by Engineering Department in Indian Railways was ₹ 20,766 crore[91]. Indian Railways also incurred an expenditure of ₹ 27,696 crore[92] on creation of new assets[93]. During the year, apart from regular audit of vouchers and tenders, audit of 1,086 offices of Engineering Department including Construction Organization was conducted.

The expenditure on repair and maintenance of plant and equipment of S & T Department during the year 2019-20 was ₹ 3,233 crore[94]. Capital expenditure of ₹ 1,622 crore was incurred on creation of S&T assets. During the year, apart from regular audit of vouchers and tenders, 490 offices of the S&T Department were inspected.

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[90] Permanent Way and Works, Bridges, Tunnels, Roads, Sanitation and Water Supply *etc.* including Plant and Equipment

[91] Sub head 3002-3003 (02)-Repair and Maintenance of Permanent Way and Works and Sub head 3002-3003 (05)-Repair and Maintenance of Plant and Equipment- Appropriation Accounts - 2019-20

[92] Sub head 5002-5003-Assets-Acquisition, Construction and Replacement– Appropriation Accounts - 2019-20.

[93] New Line, Doubling, Gauge Conversion, Traffic Facility Works, Track Renewal Works, Bridge Works, Level Crossings and Passenger Amenities Works

[94] Minor Head 500, 600 and 700 of Sub head 3002 and 3003 (5)-Repair and Maintenance of Plant and Equipment - Indian Railways Appropriation Accounts - 2019-20

This Chapter includes a review on 'Implementation of Dedicated Freight Corridor Project in Indian Railways'. In addition, this Chapter includes 21 individual paragraphs. These paragraphs highlight compliance issues that relate to delay in construction of Road Over Bridge, blockade of funds in railway projects, underutilization of assets created, non-recovery of due charges from sidings, non-payment of licence fee by private parties *etc*. Compliance issues pertaining to Railway PSUs are also included in this Chapter.

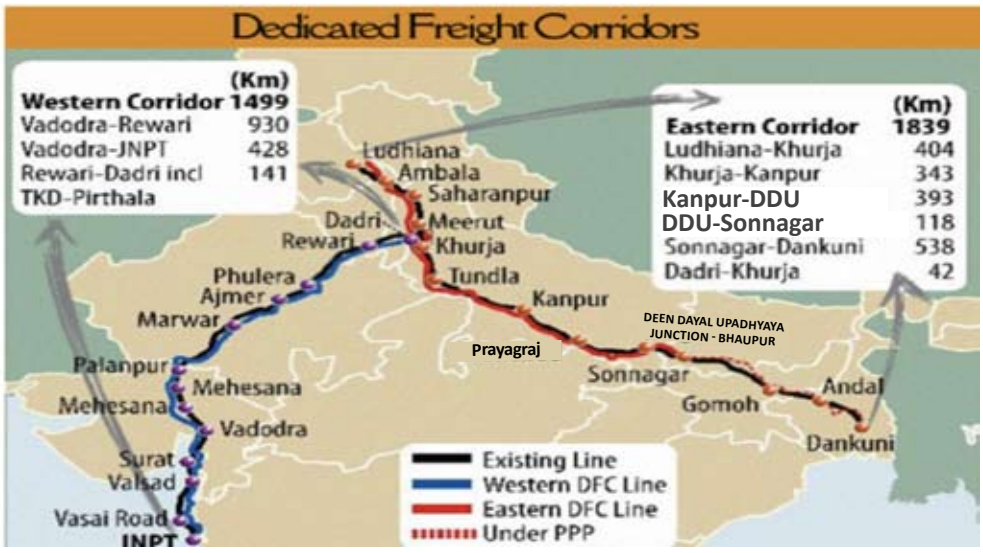
3.1 Implementation of Dedicated Freight Corridor Project in Indian Railways

3.1.1 Introduction

The 'Golden Quadrilateral' of Indian Railways (IR) connecting Delhi, Mumbai, Chennai and Kolkata comprises of 16 *per cent* of the total route length of 67,956 km but carries more than 50 *per cent* of passenger and freight traffic. These routes are, however, saturated to handle growing demand for freight traffic in eastern zone and the container traffic from the western ports of Mumbai and Gujarat to the Delhi area. Over a period of time, the share of freight transport by Indian Railways (IR) has declined substantially in comparison to road transport.

Capacity constraints on the existing network and anticipation of the quantum leap of freight traffic demanded for construction of Eastern Dedicated Freight Corridor (EDFC) and Western Dedicated Freight Corridor (WDFC). Thus, an independent entity, "Dedicated Freight Corridor Corporation of India Limited" (DFCCIL) was established in October 2006. It was formed as a Special Purpose Vehicle (SPV) company under the administrative control of the Ministry of Railways for the construction, operation and maintenance of these corridors. The primary objectives of Dedicated Freight Corridor (DFC) project were to reduce unit cost of transportation and creation of additional rail infrastructure.

EDFC extends from Ludhiana (Punjab) to Dankuni in West Bengal and the WDFC is from Dadri in Uttar Pradesh to Jawahar Lal Nehru Port Trust (JNPT), Mumbai.



Route Km of WDFC and EDFC was later increased to 1504 Km and 1861 Km respectively. Mughal sarai renamed as Deen Dayal Upadhyay station.

The project was targeted for completion within five years of its commencement. The project, however, has missed several targets. Out of total 3,365 Km length, only 657 km[95] stretch (19.5 *per cent*) of the project was commissioned till March 2021.

3.1.2 Salient Features of DFC Project

In the DFC Project, world class and state-of-the-art technology were adopted. The significant technologies used in DFC Project include mechanized track laying, train protection warning systems, online monitoring of rolling stock systems etc. Some important basic information on the corridors are mentioned in **Table-3.1.**

Table 3.1: Features of Western and Eastern Corridors

Basic Features	WDFC	EDFC
Route length (km)	1504	1861
Feeder Route length (km)	1516	3328
Container Stack	Double Stack	Single Stack
Projected traffic in million tonnes (2021)	128	144
Moving Dimension (Height)	7.1m	5.1m
Total Land to be Acquired	6000 hectares	4567*hectares
Project Cost (2015) ₹73392 crore (Excluding cost of land ₹ 8067 crore)	₹ 46,718**	₹ 26,674
Funding agency	JICA	World Bank
Expenditure incurred ₹74028 crore (March 2021)	₹ 42,504 crore	₹ 31,524 crore

**** Excluding Sonnagar – Dankuni Section, ** This includes interest during construction of ₹5316 crores for WDFC loan.***

[95] Bhaupur – Khurja (343 km) in December 2020 on EDFC and Rewari – Madar (306 km) in January 2021 on WDFC.

3.1.3 Organisational Set up

At DFCCIL Corporate Office, Managing Director is overall responsible for implementation of DFC Project. The Construction of the EDFC is headed by Director (Project Planning) and of WDFC Director (Infrastructure). Each field unit is headed by a Chief General Manager (CGM) who is responsible for implementation of works pertaining to an assigned section of the corridor. DFCCIL is governed by a Board of Directors comprising of the Chairman (Part-time), Managing Director, four whole-time Directors. Chairman Railway Board is the part time Chairman of DFCCIL.

3.1.4 Scope and Methodology of audit

The scope of audit covered examination of records related to Planning, funding, execution and monitoring of implementation of project as of March 2021. Audit methodology includes examination of records at Railway Board and Corporate office of DFCCIL. Audit also examined the records at DFCCIL corporate office to assess the transparency in the process of awarding of contracts. Regarding execution of contracts, the records of different project offices pertaining to selected sections, as mentioned in **Annexure 3.1,** were test checked in Audit.

The audit commenced with an entry conference (January 2020) with the executives concerned of DFCCIL and Ministry of Railways (MoR). The draft review report was issued to DFCCIL on 02 August 2021 and a provisional paragraph was also issued to the Ministry on 05 October 2021. The remarks/views of DFCCIL on the audit findings were considered in finalizing the report. The response of the Ministry is awaited.

3.1.5 Audit Objectives

Audit was conducted with a view to obtain assurance on:

- efficiency in planning the implementation of the project, and its impact on its overall cost and the targets for completion of projects; and
- evaluation of the economy and efficiency in execution of contracts.

3.1.6 Sources of Audit Criteria

The audit criteria was derived from the following sources:

- Feasibility Studies/Preliminary Engineering cum Traffic Survey Report (PETS) / Detailed Project Report (DPR),
- Loan agreements with World Bank and JICA, minutes of the meeting with World Bank and JICA,
- Concession Agreement, Corporate Plan and Business Plan of DFCCIL,

- Procurement Guidelines of World Bank and JICA, Schedule of Power, Work Manual of DFCCIL,
- Memorandum of Understanding (MoU) with MoR, World Bank and JICA.

3.1.7 Sample Selection

The Dedicated Freight Corridor Project was divided into 13 sections. Audit test checked contracting procedures, execution and other related issues pertaining to four sections (Rewari – Iqbalgarh and Vaitarna – JNPT section of WDFC and Khurja - Bhaupur and Bhaupur – Deen Dayal Upadhayaya section of EDFC) of the DFC Project. All the 16 major contracts financed by JICA and World Bank pertaining to these four sections were reviewed. Details of sample selection are shown in **Annexure 3.1**.

Audit findings, emerged on scrutiny of the records of DFCCIL Corporate Office, field project offices and Railway Board offices are discussed in subsequent paragraphs.

3.1.8 Funding of DFC project

Indian Railways (IR) projects are generally financed by budgetary support due to inadequate generation of internal resources. The extent of financial resources required for implementing DFC Project was, therefore, decided for funding through a mix of bilateral and multilateral debt and equity investment. Eastern corridor is funded by the World Bank except for Deen Dayal Upadhayaya – Sonnagar (126 Km) and Sonnagar - Dankuni section (540 Km). The section Deen Dayal Upadhayaya – Sonnagar is funded by Ministry of Railways (MoR) and the terminal section Sonnagar – Dankuni would be funded and executed in Public Private Partnership (PPP) mode. Western Corridor is funded by JICA. In February 2008, Cabinet approved the project at an estimated cost of ₹ 28181 crore (EDFC - ₹ 11589 crore and WDFC- ₹16592 crore). In 2015, the revised cost of the project was assessed at ₹81459 crore.

Audit observed that the Debt-Equity Ratio for the project was initially envisaged to be 2:1. With the increase in cost of the project, the debt-equity ratio of the project was revised to 3:1. The equity component of DFCCIL is provided by MoR. Details of terms and conditions of financing by JICA and World Bank are given in **Annexure 3.2.**

3.1.9 Loan Restructuring

For the purpose of financing by the World Bank, EDFC Project was divided into three phases. The total committed loan of US$ 2725 million was reduced to US$ 1775 million. The funding tie ups with JICA and World Bank is shown in **Annexure 3.3.**

Audit observed that EDFC loan although sanctioned in 2011, first works contract was awarded in March 2013 only. Therefore, during the initial one and a half year, no expenditure was incurred from the World Bank fund. Audit also observed that the target for commissioning of EDFC-1 (Khurja-Bhaupur) was March 2017. This target was revised to November 2019. The World Bank and the Ministry of Finance agreed to close the loan of this overage project on May 31, 2019. It was also observed that the EDFC-1 loan was reduced (December 2018) from USD 975 million to USD 555 million with the understanding that the remaining activities would be financed from the savings from EDFC-2 (Bhaupur – Deen Dayal Upadhayaya) from June 1, 2019 onwards.

Further, the loan amount for EDFC-2 was also restructured from USD 1100 million to USD 660 million along with loan closing date extended from December 31, 2019 to January 31, 2020. Extension of tenure of loan, inclusion of new projects/section in the existing loan and transfer of any portion of loan to another loan were cited as the reasons for restructuring of loans.

As per the loan agreement for EDFC-3 (Ludhiana –Khurja), DFCCIL is required to pay the Commitment Charges equal to one quarter of one *per cent* (0.25 *per cent*) per annum on the undrawn loan balance. Audit observed that during the period from 2016-17 to 2020-21, DFCCIL had drawn US$ 248.79 million as against the planned schedule of drawing of US$ 620 million. Non-utilization of fund by DFCCIL led to avoidable payment of commitment charges to the tune of ₹ 16 crore till March 2021 as shown in **Annexure 3.4**.

Admitting the audit observations, DFCCIL stated (October 2021) that the progress of project at initial phases was affected due to numbers of reasons, such as, delay in awarding and land acquisition, formation of bidding document, lengthy World Bank process and coordination with State Government in replacement of level crossings by RUBs/ROBs.

3.1.10 Concession Agreement

The relationship between MoR and DFCCIL is governed by a Concession Agreement (CA), which is valid for a period of 30 years. Audit observed that DFCCIL was established in October 2006. MoR, however, took more than seven years in finalizing CA (February 2014). Main reasons for the delay in finalizing CA were due to delays in compliance of Ministry of Finance recommendations and legal vetting from the Minstry of Law and Justice.

3.1.11 Non- provision of Return on Equity in TAC

DFCCIL's role is primarily that of the infrastructure provider for the Indian Railways, to enable them to run trains on the DFC. The only source of revenue for the DFCCIL would be the user charge or 'Track Access Charge' (TAC), to be paid by the Indian Railways in return for services received. Track Access Agreement is a part of Concession Agreement.

TAC consists of Fixed & Variable cost. Fixed component is payable irrespective of the volume of traffic and a variable component based on gross ton kilometers (GTKM) moved. The fixed cost is the capital cost (Depreciation plus cost of debt) and the variable cost is traction cost and operating expenditure.Track Access Agreement (February 2014) provides that TAC shall be mutually agreed between MoR and DFCCIL. TAC is to provide revenue adequate for DFCCIL to be a commercially sustainable company earning a reasonable return on investment.

In October 2011, Railway Board had constituted a committee of Executive Director (Project Planning) Adviser Finance and Budget of Railway Board and Director (Operation and Business Development) of DFCCIL for developing methodology for establishing TAC for MoR. As per the recommendation of TAC committee, the fixed component of TAC would cover debt servicing, return on equity, interest on working capital and other fixed charge costs, when IR is the sole user. The TAC, thus calculated, would be reviewed when Rail Development Authority or other regulatory mechanism is set up and multiple-operator regime is introduced over DFC.

Audit, however, observed that the recommendation of TAC committee was not fully implemented. As per the TAC approved by MoR in December 2018, "Return on Equity"[96] would not be payable by Ministry of Railway to DFCCIL as long as IR is the sole user. This arrangement contradicts the provisions of the Track Access Agreement (February 2014). Non-provision of return on equity would have adverse impact on the commercial sustainability of the Company in future and on efficient operation and maintenance of freight corridors.

Audit further observed that no TAC was accrued to the DFCCIL till March 2021 due to delay in commissioning of the project. As a result, DFCCIL

[96] Return on equity (ROE) is a measure of financial performance calculated by dividing net income by shareholders' equity. Shareholders' equity is equal to a company's assets minus its debt. ROE is considered as a measure of a corporation's profitability in relation to stockholders' equity.

had to repay the debt of ₹589.85 crore[97] to the World Bank for EDFC – 1 out of the equity funded by MoR. Though two sections[98] of EDFC and WDFC were commissioned, commercial operation of freight traffic in these sections is yet to commence and therefore, no TAC was paid to DFCCIL.

3.1.12 Lack of functional independence of DFCCIL

As per the Concession Agreement, the relationship between MoR and the DFCCIL was set out on the basic principle that DFCCIL should be commercially independent and it will remain at arm's length distance from IR (MoR).

Audit observed that the responsibility for determination of access to authorized rail users for DFC routes rests with the MoR and is the sole customer holding 100 *per cent* equity. Therefore, 'Return on Equity' was not payable by the Ministry to DFCCIL. Apart from this, JICA fund is routed to MoR through MOF in the form of GBS. This fund, in turn, is passed on to DFCCIL as an Externally Aided Project. Revenue Generation for DFCCIL is dependent on the traffic offered by the MoR only. TAC has been determined in cost cover model and no incentive to DFCCIL has been prescribed for financial sustainability of DFCCIL. This arrangement has limited the independence of DFCCIL.

3.1.13 Planning Deficiencies

DFC project was first discussed at the Japan-India Summit in April 2005. Based on the feasibility report submitted by RITES in January in 2006, MoR submitted (February 2006) a note to Cabinet Committee on Economic Affairs (CCEA) seeking approval for taking up the project at an estimated cost of ₹ 21,140 crore. The Cabinet accorded 'In Principle' approval of the proposal (February 2006) to take up the project. In February 2008, Cabinet finally approved the project.

Scrutiny of records relating to planning in implementation of the project revealed following deficiencies:

3.1.13.1 Delay in taking off DFC between Sonnagar and Dankuni

In February 2008, Expanded Board of MoR discussed the feasibility of extension of DFC from Sonnagar to Dankuni of EDFC. The minutes of the meeting recorded that the Department of Expenditure (DOE) and the Ministry

[97] Pertaining to the period November 2018 to March 2021

[98] Bhaupur – Khurja (343 km) in December 2020 on EDFC and Rewari – Madar (306 km) in January 2021 on WDFC.

of Statistics and Programme Implementation expressed their observations on premature appraisal of the project pending finalization of the location of the deep sea port. It was also pointed out that the project independently was not viable with Financial Internal Rate of Return (FIRR) for the Sonnagar – Dankuni section being only seven *per cent.*

Planning Commission also supported the views of the DOE. They mentioned that the extension beyond Sonnagar was essentially to cater to the traffic from the future deep sea port and without a deep sea port being finalized, the proposed extension was considered premature. The Planning Commission viewed that the traffic projections, particularly of coal were too optimistic. They further added that the reduced level of traffic on Sonnagar – Dankuni section and its low viability is likely to make the entire eastern corridor project from Ludhiana to Dankuni unviable. The Expanded Board of MoR, therefore, resolved not to recommend the proposal. MoR, however, submitted a note to CCEA for final approval for DFC project on eastern route from Ludhiana to Dankuni.

The Cabinet approved (February 2008) extension of EDFC project from Sonnagar to Dankuni (540 Km). The estimated cost of the extension was ₹ 12,218 crore. The decision to finance the section through PPP mode was announced later in the Budget of 2010-11. In August 2013, MoR conveyed DFCCIL to take necessary action in this regard. The extension of the section was justified to increase railways' share of coal and steel traffic from the areas located in eastern region. It would also facilitate evacuation of containers from the ports in Kolkata area. MoR justified that the extension from Sonnagar to Dankuni would result in an overall Financial Internal Rate of Return (FIRR) of around 13 *per cent* for the eastern corridor.

Audit observed that no response was received for investment in this project. MoR was aware of the apprehensions of the prospective investors where the financial viability was not guaranteed. In order to attract the prospective bidders and reduce the volume of investment, Sonnagar – Dankuni section was divided into two sub-sections - Dankuni to Gomoh (276 Km. Phase I) and Gomoh to Sonnagar (264 Km. Phase II). This arrangement also failed to evoke any response.

Further scrutiny revealed that DFCCIL in co-ordination with MoR, could not finalize the location for deep sea port and float Expression of Interest even after 13 years of approval of the project.

3.1.13.2 Deficient planning for maintenance of DFC rolling stock

As per Budget Speech for the year 2010-11, two workshops for high axle load wagons were proposed to be set up for moving traffic on Western and Eastern

DFC. JICA recommended a new Routine Overhauling (ROH)/Periodic Overhauling (POH) facility at Dadri for eastern corridor and ROH facility at Rewari for Western corridor.

In March 2015, DFCCIL proposed that the ROH/ POH facilities and regular maintenance should be planned by authorized rail users (IR). DFCCIL further added that any deviation in infrastructure to be provided by DFCCIL may escalate the project cost and it may not be possible where the contracts were in an advanced stage.

In response, Railway Board stated (June 2015) that movement of loaded wagons on the existing tracks might not be possible as portions of the track connecting existing maintenance yards with DFC may not be capable of handling 25T/32.5T load. Railway Board further stated that besides capacity constraints, it would not be possible to carry out POH/ROH of wagons that plied on DFC in the existing Depots/workshops due to -

- Non-existence of workshops near the alignment of Eastern and Western DFC.
- The existing workshops might not be able to handle the modern rolling stock that would ply on DFC.
- Movement from DFC to IR existing workshop would create in-fructuous movement and in most cases such movement may not be feasible due to Schedule of Dimensions[99] (SOD) constraints, as SOD envelope for DFC being higher than that of the existing IR system.

Inspite of the above constraints, MoR/DFCCIL did not take any action for creation of maintenance facility for rolling stock of DFC.

3.1.13.3 Delay in upgradation of feeder routes

The objective of upgrading feeder routes was to ensure that the traffic originating from the Non-DFC routes are routed through DFC routes. Achievement of the projected traffic on DFC routes depends upon the connectivity with the hinterland and port. The axle load of existing railway line is 22.9 tonne with train load capacity of 5400 tonne. The track standard of DFC is, however, 25 tonne axle load with 13000 tonne train load capacity. Unless the feeder routes are upgraded to DFC's track standard, the intended benefit of DFC project in ensuring integration of DFC with the existing rail network would be defeated. With a view to achieving this objective, IR had

[99] Schedule of Dimension refers to the prescribed standards for tracks, overhead structure, signaling, rails, rolling stock etc.

undertaken upgradation of total 4,844 Km (1,515.8 Route Km in Western corridor and 3,328.4 Route Km in Eastern corridor).

Audit observed that the feeder routes of WDFC and EDFC were under upgradation. Till November 2020, only 438.60 Route Km (29 *per cent*) and 1,907 Route Km (57 *per cent*) feeder routes of WDFC and EDFC respectively were upgraded.

DFCCIL stated (October 2021) that upgradation of existing feeder routes was being done by the Zonal Railways concerned and being monitored by MoR. However, the fact remained that the projected benefit of DFC is unlikely to be achieved without upgradation of feeder routes as the DFC traffic would mostly originate and terminate in the existing network of Indian Railways.

3.1.13.4 Adoption of differential moving dimension in EDFC and WDFC

In DFC Project, the moving dimension[100] in WDFC is for double stack container and single stack container movement for EDFC. The height of overhead traction equipment for drawing power for electric locomotive is 7.1m in WDFC and 5.1m in EDFC. Since container trains form the major share of freight traffic on the WDFC, it was decided to adopt double stack container train operation to enhance the system productivity.

In the feasibility study report (2006), it was recorded that double stack container train operation may not be practicable to run all container trains except for only such pair of Origin-Destination points which have regular and sufficient traffic. Accordingly, container trains running between Jawaharlal Nehru / Mundra / Pipavav / Hazira Ports and ICDs in NCR of Delhi / Ludhiana alone were considered suitable for double-stack operations.

Feasibility study report also recorded that there would not be any substantial movement of container traffic in the eastern corridor. It was, however, recommended double stack container movement in Sonnagar-Ludhiana section of EDFC for maintaining uniformity in Maximum Moving Dimension (MMD). Despite such recommendations, MoR decided to adopt single stack container movement in EDFC as per the recommendation of JICA study report (2007) on traffic potentiality of eastern corridor. Audit observed that the adoption of different moving dimension would restrict the inter-portability of traffic between EDFC and WDFC due to difference in height of overhead traction equipment and loading standard.

[100] Moving dimension refers to the standards prescribed for tracks, signalling and overhead structures etc. of safe operation/movement of rolling stock of certain axle loads.

DFCCIL stated (October 2021) that the double stack container movement was not contemplated as the container movement is negligible in EDFC. Regarding inter-portability restriction, DFCCIL stated that single stack traffic can easily ply on both EDFC and WDFC.

Despite lower container traffic in EDFC in comparison to WDFC, feasibility study report recommended double stack container movement in Sonnagar-Ludhiana section of EDFC for maintaining uniformity in Maximum Moving Dimension (MMD). Further, due to the lack of uniformity in track standards, only single stack container would have inter-portability, as admitted by the DFCCIL. Therefore, the contention of DFCCIL was not tenable.

3.1.13.5 Land Acquisition

DFCCIL acquired land for DFC project on behalf of Central Government, Ministry of Railways (MoR) through the nominated Competent Authorities who are mainly Revenue Officers of the State Government. Land acquisition was being done as per Railway Amendment Act (RAA), 2008.

DFC alignment passes through 68 districts of nine states in both the corridors involving 11,813 hectares[101] of land. Till May 2021, acquisition of 11,689 Ha of land was complete.

Scrutiny of records revealed that DFCCIL made payment of award of ₹15,572 crore towards acquisition of 11,689 Ha of land. The disbursement to the land owners was made to the extent of ₹13,739 crore leaving a balance of ₹1,833 crore of award pending disbursement till May 2021.

Further scrutiny of records relating to assessment of requirement and acquisition of land, and payment of award/compensation to Project Affected Persons revealed the following:

(a) Improper assessment of land

In Bhaupur- Deen Dayal Upadhayaya section of EDFC, two civil works contract packages were awarded (CP-201 and 202). Audit observed that the requirement of land for execution of works within the scope of these contract packages had undergone revision over the years.

In its reply, DFCCIL admitted (November 2021) that there were variations in the requirements of land due to construction of approaches at level crossing and acquisition of new land which was missing during the initial acquisition of Land.

[101] EDFC-4618Ha, WDFC- 6000Ha, Sonnagar-Dankuni- 1195Ha

Audit observed that the reply of the DFCCIL was indicative of its improper assessment and consequent delay in acquisition of land resulting in additional expenditure of ₹ 173.38 crore on account of enhancement of the rates of land.

DFCCIL stated (October 2021) that various factors such as changes in alignment and detours, provisions of ROB/RUB and change in policy led to change in scope of land during project implementation stage. It further added that the procedural delays at district level and non-availability of proper land record etc. led to delay in timely determination and finalisation of land awards to Project Affected Persons (PAPs).

DFCCIL also stated that the role of DFC was to convey the assessment of land requirement to State Authorities concerned and ensure transfer of funds before acquisition of land.

The admission of DFCCIL authority was indicative of deficiencies in planning and improper assessment of land. Apart from this, lack of effective monitoring and coordination with the State Authorities concerned led to avoidable expenditure on account of enhancement of the rates of land.

Similar instance was also observed in JNPT- Vaitrana section of WDFC. Test check of records relating to acquisition of land in this section revealed that DFCCIL acquired 17.22 Ha of land in 2012-13 in five villages[102]. In 2016-17, DFCCIL again acquired additional 3.73 Ha of land. This had resulted in extra expenditure of ₹ 9.84 crore due to enhancement of circle rates of land during the intervening period.

(b) Erroneous notification for land acquisition

For acquisition of land in Ajmer tehsil and Pisangan tehsil, notification under section 20A[103] and 20E[104] was issued in 2009 and 2010. Audit observed that the land measuring 25.55 hectares, not covered in the notification issued under section 20A and 20E, was included in the notification under section 20F[105] for payment of award. This erroneous notification had attracted legal dispute at a later stage and the result of the lawsuit was in favour of the parties concerned. Consequently, the process of acquisition of land in Ajmer tehsil and Pisangan tehsil had to be initiated afresh in 2015 and 2016. In the

[102] Dhaniy, Rahanal, Dunge,Tiwari and Paygaon
[103] Section 20A of RAA 2008 provides for notification for declaration of intention of Central Government regarding the land required for execution of a Special Railway Project
[104] Section 20E also provides for acquisition of land within a period of one year from the date of publication of the notification under section 20A
[105] The competent authority shall make payment of award under section 20F within a period of one year from the date of publication of the declaration under section 20E.

meantime, some of the components of entitlements had increased as per the Entitlement Matrix for compensation for land. This had resulted in increase of the cost of land and extra expenditure of ₹ 36.14 crore on account of additional payment of compensation.

DFCCIL admitted (October 2021) that the notification of 20A and 20E was not issued for some parts of land but the award was declared for acquisition of land. DFCCIL further added that after issuing necessary notifications and fulfilling all process for the balance land, for which notification under section 20A and 20E were not published earlier, the amended award was declared in October 2017.

(c) Delay in payment of compensation

Audit observed that in Bhaupur- Deen Dayal Upadhayaya section of EDFC, Special Land Acquisition Officer did not make payment of the award within one year from the date of notification under section 20F. This indicates lack of proper monitoring and co-ordination between DFCCIL and State Revenue authority. Due to delayed payment of award, DFCCIL had to make additional payment of compensation of ₹ 14.26 crore.

Similar instances of delay in making payment of award were also noticed in JNPT-Vaitarana Section of WDFC, where additional 227 Hectares of land (other than Railway land) was acquired through the State Government. This had resulted in payment of additional compensation to the tune of ₹51.59 crore (including ₹ 1.50 crore towards establishment charges levied by the State Government).

In support of payment of additional compensation, DFCCIL contended (October 2021) that the award under section 20F could not be completed due to resistance by the Project Affected Persons. It further stated that the land acquisition was completed under police protection. However, the fact remained that DFCCIL had to incur loss of ₹ 51.59 crore due to delayed payment of compensation.

3.1.14 Execution and Monitoring of Project

3.1.14.1 Delay in Awarding of Contracts

(a) WDFC

Audit test checked eight contracts pertaining to Rewari-Iqbalgarh (Phase-I) and JNPT-Vaitarana (Phase-II) of WDFC. Review of the records relating to the time taken in awarding of contracts with reference to the JICA's implementation schedule revealed abnormal delay in finalisation of contracts as shown in **Table 3.2.**

Table 3.2: Delay in awarding of contract in WDFC				
Sl. No.	**Name of Contract**	**Target as per JICA's Schedule**	**Month & Year of Agreement**	**Delay (in months)**
1	**2**	**3**	**4**	**5 (4-3)**
Rewari-Iqbalgarh (Phase-I)				
1.	Civil building and Track Work (CTP-1&2)	October 2011	August 2013	22
2.	Electrical and Mechanical Work (EMP-4)	September 2012	March 2015	30
3.	Signaling and Telecomm. Work (STP-5)	September 2012	December 2015	39
4.	Train Protection and Warning System (Entire WDFC) (STP-5A)	March 2014	December 2015	21
JNPT-Vaitarana (Phase-II)				
1.	Civil, Building and Track Work (CTP-11)	December 2013	November 2016	35
2.	Electrical and Mechanical Work (EMP-16)	March 2014	March 2016	24
3.	Signaling and Telecom. Work (STP-17)	March 2014	August 2016	29

In May 2012, Chairman Railway Board advised DFCCIL to take all possible steps to curtail the timelines of the intermediate stages of awarding of contracts. It was suggested to do away with the Pre-qualification (PQ) Process which would result in saving of at least six months. Accordingly, in case of EMP-4. STP-5 and STP-5A, the PQ process was dropped for speeding up the awarding process. Despite such dispensation, there was delay of more than 21 months in awarding of contract.

b) EDFC

Audit test-checked eight major contracts of two selected sections of EDFC. As per model procurement schedule based on World Bank guidelines, the process of signing of contract is to be completed within 365 days from the date of launching of PQ document. It was, however, observed that there was delay in awarding of contracts as shown in the **Table 3.3.**

Table 3.3: Delay in Awarding of Contract in EDFC					
Sl. No.	Name of Contract	Target as per Model Procurement Plan	Month and Year of issue of PQ document	Date of agreement (Month and Year of Agreement)	Delay in awarding of contracts (in months)
1	2	3	4	5	6 = Col. (5-3)
Bhaupur-Khurja Section					
1.	Civil & Track Work CP-101	April 2011	April 2010	March 2013	23
2.	Civil & Track Work CP-102	April 2011	April 2010	March 2013	23
3.	Civil & Track Work CP-103	April 2011	April 2010	March 2013	23
4.	Electrical, Signaling and Telecomm. CP-104	July 2013	July 2012	August 2015	25
Deen Dayal Upadhayaya -Bhaupur Section					
5.	Civil & Track Work CP-201	April 2014	April 2013	May 2015	13
6.	Civil & Track Work CP-202	April 2014	April 2013	May 2015	13
7.	Electrical Works CP-203	February 2015	February 2014	October 2016	20
8.	Signaling and Telecomm. Works CP-204	February 2015	February 2014	September 2016	19

From the above table, it can be seen that period of 13 to 25 months was taken in awarding of contract from the date of launching of PQ document.

In its reply (October 2021), DFCCIL narrated the sequence of events and date-wise details of various processes involved in the tendering process leading to the delay in awarding of contract. No justified reasons for delay were, however, furnished.

Audit observed that the main reasons for the delay in awarding of contracts were the delay in appointment of consultants, delay in evaluation of PQ of applicants and the delay in signing of contract agreements etc. which are discussed in the succeeding paras.

3.1.14.2 Delay in Appointment of Consultants

As per the JICA Guidelines, Engineering Services Consultants (ES) were engaged for WDFC project. Similarly, in EDFC, General Consultants (GC) were appointed. The scope of ES Consultants/ GC covers all activities from preparation of PQ documents to awarding of contract.

Project Management Consultants (PMC) were also engaged in both the corridors for supporting DFCCIL in implementation of design, construction, testing and commissioning including reviewing and approval of designs prepared by contractors, supervision of their performance, progress monitoring etc.

In respect of World Bank funded project, a model procurement schedule has been prescribed for all activities leading to awarding of contract. However, for JICA funded WDFC project, only the final target for awarding of contract has been prescribed.

Scrutiny of the records relating to awarding of consultancy contract revealed the following:

(a) Appointment of Engineering Services consultants in WDFC

There was inordinate delay in finalization of consultancy contracts as indicated in the **Table 3.4.**

Table 3.4: Delay in awarding of consultancy contract

Consultancy Contract	Awarding of Consultancy Contracts		Delay (in Months)
	Target as per JICA	Achievement	
ES (Phase-I)	March 2010	May 2010	02
ES (Phase-II)	December 2010	November 2011	11
PMC (Phase-I)	June 2011	March 2014	32
PMC (Phase-II)	August 2013	March 2016	31

Rewari-Iqbalgarh (Phase-I) and JNPT-Vaitarana (Phase-II)

From the table above, it may be seen that there was minor delay in awarding of Engineering Services Contract for Phase-I. In respect of other consultancy contracts, the delays ranged between 11 to 32 months. Factors attributable to the delay in awarding of contract are indicated in **Table 3.5.**

Table 3.5: Reasons for the delay in awarding of contract

Consultancy Contract	Reasons for the delay
ES (Phase-II)	Out of total 11 months delay in awarding of contract, the Technical Evaluation Committee took about eight months in finalization of technical bids for submission to JICA (June 2011) for obtaining no objection certificate.
PMC (Phase-I)	As against the target of awarding of contract in June 2011, Expression of Interest and the Request for Proposal (RFP) was issued in April 2012 and April 2013 respectively.
PMC (Phase-II)	RFP was issued in June 2015 i.e after 22 months of the target for awarding of contract by December 2012.

DFCCIL stated (October 2021) that each stage of tendering is subject to multiple deliberations by multi-member committee and requisite approval which takes time.

While setting target, JICA must have taken into consideration of the time required for different activities involved. The reply of DFCCIL was, therefore, not tenable considering the cascading effect of delay in appointment of engineering consultants on the award of major works.

Audit observed that the delay in appointment of PMC had adverse impact on the progress of works. A contract for the work of design and construction of eight Special Steel Bridges (CTP-15A) of Western DFC (Phase-II JNPT-Vadodara) was awarded in June 2015. DFCCIL, however, appointed the PMC in March 2016.Till the appointment of PMC, Chief Project Manager Mumbai Unit/Surat Unit was assigned the responsibility to act as PMC. Due to delay in appointment of PMC, contractor sought extension of time (June 2016) for 205 days for completion of Milestone (MS) -I. PMC rejected (September 2016) the contractor's request for extension as slow progress of works were attributable to contractor. DFCCIL, therefore, imposed (December 2017) delay damages amounting to ₹22.17 crore and JPY 62.49 million.

Aggrieved by the decision of the DFCCIL, contractor approached Dispute Adjudication Board (DAB) to resolve the dispute. As per the verdict of DAB, DFCCIL refunded the delay damages recovered from the contractor.

Thus, DFCCIL failed in compensating the loss due to slow progress of work resulting from delayed appointment of PMC.

(b) Appointment of consultants in EDFC

In EDFC, DFCCIL appointed (September 2008) General Consultant (GC) for Bhaupur-Khurja section (343 km) from its own budget. The value of the contract was ₹ 133.85 crore. The Terms of Reference of the GC covered the development of engineering concept design, preparing bid document and assistance in bid evaluation including Project Management Consultancy (PMC).

Subsequently, it was decided that the EDFC would be financed by the World Bank. The World Bank expressed their reservations over assignment of the function of project management consultancy within the scope of GC on the following grounds:

a) The apparent poor quality of services and the lack of performance by the current GC,

b) The tendency of DFCCIL to reduce the presence of General Consultant.

Accordingly, DFCCIL truncated (January 2012) the scope of the GC Contract. On the direction of the World Bank (December 2011), PMC was engaged in October 2013 with contract value of ₹ 80.98 crore. The currency of the GC contract was for six years from the date of commencement of Service

(December 2008). Audit, however, observed that the currency of the contract was not reduced in proportion to the offloading of PMC Services from the contract.

Audit also observed that there were delays in appointment of PMCs for different sections as mentioned in **Table 3.6**.

Table 3.6: Delays in awarding of PMC and GC contracts

Activities	Prescribed Time line (in days)	Actual time taken (in days)	Delay (in days)
Bhaupur-Khurja section			
Awarding of PMC contract	**255**	**645**	**390**
➢ **Sub-Activity**: Expression of Interest till Issue of RFP to shortlisted consultant	100	337	237
Deen Dayal Upadhayaya - Bhaupur and Khurja-Ludhiana Section			
I. Project Monitoring Consultant			
Awarding of PMC contract	**255**	**609**	**354**
➢ **Sub-Activity**: Expression of Interest till Issue of RFP to shortlisted consultants	100	297	197
➢ **Sub-Activity**: Issue of RFP till signing of contract agreement	155	312	157
II. General Consultant			
Awarding of GC contract	**255**	**622**	**367**

Accepting the delay in appointment of consultants, DFCCIL stated (October 2021) that the activities such as preparation of terms of reference, request for proposal etc. took more time as these were done for the first time in DFCCIL. It also stated that there was considerable delay in obtaining clearance from the World Bank.

3.1.14.3 Delay in evaluation of Pre-qualification applicants

DFCCIL adopted two stage bidding process. The first stage is prequalification of the prospective bidders. This is followed by single stage two-envelope bidding process. The two envelopes contain technical and financial bids separately. The financial bids are opened for those who qualify the technical bid evaluation stage. Finally, the contract is awarded to the successful bidder in the financial evaluation. Similar process was being followed in EDFC with the exception that pre-qualified bidders would submit their technical proposal in the first stage. In the second stage, the bidders would submit updated technical bids along with commercial bids.

Analysis of the reasons for delay in finalization of PQ documents in respect of three contracts of JNPT-Vaitrana section of WDFC revealed that after

approval of PQ documents by JICA, DFCCIL resubmitted the same with some modifications. JICA, however, did not agree to the suggested modifications of DFCCIL and directed to adhere to its already approved observations.

The repetition of the PQ process caused delay by five to nine months in approval of PQ documents by JICA which, in turn, contributed to the delay in signing of contract agreement.

Similarly, there was delay in approval of PQ documents in EDFC due to delay from 04 to 17 months in submission of PQ documents by the General Consultant. The delay was mainly due to compliance to World Bank observations and incorporation of certain items for introduction of new technology as advised by the MoR.

3.1.14.4 Delay in obtaining approval of bid documents

As per Model Procurement Plan based on World Bank guidelines, DFCCIL was required to obtain the approval of bid documents within 100 days from the day of submission of PQ documents to the World Bank. The delay in obtaining World Bank's approval for the bid documents in respect of contracts executed for the sections Bhaupur-Khurja and Deen Dayal Upadhayaya - Bhaupur is shown in the **Table 3.7.**

Table 3.7 : Excess time taken in finalisation of bid documents

Contract Package	Submission of PQ document to World Bank	Prescribed time for Receipt of WB approval (100 days)	Actual date of recipt of WB approval	Delay (in Months)
1	2	3	4	5= Col. (4-3)
CP-101, 102 & 103	April 2010	July 2010	December 2011	17
CP-104	July 2012	October 2012	January 2014	15
CP-201 & 202	April 2013	July 2013	February 2014	07
CP- 203	February 2014	May 2014	March 2015	10
CP- 204	February 2014	May 2014	April 2015	11

From the table above, it is observed that there was delay ranging between 07 to 17 months in obtaining approval of the World Bank. The reasons for the delay were attributable to the time taken by the General Consultant/ DFCCIL for compliance to various observations of World Bank, raised subsequent to the initial submission of bid documents.

3.1.14.5 Impact of delay in awarding of contracts

(a) Extension of Engineering services consultancy contracts

As per the provisions of consultancy contract, consultancy services were to be provided for three years from the date of awarding of consultancy contract. Audit observed that the extensions to consultancy contracts of Rewari-Iqbalgarh and JNPT-Vaitarana section of WDFC were granted till the awarding of the major contracts. The time gap between awarding of major contracts and consultancy contracts is in **Table 3.8**.

Table 3.8: Time taken in awarding of Major contracts

Description of Work (Contract Package)	Award of ES Contract	Award of Major Contract	Time Taken (In months)
Civil & Track Works (CTP 1&2)	May 2010	August 2013	39
Electrical & Mechanical (EMP-4)	May 2010	March 2015	58
Signaling & Telcom. (STP-5)	May 2010	December 2015	67
Train Protection Warning System (STP-5A)	May 2010	December 2015	67
Civil & Track (CTP-11)	November 2011	November 2016	60
Civil & Track (CTP-15A)	November 2011	August 2015	45
Electrical & Mechanical (EMP-16)	November 2011	March 2016	52
Signaling & Telecom (STP-17)	November 2011	August 2016	57

Thus, due to delay in awarding of works contracts and extension of consultancy contract, DFCCIL had incurred an extra expenditure to the tune of ₹ 10.04 crore till June 2020 towards consultancy charges.

DFCCIL stated (October 2021) that it did not have unfettered freedom of tendering due to binding loan agreement conditions posing restrictions. DFCCIL also stated that owing to the multiplicity and unavoidability of multi staged factors, time consumption could not have been optimized.

The reply of DFCCIL was general in nature and did not specify the reasons for the delay.

(b) Extension of PMC Contracts

As per Para 14.1 of the Special Conditions of PMC Contract for Bhaupur – Khurja section, the tenure of the contract was for 72 months upto October 2019. DFCCIL, however, had to extend the currency of consultancy contract upto September 2022 due to slow progress of civil contract works (CP-101, CP -102 and 103). As a result, DFCCIL incurred extra expenditure of ₹ 40.09 crore till March 2021 over and above the contract amount of ₹ 66.76 crore.

Similarly, the contract for Quality and Safety Audit Consultancy Services (QSAC) for Bhaupur-Khurja Section was extended upto December 2020 as against the original stipulated tenure upto 5 November 2017. This resulted in extra expenditure of ₹5.90 crore on account of extension of consultancy contract (March 2021).

PMC contracts were extended by 92 months beyond the stipulated period due to slow progress of civil contracts (CP-201, 202, 203 and 204) pertaining to Deen Dayal Upadhayaya -Bhaupur Section. Extension of these contracts resulted in incurring extra expenditure of ₹ 42.24 crore.

Thus, DFCCIL incurred extra expenditure of ₹88.23 crore towards payment to consultants for rendering service during the period beyond the stipulated date of completion of the contracts.

DFCCIL accepted (October 2021) the audit observations that the consultancy contracts were extended due to delay in execution of main contracts.

3.1.15 Delay in execution

All contracts relating to civil, electrical and signaling works were divided into a series of milestones to be achieved within the stipulated time period as provided in the respective contracts. Audit observed that the contractors failed to achieve the desired milestone within the given time period. As a result, several extensions were granted on the grounds either attributable to DFCCIL or to contractors concerned.

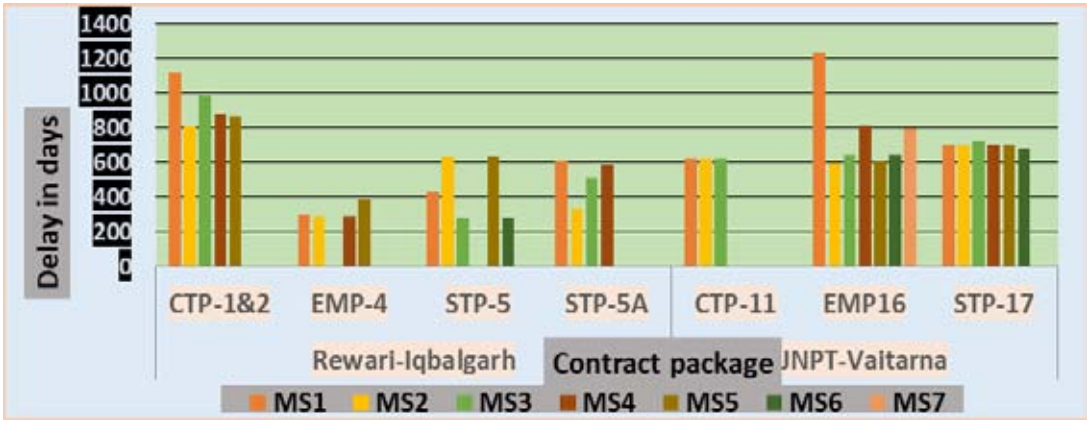
The range of delays in achieving different milestones in respect of different contracts pertaining to WDFC and EDFC is shown in **Table 3.9.**

Table 3.9: Range of delays in achieving milestones

Sections	*Range of delays (in Days)*
JNPT - Vaitarana (WDFC)	600 – 1234
Rewari – Iqbalgarh (WDFC)	276 – 1117
Bhaupur – Khurja (EDFC)	80 – 1635
Deen Dayal Upadhayaya - Bhaupur (EDFC)	90 – 1079

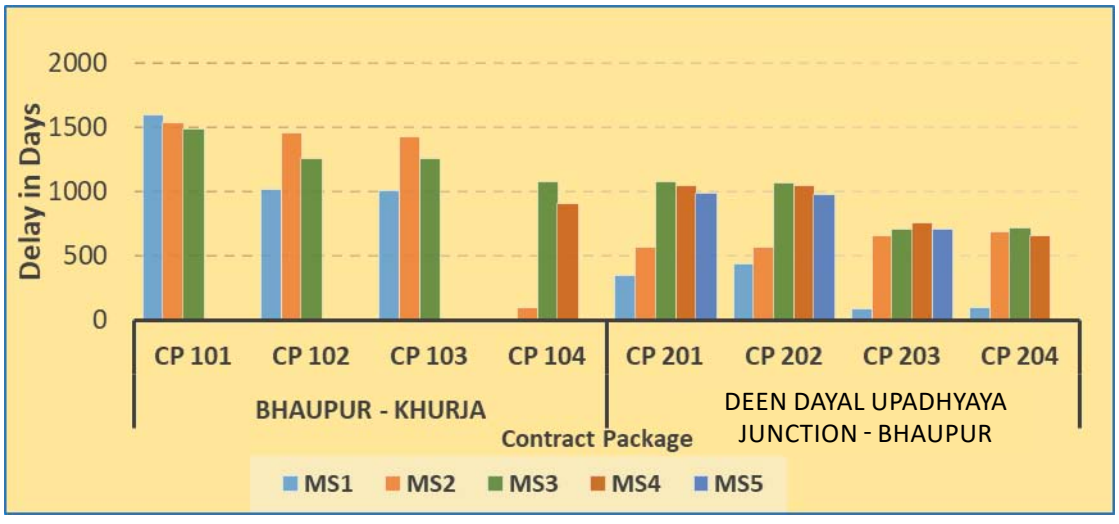
Audit observed that the contractors were engaged after detailed deliberation of their pre-qualification bid in the capacity of an expert agency in the field of design and construction of project of such magnitude. Despite following the due process for awarding of contract, delays in achieving the milestones in respect of different contracts of the sections test checked in WDFC and EDFC were noticed as shown in **Figure 1 (a) and 1 (b).**

Fig. 1(a): Delay in achieving milestones in WDFC



CTP-1&2 and CTP-11 (Contract Number for Civil and Track works), EMP-4 & 16 (Contract Number for Electrical and Mechanical works), STP-5 & 17 (Contract Number for Civil and Telecommunication works.

Fig. 1(b): Delay in achieving milestones in EDFC



CP-101,102,103 etc. represent contract number

Due to delay in achieving the milestones and completion of project, DFCCIL had to incur ₹ 2,233.81 crore till March 2021 towards price escalation. DFCCIL further anticipated future liability of ₹ 2,671.29 crore in this regard. The primary reasons for granting extension of time inter-alia include the delay in handing over of land to the contractors, delay in finalization of design, delay in utility shifting, delay in achieving milestones by the interface contractors and the same are discussed in the succeeding paragraphs:

3.1.15.1 Delay in handing over of land to the Contractors

As per provisions in the contract, the employer shall hand over certain percentage of land or shall give Right of Access to site to the contractor within a stipulated period of commencement of the works by the contractor. The contract also provides that initial possession of site for work will be handed

over to the contractor in continuous stretches of at least 10 km. Thereafter, employer shall make efforts to provide access to site of at least 5 km length in isolated locations or minimum 1 km in stretches in continuation to the previously handed over stretch.

The cumulative percentage of land to be handed over within the stipulated period as per the contract conditions is indicated in the **Table 3.10.**

Table 3.10: Contract conditions for handing over of land

Sl. No.	Stipulated period of handing over of land after Commencement of work (in days)	Cumulative percentage of land to be handed over for work with respect to total length (in *per cent*)
Rewari-Iqbalgarh and JNPT-Vaitarana (WDFC) and Bhaupur-Khurja section (EDFC)		
1	28	80
2	91	90
3	182	100
Bhaupur- Deen Dayal Upadhayaya section (EDFC)		
1	28	80
2	91	85
3	182	95
4	365	100

Scrutiny of records revealed that DFCCIL failed in making available required land as stipulated in the contract. The quantum of land to be handed over as per the time line prescribed in the contract vis-a-vis actually handed over under the jurisdiction of different field project offices is shown in the **Table 3.11**.

Table 3.11: Shortfall in achievement of target in handing over of land to the contractor

Project Management Unit	Cumulative percentage of land to be handed over				
	80 *per cent*	**85 *per cent***	**90 *per cent***	**95 *per cent***	**100 *per cent***
	Cumulative percentage of land actually handed over				
CGM/Mumbai (JNPT-Vaitarana/WDFC)	17.65	NA	82.9	NA	82.9
CGM/Jaipur (Rewari-Madar/EDFC)	03	NA	10	NA	71
CGM/Ajmer (Madar-Iqbalgarh /EDFC)	NIL	NA	NIL	NA	98.7
CGM/Allahabad (East) (Bhaupur- Deen Dayal Upadhayaya section/EDFC for contract No. CP-201)	71	82	NA	85	97

Table 3.11: Shortfall in achievement of target in handing over of land to the contractor					
Project Management Unit	**Cumulative percentage of land to be handed over**				
	80 *per cent*	**85 *per cent***	**90 *per cent***	**95 *per cent***	**100 *per cent***
	Cumulative percentage of land actually handed over				
CGM/Allahabad (West) (Bhaupur- Deen Dayal Upadhayaya section/EDFC for contract No. CP-202)	85	85	NA	85	85
CGM/Tundla 1 (Bhaupur-Khurja/EDFC for contract No. CP-101)	35	NA	35	NA	70
CGM/Tundla-2 Bhaupur-Khurja/ EDFC for contract No. CP-102)	78	NA	78	NA	80
CGM/Tundla-3 Bhaupur-Khurja/ EDFC for contract No. CP-103)	62	NA	62	NA	62

NA: Not Applicable

There was shortfall in handing over of land up to 80 *per cent.* The reasons attributable to delay in acquisition and handing over of land were:

- Delay in notification for land acquisition and assessment of land
- Delay due to Arbitration / Court cases filed by aggrieved land owners,
- Delay in shifting of Charted and uncharted utilities and providing encumbrance free land.

Audit observed that there was delay in handing over of encumbrance free land to the contractor in respect of CP-101 under the jurisdiction of CGM/Agra. Contractor claimed prolongation cost[106] of ₹183.36 crore from DFCCIL. The Dispute Adjudication Board (DAB), decided (February 2020) the matter in favour of the contractor. DFCCIL, however, approached for arbitration against the decision of DAB. The matter was sub-judice (March 2021).

DFCCIL stated (October 2021) that the land acquisition activities completely fall in the domain of the State authorities concerned. DFCCIL also stated that the land acquisition process was delayed due to various external factors which were beyond the comprehension of DFCCIL.

[106] Prolongation costs are the additional costs that the contractor has incurred as a result of the completion of the works being delayed by an event that is the responsibility of the other party or Employer.

Factors contributing to the delay in land acquisition such as delay in assessment and notification for land acquisition were within the control of DFCCIL. DFCCIL could have avoided delay in shifting of utilities by way of effective co-ordination and pursuance with departments concerned. The contention of the DFCCIL was, therefore, not tenable.

3.1.15.2 Delay in finalisation and execution of contracts

Delay was observed in commencement of works pertaining to JNPT-Vaitarana Section of WDFC. The main reasons attributable to the delay in commencements were the delay in finalization of sub-design consultants (CTP-15A) and delay in obtaining concurrence from JICA (CTP-11, CTP-15A and EMP-16) etc. Further, delay in handing over right of access to encumbrance free site, delay in finalization of design and drawing due to deficient submissions by the contractors etc. led to delay in execution of the contracts. Resultantly, there was substantial shortfall in achievement as against the planned physical progress as indicated in the **Table 3.12**.

(In per cent)

Table 3.12: Status of Major Works Progress

Contract Packages	Physical Progress Planned to be achieved by March 2021	Overall Physical Progress JNPT-Vadodra	Actual Physical Progress between JNPT – Vaitarana Section	Shortfall (Col. 2– Col. 3)
1	*2*	*3*	*4*	*5*
CTP-11 JNPT- Vaitarana	100	23.78	23.78	76.22
CTP-15A JNPT- Vadodara	100	48.08	29.49	51.92
EMP-16 JNPT- Vadodara	100	75.78	59.59	24.22
STP-17 JNPT- Vadodara	99.32	38.73	10.17	60.59

The delay in completion of works would not only result in extra financial burden on the project but would also lead to avoidable claim from the interface contractors (Electrical and signaling contractors).

3.1.15.3 Delay in completion of Over Head Equipment works

Scrutiny of records revealed that Over Head Equipment (OHE) Works pertaining to Madar-Iqbalgarh Section of WDFC were scheduled to be completed by 2 August 2018 (MS- 4). The work could not be completed within the stipulated period. The progress of the work as in December 2019 was as indicated in **Table 3.13**.

Table 3.13: Status of Completion of OHE works					
Activity	**Unit**	**Scope**	**Achieved**	**Balance**	**Achievement (in *per cent*)**
OHE Foundations M/L	Number	13179	9532	3647	72.33
OHE Foundations Yards	Number	2213	843	1370	38.09
Anchor Foundation M/L	Number	3591	2596	995	72.29
Anchor Foundation Yards	Number	1035	431	604	41.64
Mast Grouting	Number	16919	7097	9822	41.95
Mast Grouting Yards	Number	1275	416	859	32.63
BEC Laying	TKM	765	205	560	26.80

Thus, even after passage of around one and half year from the stipulated date of completion, the progress of different activities in respect of OHE works ranged between 26.80 *per cent* and 72.33 *per cent*.

The reasons for delay in completion of OHE works were delay in Civil works (CTP) and non-provision of Foundation and Structure Erection to OHE works in due time. Activities for completion of MS-4 are directly linked to the actual completion of corresponding activities of MS-1 and MS-2. As the work of MS-1 and MS-2 could not be completed within the stipulated time period and extensions were granted for these milestones. Consequently, MS-4 i.e. OHE work was also delayed.

The delay in completion of works relating to OHE was one of the factors contributing to the delay in overall commissioning of the Rewari - Iqbalgar section. The commissioning of the section, which was planned in June 2018, remained incomplete till March 2021.

3.1.15.4 Delay in submission of programme activities

Clause 1.10.25 of Employer's requirements of Contract Agreement EMP-4, STP-5 and STP-5A pertaining to Rewari-Vadodara of WDFC provides for submission of different Programmes within the prescribed time schedule of 28 and 42 days. As per agreement, the Contractor is required to submit contractual construction programme, survey plan, inception report for approval of PMC.

Audit observed that the Contractor failed in timely submission of programmes. The delays ranged between 54 and 520 days.

DFCCIL stated (October 2021) that the delay in submission of programmes was on account of resolution of interface issues, site access by other contractors, design inputs and some other factors such as availability of 100 *per cent* encumbrance free land, resistance of local people, sudden

interference of forest department etc. which were beyond the control of DFCCIL as well as contractual agencies.

Audit observed that the factors like interface issues, site access by other contractors, design inputs and availability of 100 *per cent* encumbrance free land were not beyond the control of DFCCIL. DFCCIL failed in timely resolution of these issues which were indicative of inadequate monitoring and co-ordination with various authorities.

3.1.15.5 Delay in shifting of utilities

Utility shifting is the process of clearance of utilities of Railways and other departments, such as, state electricity boards, oil and gas companies and telecom departments etc. which fall along the project site and may cause hindrance to the construction, operation and maintenance of track. Shifting of utilities, *inter-alia*, includes shifting of railway track, signaling and telecommunication utilities, optical fibre cables, level crossings and underground gas pipe lines etc. This requires co-ordination with various authorities owning the affected utilities. Concerned departments prepare the estimate for shifting of utilities. Based on the vetted estimate, DFCCIL make advance payment to the departments concerned.

Scrutiny of records relating to payment for shifting of utilities and the status of their progress revealed the following:

I. In respect of four sections test checked in audit, an amount of ₹2,275.93 crore was paid to different executing departments for utility shifting. Utilisation of ₹1,031.96 crore was adjusted against the advance leaving a balance of ₹ 1,243.97 crore unadjusted till March 2020.

II. In JNPT-Vaitrana section, out of 61 utilities approved for shifting, only nine utilities had been shifted till March 2021 as indicated in **Table 3.14.**

Table 3.14: Status of shifting of utilities and adjustment of advance payment

Sections	Advance paid (₹ in crore)	Advance adjusted (₹ in crore)	Unadjusted advance (₹ in crore)	No. of works	Completed works
JNPT -Vaitarana	631.55	307.02	324.53	61	09
Deen Dayal Upadhayaya - Bhaupur	558.12	90.85	467.27	79	60
Rewari - Madar	20.24	13.27	6.97	27	27
Bhaupur -Khurja	554.94	485.95	68.99	134	77
Madar-Iqbalgarh	511.08	134.87	376.21	50	23
Total	**2275.93**	**1031.96**	**1243.97**	**351**	**196**

Audit observed that the several extension of time were granted to contractors due to delay in shifting of utilities. This had also contributed to factors leading to time and cost overrun of the project as a whole.

The reply of DFCCIL (October 2021) narrated the status of utility shifting in North western Railway (NWR). DFCCIL's reply was not specific to audit observation.

3.1.15.6 Impact of delay in execution of contract

(a) Revision of targets for commissioning of projects

The failure in achieving different milestones had not only delayed in commissioning of project but also delayed in accrual of the intended benefits of the project. Audit observed that there was slippage of targets for commissioning of different sections as shown in the **Table 3.15**.

Table 3.15: Target for Commissioning of the Project

SL. No.	Section	Target as per concession agreement	First Revision of target	Second Revision of target
Western Corridor				
1	Rewari-Madar (Marwar)	June- 18	Dec-18	Commissioned
2	Madar (Marwar) - Palanpur (Iqbalgarh)	June -18	Sept-19	March- 2021
3	Palanpur (Iqbalgarh)- Makarpura	June -18	March -20	March- 2022
4	Makarpura-Sachin	Dec -18	March -20	June- 2022
5	Sachin-Vaitarna	Dec -18	March -20	June- 2022
6	Vaitarna-JNPT	Dec -18	March -20	June- 2022
7	Dadri-Rewari	Dec -18	March -20	March- 2022
Eastern Corridor				
1	Sahnewal-Pilkhani	Dec-19	March -20	June-2022
2	Pilkhani-Khurja	Dec-19	March -20	June- 2022
3	Khurja-Dadri	Dec- 19	Dec- 19	June- 2021
4	Khurja-Bhaupur	Mar- 17	March- 19	December 2020 (Commissioned)
5	Bhaupur - Deen Dayal Upadhayaya	Dec-18	Aug- 19	June 2022
6	Deen Dayal Upadhayaya - Sonnagar	Dec- 2016	Oct-19	December 2021

(b) Delay in finalization of design

A contract for "Design and construction of important and major bridges (54 Nos.) of Western Dedicated Freight Corridor" was awarded in December 2008 at a total cost of ₹ 605.15 crore on lump sum contract basis. The work was to be completed by August 2011. The contractor, however, could not complete the work within the stipulated period. DFCCIL, therefore, imposed the liquidated damages (LD) of ₹ 27.79 crore along with freezing of price variation indices as on 05 January 2010.

The contractor sought arbitration against the decision of the DFCCIL and raised claim of ₹128.15 crore[107] and interest on the claim. The Arbitral Tribunal passed an award[108] (January 2015) of ₹1,08.53 crore in favour of the contractor, failing which simple interest at the rate of 12 *per cent* per annum shall be payable by DFCCIL on the amount due to the contractor.

Chief Project Manager, Surat and the Project Management Consultant recommended DFCCIL to accept the arbitration award on the grounds that DFCCIL delayed in giving approval of General Arrangement Drawings (GAD) to the contractor. Moreover, the Company also could not make the land available to the contractor in time for construction of the bridges. DFCCIL, however, ignored the recommendations of CGM/Surat and challenged the Arbitral Tribunal award in High Court in April 2015.

In December 2016, Delhi High Court upheld the verdict of the Arbitral Tribunal. The awarded amount was paid to the contractor in March 2017. Due to delayed payment of award, DFCCIL had to pay interest of ₹ 28.23 crore[109] to the contractor.

DFCCIL stated (August 2019) that in terms of Arbitration & Conciliation Act, 1996, the parties involved have the right to contest the decision to protect their interest. DFCCIL justified their decision to contest the arbitral award to avoid huge loss to the public exchequer.

The reply of DFCCIL was not convincing. Despite recommendations of CGM/Surat and PMC to accept the arbitration award, DFCCIL approached the Hon'ble High Court against the award. Also, this action was taken against the internal Legal advice.

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[107] Claim No. 1 – ₹ 60.78 crore, Claim No. 2 – ₹ 67.37 crore and Claim No. 3 – Interest on claims at the rate of 24 *per cent* from the date of claim became due.

[108] Total award was for ₹ 108,53,40,969 (including refund of LD of ₹ 27,58,16,740 and price variation of ₹ 79,40,24,229 and ₹ 1.55 crore towards pile cap bottom level works). Interest @ 12 per cent per annum amounting to ₹ 28,23,81,887.

[109] For the period 4 January 2015 to 16 March 2017

3.1.16 Miscellaneous issues

3.1.16.1 Mobilisation Advance

As per provisions of contract, the firm is entitled to interest free Mobilisation advance in two equal instalments to the tune of total 10 *per cent* of the contract value. First Mobilisation advance (five *per cent*) is paid on submission of Performance Security and commencement of Mobilisation process. The second advance (five *per cent*) is paid on submission of preliminary design of alignment and field survey, design procedures and process for 90 *per cent* of the total length in the contract subject to the production of utilization certificate of the first instalment of Mobilisation advance. In terms of item No.14.2 (a) of FIDIC conditions of contract, the deduction shall be commenced, at the rate of 25 *per cent*[110] of the net amount of each Interim Payment Certificate[111] (IPC), when the total of all certified interim payments exceeds 10 *per cent* of the contract value.

Scrutiny of records relating to payment of Mobilisation revealed the following:

(a) Loss due to delay in recovery of Mobilisation advance

Interest free mobilisation advance of ₹ 238.18 crore was paid to contractor against CP-201 contract of Deen Dayal Upadhayaya -Bhaupur Section (EDFC). For initiating first recovery of 25 *per cent* of the advance paid, the firm was required to execute works to the tune of ₹ 241.67 crore[112].

As per the schedule of milestone required to be achieved by the contractor, full recovery of Mobilisation advance was to be completed by August 2017. Due to slow progress of work, the recovery of Mobilisation advance was, however, started from the 18th IPC (June 2017). Till November 2019, ₹ 186.30 crore i.e 78.22 *per cent* of the Mobilisation advance was recovered leaving unrealized Mobilisation advance of ₹ 51.88 crore. As a result, DFCCIL incurred loss of ₹ 26.51 crore towards interest due to delay in recovery of Mobilisation advance.

Similarly, in respect of civil contract CP-202, recovery of total Mobilisation advance of ₹266.40 crore was to be completed by August 2017. Audit observed that DFCCIL recovered ₹ 225.36 crore till December 2019 due to slow progress of work. This had also resulted in loss of interest of ₹ 29.24 crore.

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[110] 15 *per cent* in case of Western Corridor.

[111] excluding the advance payment, deductions and repayment of retentions.

[112] 10 *per cent* of the contract value of ₹ 2416.68 crore.

In yet another contract CTP- 11 of JNPT-Vaitarana section of WDFC, Mobilisation advance of ₹ 275 crore was paid to the Contractor in two instalments in March 2017 and in March 2019. As per the Planned Construction Programme, the recovery of Mobilisation advance should have commenced from May 2018 onwards on achievement of 10 *per cent* physical progress. Accordingly, recovery should have been completed by November 2019 on attaining 77 *per cent* physical progress.

Audit observed that DFCCIL could not recover Mobilisation advance from the contractor till March 2020 due to slow progress of work. Based on the planned physical progress as per S-curve shown in the Monthly Progress Report (MPR) of DFCCIL, the recovery of the Mobilisation advance would be completed in August 2021, when 77 *per cent* physical progress is expected to be achieved.

The loan from JICA routed through MoR involves payment of interest at the rate of 7 *per cent* per annum in perpetuity with no principal re-payment. The delay in recovery of Mobilisation advance led to avoidable interest liability of ₹ 26.42 crore on DFCCIL.

DFCCIL contended (October 2021) that there was no provision of levying of interest in the contract due to delay in recovery of mobilisation advance. DFCCIL also contended that there was no loss of interest as interest free mobilisation advance was given to contractors.

In this connection, it is stated that DFCCIL could not recover full mobilisation advance from the contractors concerned within the specified period due to slow progress of works. Audit assessed the loss of interest beyond the specified period within which recovery of mobilisation advance should have been completed. The contention of DFCCIL was, therefore, not acceptable.

(b) Irregular release of moblisation advance

A civil contract (CP-201) for construction of embankment and laying of track in the section Deen Dayal Upadhayaya – Bhaupur section (EDFC) was awarded to a JV firm. A Joint Venture is an arrangement in which two or more parties agree to pool their resources for the purpose of a specific task or transaction. The co-ventures open a separate bank account for the venture transactions[113]. All Financial transactions are being carried out from this JV account.

Audit observed that the first Mobilisation advance of ₹ 120.84 crore was paid to the JV firm in June 2015. For releasing second advance, the JV firm produced utilization certificate in respect of expenditure incurred from an account other

[113] Companies Act, 2013 and the Limited Liability Partnership Act, 2008.

than JV firm's account. The DFCCIL raised objection over this transaction. PMC, however, accepted the utilization certificate and accorded its approval for release of second Mobilisation advance of ₹117.33 crore.

Audit further observed that the basis of acceptance of utilization certificate was not recorded by PMC. In absence any amendment to the policy and consequent change in the provision laid down in the contract, release of second Mobilisation advance was irregular and tantamount to undue favour to the JV firm.

DFCCIL stated (October 2021) that as per clause 14.2 of contract, second mobilisation advance may be granted on the satisfaction of engineer (PMC). DFCCIL stated that the second Mobilisation advance was released as per the approval of PMC.

Audit, however, observed that the clause 14.2 provides that second instalment of Mobilisation advance would be released after submission of details of utilization of first Mobilisation advance. PMC overruled DFCCIL's objection for releasing Mobilisation advance without recording reasons thereof.

3.1.16.2 Unfruitful expenditure towards WPC license for GSM-R spectrum

Spectrum on GSM-R technology is required for Mobile Train Radio Communication. DFCCIL decided (December 2017) to run Mobile Train Communication in entire Dedicated Freight Corridor. Accordingly, DFC/Jaipur applied (December 2017) for WPC license for frequency allocation from Department of Telecommunication for Rewari to Makarpura section of WDFC. DFC/Jaipur further applied (August 2018) for additional 73 BTS (Base Transceiver Station) sites of Rewari to Palanpur section within the same route of Rewari – Makarpura section.

Audit observed that BTS equipment had not been installed at sites till March 2021. WPC license for GSM-R services can only be utilised when actual train operation starts. It was also observed that DFCCIL paid Spectrum Charges of ₹28.88 crore (including ₹ 0.40 crore paid for belated payment of spectrum charges) for the period September 2018 to April 2021. The section Rewari-Makarpura[114] is targeted for commissioning by March 2022. Due to delay in commissioning of the section, the expenditure incurred for payment of spectrum charges was, therefore, premature and avoidable.

DFCCIL explained (October 2021) the reasons for requirement of WPC licence. DFCCIL's reply did not elaborate the reasons for not procuring BTS

[114] Rewari-Madar commissioned in January 2021

equipment till April 2021, which led to unfruitful expenditure towards payment of spectrum charges.

3.1.17 Monitoring of progress of DFC project

In August 2006, Cabinet directed that an Empowered Committee under the Chairmanship of Cabinet Secretary would be constituted to monitor the time bound implementation of the DFC Project. No such committee was formed till June 2009. A High Level Monitoring Committee comprising Chairman Railway Board (CRB), Finance Secretary, Foreign Secretary and Secretary of Department of Industrial Policy and Promotion[115] (**DIPP**) under the Chairmanship of Principal Secretary to Prime Minister was set up in June 2009 for monitoring the project.

In the first meeting (June 2009) of the Committee, it was decided that MOR should expedite the submission of the Cabinet Note for clearance of JICA loan and timeliness of final commissioning of both projects which would be expected in 2016-17, later the target for commissioning of DFC project was fixed as December 2016 in the meeting held in December 2011. It was decided that the CRB would comprehensively review the time-line of various components of both Western and Eastern DFC. It was specified that the results of review would be communicated to the Monitoring Committee with the approval of the Minister for Railways. Further, as desired by the Planning Commission, physical and financial targets for the year 2010-11 was finalised for monitoring on quarterly basis. In March 2010, Planning Commission intimated the Ministry of Railways that the achievement of targets would be reviewed and reported to the Prime Minister on quarterly basis. Since then, progress of DFC project was being monitored by the Planning Commission.

In the process of reporting the progress of project, there had been some occasional meeting by the MoR with DFCCIL. However, no recorded documents regarding the action taken by the MoR or DFCCIL on the basis of the decisions taken in the meeting could be made available to audit. From November-2014 onwards, communication between PMO and MoR regarding progress of DFC project was being uploaded on e-Samiksha on monthly basis.

Audit observed that DFCCIL had regularly submitted Monthly Progress Report (MPR) to MoR since June 2014. MoR's approach was, however, very casual. Regular review of the MPR of DFCCIL for addressing various issues of concern and monitoring timely implementation of project was not carried out.

[115] Renamed as the Department for Promotion of Industry and Internal Trade

3.1.18 Conclusion

Ministry of Railways envisioned construction of Dedicated Freight Corridors (DFC) as high speed, high axle load carrying corridors for freight movement. In view of the need of significant investment vis-a-vis the available resources, IR resorted to multilateral funding from JICA and World Bank. Audit observed that DFCCIL could not fully utilize the JICA fund resulting in payment of avoidable commitment charges to the tune of ₹16 crore. The relationship between the MoR and DFCCIL is governed by a Concession Agreement (CA). Audit observed that there was lack of functional independence as MoR is the sole customer. In deviation of the terms and conditions of the CA, no provision for return on equity was made for commercial sustainability of DFCCIL

The project suffered from several setbacks right from the planning stage to its execution. Audit observed several instances of planning deficiencies in respect of implementation of DFC between Sonnagar and Dankuni through PPP mode, maintenance of rolling stock of DFC, land acquisition, upgradation of feeder routes etc. Inaccurate assessment of land and delay in payment of compensation/award to project affected persons led to avoidable expenditure of ₹285.21 crore. The progress of the project was adversely affected mainly due to delay in awarding of contracts, delay in appointment of consultants, delay in handing over of land to the contractors and finalization of designs etc. Several extensions of time were granted for not achieving the milestones within the stipulated period. The target of commissioning of different phases/sections of the project had undergone repeated revisions. Due to slow progress of works, the consultancy contracts had to be extended, which resulted in extra expenditure of ₹98.27 crore.

The objective of formation of DFCCIL with 100 *per cent* equity of MoR to avoid any time or cost overrun and also to get the Eastern and Western DFCs positioned within five years of their commencement was defeated. Except a small stretch of 657 Km, the project remained incomplete till March 2021. Slow progress of works resulted in extra expenditure of ₹2234 crore towards price escalation besides ₹145.60 crore towards loss of interest on Mobilisation advance and others. Test check in audit revealed that the delay in commissioning burdened the project with avoidable expenditure of ₹2690 crore as against the total expenditure of ₹74,028 crore incurred on the project till March 2021. Delay in completion of project also deprived DFCCIL/Indian Railways of intended objective of creation of additional line capacity to increase freight traffic share.

3.1.19 Recommendations

Ministry of Railways may consider -

- ***Fixation of track access charges with provisions for return on equity in accordance with the terms and conditions of Concession Agreement with DFCCIL;***
- ***Expeditious upgradation of feeder routes and finalize strategy for maintenance of rolling stock of DFC;***
- ***Necessary action plan to ensure adherence to the target for progress of works and optimal utilization of borrowed fund to avoid payment of commitment charges; and***
- ***Initiating necessary action to monitor actively the progress of DFC works to avoid further slippage of targets and cost overrun.***

3.2 Blockade of fund: North Eastern Railway

Ministry of Railways (MoR) sanctioned a detailed estimate in July 2008 for construction of the new line project between Chhitauni – Tamkuhi Road under Varanasi Division of North Eastern Railway (NER). NER in violation of the instructions issued by the MoR entered into contractual liabilities with various agencies for execution of the new line project without ensuring acquisition of the land required for the project. MoR subsequently in September 2019 kept the project in abeyance. This resulted in blockade of fund to the tune of ₹ 115.10 crore invested on the project till date.

Ministry of Railways (MoR) issued instructions from time to time with regard to entering into contractual liabilities before land acquisition. These instructions were re-iterated by the Ministry in July 2013 which stipulated that the Railways should not enter into contractual liabilities in case of the New Line Projects unless the land required for completion/ commissioning of project/ identified section of the project over at least 70 *per cent* of the linear alignment has been acquired.

MoR sanctioned (July 2008) a detailed estimate for construction of new line between Chhitauni - Tamkuhi Road (58.88 Km) under Varanasi Division of North Eastern Railway (NER) at a total cost of ₹ 236.50 crore.

Scrutiny of records revealed (March 2020) that for execution of the new line project, land measuring of 571.32 acre (190.19 acre in Uttar Pradesh and 381.13 acre in Bihar) was to be acquired. However, NER Administration acquired (till 2013) only 204.60 acre of land (Private land 151.40 acre and Government land 53.20 acre) out of total 381.13 acre in Bihar. Thereafter, no land was acquired in Bihar. For acquisition of land, an amount of ₹ 60.05 crore was deposited by the NER Administration with the Bihar Government. In

Uttar Pradesh, Railway Administration had not been able to acquire any land till date.

Audit also noticed that Paniyahwa – Chhitauni (3.7 km.) section of new rail line was completed in March 2012. However, the train operation was not feasible on this short distance section till completion of remaining new line between Chhitauni to Tamkuhi Road. Further, the work of 'Construction of well foundation/open foundation, pier/abutment, PSC/composite girders, retaining walls, diversion of road and approaches of proposed RoB on NH-28B between Paniyahwa - Chhitauni was awarded to the Contractor in March 2012 at a total cost of ₹ 20.59 crore. However, due to poor progress in execution of the work, the Agreement was rescinded in November 2016 under clause 62 of Standard General Conditions of Contract.

The NER Administration also entered into four other Contract Agreements with different contractors during January 2017 to March 2019 for execution of various works[116] of the Chhitauni - Tamkuhi road new line project at a total cost of ₹ 51.74 crore. The contracts were awarded despite acquisition of only 204.60 acre of land against the requirement of 571.32 acre (36 *per cent* of 571.32 acre). An amount of ₹ 55.05 crore was incurred on construction work till July 2021.

Further, due to non-acquisition of land, forest clearance, stiff local resistance and various other factors, MoR in September 2019 decided to keep six projects of NER in abeyance which included Chhitauni - Tamkuhi road project. MoR gave directions to the NER Administration not to incur any further expenditure on these projects. The overall expenditure incurred by the NER on the project works out to ₹ 115.10 crore till July 2021 which included ₹ 60.05 crore as cost of land.

Scrutiny further revealed that Station Building at Chhitauni was completed, the sub-structure of the RoB between Paniyahwa - Chhitauni was completed except pier caps as shown in photographs below:

[116] Linking of track, insertion/dismantling of points, loading/unloading of rail, sleepers, all type of fittings, earth work and blanketing formation, construction of RuB, minor bridges and other misc work, manufacturing, supplying and stacking of machines crushed track ballast and balance work of construction of well/open foundation, pier/abutment etc.

Thus, commencement of the work of new line project between Chhitauni - Tamkuhi road by NER Administration without ensuring acquisition of required land and subsequent decision of MoR to keep the project in abeyance led to blockade of fund to the tune of ₹ 115.10 crore due to non-execution of Infrastructure Project. Further, as the NER Administration have already incurred a sizeable expenditure on earthwork, blanketing, embankment etc., the possibility of damage to the same due to rain and other factors cannot be ruled out.

The matter was taken up with the General Manager, NER (November, 2020). The NER Administration, in their reply stated (August 2021) that the work had been kept in abeyance as per the direction of the Railway Board. As regard the construction of RoB, it was stated that the decision of Railways to construct RoB on National Highway was prudent one and once this new line will be operational, the road traffic will also increase due to subsequent development of the local areas. The RoB will provide smooth traffic movements in the interest of the public at large.

The reply is not acceptable as the NER Administration failed to comply with the instructions issued by the MoR from time to time with regard to entering into contractual liabilities before land acquisition.

The matter was referred to MoR in August 2021; no reply was received (November 2021).

3.3 Unfruitful expenditure in construction of Grade Separator due to non- compliance of Railway Board's directives: Northern Railway

Ministry of Railways had issued instructions for ensuring clear sites of work before awarding the contracts. Northern Railway Construction Organization awarded the contracts for work of construction of Grade Separator without ensuring clear sites of work. There were encroachments in both the entry sides. Due to encroachments, the work could not be completed even after 10 years from its sanctioning. Capital expenditure of ₹ 71.50 crore incurred on the work till 31 March 2021 remained unfruitful.

Ministry of Railways (MoR) had issued the instructions (August 1980[117] and February 1985[118]) to all the Zonal Railways that before calling tenders, it may be ensured that the Railway is in a position to handover the site of work and supply the plan *etc*. to the contractor. Contract for execution of works should not be awarded unless site investigation have been completed, all plan drawings and estimates have been duly approved/sanctioned by the competent authority.

For ensuring uninterrupted/smooth movements of trains, work for construction of Rail Flyover (Grade Separator)[119] from Patel Nagar on Delhi Avoiding Line to Delhi Ambala Line was sanctioned in the Works Programme (1999-2000) at an estimated cost of ₹ 25.48 crore. However, the work was frozen in July 2001 by MoR till the completion of Gauge Conversion of Delhi-Rewari section. In May 2006, MoR, at the request of Northern Railway Administration, de-freezed the work of construction of Grade Separator. MoR sanctioned (June 2008) the Detailed Estimate of the work at ₹ 54.15 crore.

Northern Railway Construction Organization (NRCO) awarded (April 2009) the work[120] for the construction of Grade Separator to M/s Gangotri Enterprises Ltd./Lucknow at a cost of ₹ 48.02 crore with the date of completion within 15 months i.e. by July 2010. However, the work was not completed as yet mainly due to encroachments at both the approaches. During the currency of work, Detailed Estimate of the work was revised twice in July 2013 (from ₹ 54.15 crore to ₹ 156.65 crore) and in January 2016 (from

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[117] MoR's letter No. 80/W2/3/33 dated 28/29 August 1980

[118] MoR's letter No. 85/W1/CT/9 dated 22 February 1985

[119] Grade separation is a method of aligning a junction of two or more surface transport axes at different heights (grades) so that they will not disrupt the traffic flow on other transit routes when they cross each other.

[120] Work of Construction of Dayabasti Grade Separator including earth work, blanketing, retaining wall, PSC, girders, bridges, RUB's Quarters *etc*. on Dayabasti-Azadpur Section through M/s Gangotri Enterprises Ltd. Lucknow (1st Agency)

₹ 156.65 crore to ₹ 196.17 crore) mainly due to inclusion of via-ducts[121] instead of earthen embankment.

Initially, the entire work of construction of Grade Separator was awarded to one Contractor. However, due to inclusion of viaducts, work of the first Contractor was reduced. For construction of viaduct with Pre-Stressed Concrete voided slabs/composite girders and construction of retaining wall *etc.* along with two more contracts[122] were awarded to M/s Sona Builders/Gujarat (October 2016) and M/s Jandu Construction Company/Hisar (December 2017) with the date of completion by April 2018 and December 2018, respectively. However, the work has not been completed as yet, and overall physical progress was 55 *per cent* (March 2021). Audit observed that there was one more hindrance i.e. existence of 66 KV Over Head Line of North Delhi Power Limited (NDPL) which infringed the work of Grade Separator. However, despite Estate Officer's order of July 2015 to vacate the pubic premises, NDPL had not shifted the Over Head Line and deposited the dues of Way Leave charges[123] to Railway Administration.

Audit observed that the matter regarding removal of encroachments was taken up by Northern Railway Administration with Delhi State Government since 2003; but no concerted efforts were taken by the Delhi State Government and Northern Railway Administration for removal of encroachments. As a result, work at the site remained held up. Northern Railway Administration incurred ₹ 71.50 crore[124] up to March 2021 on this work. The contract awarded to M/s Gangotri Enterprises Ltd. was terminated as the contractor failed to complete the work by the targeted date and also not applied for extension of completion period. The contract awarded to M/s Sona Builders was also curtailed due to encroachment and non-completion of

[121]Viaduct is a long bridge-like structure, typically a series of arches, carrying a road or railway across a valley or other low ground

[122] (i) Construction of Viaduct with PSC voided slab and composite girders from Ch. 1400.00 m to Ch.1600.00 m Bridge No.14 and composite girder bridge across Lawrence Road along with other related Civil works *etc*. to M/s Sona Builders/Gujarat and (ii) Construction of Retaining Wall between from Ch. 1768 to Ch. 2153 & Ch. 2450 to Ch. 2550 of Double Line track and other Misc. works to M/s Jandu Construction Company/ Hisar

[123] Way leave facilities/easement rights on railway land involve occasional or limited use of land by a party for a specified purpose like passage *etc.* without conferring upon the party any right of possession or occupation of the land and without in any way affecting the Railway's title, possession, control and use of the land. Way leave facility/easement right may be allowed after execution of proper Agreement. Way leave charges are to be paid by the party to Railway Administration.

[124] M/s Gangotri Enterprises (₹ 38.20 crore), M/s Sona Builders (₹ 28.10 crore), M/s Jandu Construction Co. (₹ 5.20 crore)

connected work by M/s Gangotri Enterprises Ltd. and the work of Grade Separator was kept on hold until encroachment is removed.

Thus, despite clear directives[125] of MoR, NRCO awarded the contract(s) for construction of Grade Separator without clearing/removing the encroachments at the sites of the work. NRCO accepted (March 2017 and December 2017) that encroachment was a major cause for non-completion of the project. As the construction of Grade Separator has not been completed, the intended benefits i.e. uninterrupted/smooth movements of trains could not be achieved. The Civic Authority i.e. Delhi Urban Shelter Improvement Board (DUSIB)[126] has assessed the cost of Rehabilitation and Resettlement (R&R) at ₹ 10 lakh per Unit (Jhuggi). A sum of ₹ 168 crore would be required for removal of 1,680 Jhuggis from the work sites. The cost of work[127] has increased to ₹ 358.97 crore and Material Modification Estimate of the work, sent by NRCO to MoR in May 2019, was pending for approval. As the encroachment has not been removed, possibility of completion of work of Grade Separator in near future is remote.

Matter was taken up with Northern Railway Administration in November 2020. In reply, they stated (March 2021) that out of total length (area) of 3 km for construction of Grade Separator, 2 km area was available and one km area was occupied by Jhuggies. Contracts were awarded and work started in the encroachment free area of 2 km. No tender has been invited on both the entry sides and will be processed after removal of encroachments which is being followed up with the State Government as per R & R policy. After shifting of Jhuggies, work for the balance length of Grade Separator will be taken up.

Reply of Zonal Railway Administration is not acceptable. Despite MoR's instructions for awarding contracts only after having clear sites, NRCO awarded the contracts without ensuring clear sites of work/removing encroachments. Capital expenditure of ₹ 71.50 crore incurred so far on the work has been unfruitful.

The matter was referred to MoR in October 2021; no reply was received (November 2021).

[125] for awarding the contract only after ensuring that Railway is in position to handover the sites to the contractor along with the approved plans/drawings, soil test reports *etc.*

[126] Delhi Urban Shelter Improvement Board (DUSIB) created under DUSIB Act, 2010 passed by Legislative Assembly of National Capital Territory of Delhi

[127] due to revision of provision of funds for removal of Jhuggis

3.4 Injudicious decision of Railway Administration resulted in underutilization of Asset and idling of investment: Western Railway

Creation of Routine Overhaul facilities for 300 Box wagons per month at Shambhupura Depot of Ratlam Division by overestimating the work load, has resulted in gross underutilization of facilities created at an estimated cost of ₹ 32.80 crore.

Ministry of Railways (MoR) sanctioned (November 2011) a proposal to set up Routine Over Hauling Depot with a capacity for ROH of 300 BCNHL wagons per month at Shambhupura, at a cost of ₹ 29.64 crore.

The proposal was based on anticipated increase in arrival of wagons on account of upcoming cement sidings in nearby area at Shambhupura (SMP) of Ratlam (RTM) Division. It envisaged availability of wagons in ROH cycle of one day as against the existing cycle of 5.5 days and thus an annual saving of ₹ 24.29 crore.

While according finance concurrence for inclusion of the said work in PWP 2012-13, FA & CAO suggested (03 November 2011) that 'considering existing ROH Depots at Vatva (VTA), Sabarmati (SBI), Ratlam (RTM), Pratapnagar (PRTN) and upcoming Gandhidham (GIM) Depot, a perspective plan should be prepared to close Ratlam and Vatva Depots and redeploy the resultant surplus Machinery and Manpower to avoid sub-optimal utilization of resources provided in these Depots. Further, initial capacity of ROH Depot can be pegged lower at 150 wagons per month, to be increased subsequently as per need and prune down capital cost proportionately.

In response to the observations of FA & CAO, the then Chief Mechanical Engineer, Churchgate agreed (04 November 2011) for closure of Down yard[128] Depot at Ratlam only but expressed optimism that once commissioned, the Depot at Shambhupura would operate on full capacity load.

Thereafter, detailed Estimate of ₹ 32.80 crore for this work was prepared by CAO/C/CCG in December 2013. The ROH Depot, SMP planned to be commissioned in October 2016 was finally commissioned on 07 February 2018. The total cost booked against this work as of May 2021 is ₹ 31.52[129] crore.

[128]ROH Depot is situated adjacent to the Dn line of Ratlam-Mumbai Section.

[129]Completion Report is yet to be drawn of this project.

Audit also observed that the Shambhupura Depot was operating at only 17 *per cent* of its rated capacity. Against the planned turnaround cycle of one day, the overhaul on an average took extra 3.13 days per wagon. Also, contrary to the original plan to close the Down Yard, Ratlam Depot after Shambhupura Depot was commissioned, it still continued.

Audit further observed that against the installed capacity for routine overhauling of 300 wagons every month, Shambhupura Depot on an average, overhauled only 81 wagons per month during the period February 2018 to June 2021 The capacity utilisation had increased only marginally from 17 *per cent* (June 2019) to 27 *per cent* (June 2021). Audit also observed that on an average, overhauling of each wagon took extra 2.76 days against the projected turnaround time of one day per wagon.

Further, the planned capacity at Shambhupura did not take into consideration other factors which could impact its capacity utilisation i.e.

- Commissioning (December 2016) of Phulera[130] Depot of North Western Railway with a rated capacity of 85 wagons per month and;
- Non closure of the Vatava Depot;
- Transfer of 50 *per cent* of Shambhupura based Padmini rakes to Gandhidham[131] also affected arising of wagons for ROH at Shambhupura.

Thus, decision to create facilties for ROH of 300 BCNHL wagons per month at SMP Depot was injudicious considering that infrastructure created is underutilized with consequent idling of investment of ₹ 31.52 crore made on setting up of this ROH facility (May 2021).

The matter was taken up with Ministry of Railways in August 2021. In their reply, MoR stated (October 2021) that facilities for the wagon Depot Sambhupura were planned as per Major Depot. As per para 1104 of Wagon Maintenance manual, the Major Depot is categorized with ROH capacity of 125- 250 wagons per month. Depot of ROH capacity 250-500 wagons per month comes under Mega Depot. The ROH wagon Depot at Sambhupura (SMP) is a Major Depot with Maintenance and Practices and other facilities are in commensuration with the category of 125-250 ROH per month.

It further stated that Wagon ROH activity at DN Yard Ratlam Depot was gradually decreased and shifted to Sambhupura in phased manner to avoid

[130] located at a distance of 277 Kms from Shambhupura.
[131] Commissioned in April 2017.

transit problems & ultimately stopped on 18.09.2019. Complete staff of ROH activity of Down Yard RTM has been transferred to Wagon Depot SMP. ROH of wagons is now being done at SMP only. The facility of 300 ROH wagons per month is required looking into the present wagon ROH arising of almost 215 per month, which is further increased to peak with the implementation of Mission 2024 MT loading by year 2024. All required machinery and Plant have been shifted to SMP.

The reply was not acceptable. As per sanctioned detailed estimate, Sambhupura Depot was planned and constructed for capacity of ROH of 300 wagons per month. Therefore, as per Para No. 1104 of Chapter 11 of the Wagon Maintenance Manual, this Depot would fall under the category of Mega Depot (250 to 500 wagons per month). Wagon ROH activity at DN Yard Ratlam Depot was stopped in September 2019 (i.e. after 20 months after commissioning of ROH Depot Sambhupura). However, six M&P and four T&P equipment are yet to be shifted to Sambhupura ROH Depot even though more than two years have elapsed after closure of Wagon ROH activity at DN Yard Ratlam Depot.

Railway Administration has not taken concrete steps for providing required manpower in the Shambhupura ROH Depot.

3.5 Non-recovery of cost of Commercial staff posted in the siding: Central Railway

Central Railway Administration due to weak internal control failed to recover the cost of commercial railway staff posted in private sidings from 35 siding owners (including 13 private parties). The outstanding recovery of ₹ 23.92 crore pertained to intermittent periods during August 2008 to March 2020.

Ministry of Railways (MoR) issued (March 2005) Liberalized Siding Rules related to setting up and functioning of sidings. Under these rules, in all the private sidings[132], (excluding 'Engine-on-Load' scheme) barring the cost of one commercial staff per shift, Railway was required to bear the cost of all other railway staff. MoR in August 2016 reiterated that the siding party shall bear the cost of one commercial staff per shift.

Further, as per Para 1141 of Indian Railway Code for the Accounts Department (Volume-I), it is the duty of Accounts Officer that the bills for services rendered were promptly made out and issued to the party. The

[132]A private siding is a siding constructed to serve a Government Department, a factory, mill, industry, mine or other private party.

Accounts Officer should advise the Executive Head of the Office, the position of the outstanding bills every month and also report the position every quarter to the Financial Adviser and Chief Accounts Officer.

During review of records of sidings (excluding cases pertaining to EOL scheme) of four Divisions of Central Railway viz., Mumbai, Pune, Nagpur and Bhusawal, Audit observed the following:

- Staff cost amounting to ₹ 23.92 crore[133] pertaining to intermittent periods during August 2008 to March 2020 was outstanding for recovery in respect of 35 sidings[134].
- Out of the total outstanding amount of staff cost, ₹ 7.02 crore pertained to 13 sidings owned by private parties.
- The remaining amount of staff cost, ₹ 16.90 crore pertained to 22 Government/Public Sector Undertakings sidings for the period October 2013 to March 2020.
- Out of the 35 sidings, two sidings[135] (one siding owned by private party and one PSU siding) were closed in 2017-18 and January 2019. Staff cost of ₹ 1.04 crore was outstanding for recovery from these sidings. Details are given in **Annexure 3.5.**

Audit noted that even though the staff cost bills were preferred by the Accounts Department of the concerned Divisions against the siding owners, the same remained outstanding for recovery till date. Outstanding staff cost pertaining to seven sidings[136] for the period up to March 2014 reported earlier through Audit Report No. 24 of 2015 (Railways)-Volume-I were still outstanding for recovery.

Audit further noted that in Mumbai Division, staff cost bills for the intermittent periods (ranging from three months to 54 months) during April 2013 to March

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[133](Mumbai Division - ₹ 21.06 crore from 22 sidings, Pune Division - ₹ 1.00 crore from three sidings, Nagpur Division - ₹ 0.54 crore from five sidings and Bhusawal Division-₹ 1.32 crore from five sidings)

[134] Out of 35 sidings, no siding was Engine-on-Load siding. Hence, cost of staff was recoverable from these sidings.

[135] One Private Siding in Pune Division was closed in 2017-18. Staff cost amounting to ₹ 0.68 crore was outstanding for recovery. One PSU Siding in Bhusawal Division was closed in November 2019. Staff cost amounting to ₹ 0.36 crore was outstanding for recovery.

[136](i) Bharat Petroleum Corporation, Uran, (ii) Indian Oil Tanking Ltd. Siding, Jasai Chirle (iii) Rashtriya Chemicals & Fertilizers siding, Thal, (iv) Tata Thermal Power Station, Trombay (v) Food Corporation of India Ltd., Kalamboli (vi) Bulk Cement Corporation Ltd., Kalamboli (vii) JSW Steel Ltd., Vasind

2020 were not preferred by the Railway Administration against the nine sidings (six Private sidings and three Government/PSU sidings). The Additional Divisional Finance Manager/Mumbai stated (April 2021) that certain bills could not be raised as the same were not received from the Personnel Department.

The Divisional Commercial Manager/Bhusawal stated (August 2021) that one siding namely Central Warehousing Corporation (CWC)/Khandwa is reluctant to pay the outstanding dues since no traffic has been dealt at the siding for the last four years. They have submitted proposal for closure of the siding. This issue has been taken up with the Chief Managing Director of CWC. No reply was received from Divisional Authorities of Nagpur.

The huge outstanding dues towards recovery from the siding owners indicate weak internal control system and inadequate monitoring mechanism at the Divisional levels. There was lack of co-ordination between the Personnel and Accounts Departments in Mumbai Division. The dues were outstanding for recovery for the last 12 years (oldest pertaining to December 2008-Mumbai Division). Railway Administration failed to vigorously pursue and recover the outstanding dues from the siding owners.

The matter was referred to MoR in August 2021; no reply was received (November 2021).

3.6 Injudicious decision for the execution of Panel Interlocking work instead of Electronic Interlocking work resulted in unfruitful expenditure: Eastern Railway

Eastern Railway carried out Panel Interlocking work in a section which was simultaneously sanctioned for doubling work which entails Electronic Interlocking. On completion of Panel Interlocking work, the Doubling of the section was carried out with Electronic Interlocking resulting in unfruitful expenditure of ₹ 11.42 crore incurred on panel interlocking work.

Ministry of Railways (July 2011) advised all Zonal Railways that the estimate from Panel Interlocking (PI) to Electronic Interlocking (EI) can be revised without resorting to material modification. These works can be sanctioned as per delegation of powers.

Ministry of Railways observed (June 2011) that many replacement works are still in progress which were sanctioned under Plan Head (Signalling and Telecommunications) in 2004-05. These works are still in progress as they were linked to works with other plan heads like Doubling, Gauge Conversion and Traffic Facilities. Zonal Railways were advised to complete these

replacement works as per the existing lay out using EI so that modification later on can be carried out with lesser effort and minimum duration of non-interlocking (NI) period.

Ministry of Railways sanctioned (2011-12 and 2012-13) the works for replacement of Mechanical Interlocking at Sujnipara, Jangipur Road, Dhulian Ganga and Nimtita stations of Eastern Railways by PI.

Review of records carried out by Audit revealed that Eastern Railway Administration awarded contracts for the panel interlocking in December 2013 at a cost of ₹ 4.25 crore. The work was completed at a cost of ₹ 3.90 crore and in addition stores/ establishment charges for ₹ 7.52 crore were also incurred. Thus, an amount of ₹ 11.42 crore was spent towards the PI work. The date of commissioning[137] of panel interlocking works in these four stations were between October 2015 and September 2017.

Ministry of Railway sanctioned Doubling work between Monigram and Nimtita (containing Sujnipara, Jangipur Road and Nimtita stations) in 2012-13. The detailed estimate for the work was sanctioned by the Ministry of Railways in December 2013 for ₹ 259.23 crore (S&T[138] cost was ₹ 25.10 crore). Ministry of Railways sanctioned (2015-16) a Doubling work between Nimtita- New Farakka covering Dhulian Ganga station with estimated cost of ₹ 32.84 crore for S&T works alone. The S&T works in the above four stations were of Electronic Interlocking[139] in nature.

Signalling contract for the above two doubling works was awarded to M/s Param Enterprises in February 2018 at a cost of ₹ 42.43 crore. The work covered stations of Sujnipara, Jangipur Road, Nimtita and Dhulian Ganga. The Electronic Interlocking work was commissioned during the period November 2018-July 2019.

Audit observed that with the commissioning of the Doubling work with EI, the system of panel Interlocking became useless as the works of panel interlocking and electronic interlocking are different in nature. The Eastern Railway Administration before awarding the contract for PI had scope for revising the estimate from PI to EI. This must have been adhered to as per MoR directives of July 2011.

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[137] Jangipur Road (11 Oct 2015), Sujinipara (20 May 2017), Nimtita (03 July 2017) and Dhulian Ganga (11 Sep 2017)

[138] The original S&T cost was revised to ₹ 46.19 crore

[139] Electronic Interlocking system is a microprocessor based interlocking equipment. The system is alternate to the conventional Relay Interlocking system (Panel Interlocking and Route Relay Interlocking)

General Manager, Eastern Railway in his inspection on 23 December 2015 at Jangipur Road, remarked that the new panel has been commissioned on 11 October 2015. Even though Doubling of the section has been taken up, the panel do not have provision for double line. When doubling will be commissioned, complete interlocking including panel will have to be replaced incurring additional expenditure.

Audit observed that the Eastern Railway Administration had not followed the directives of the General Manager and the other three stations were commissioned during the period May 2017 to September 2017.

The entire expenditure of ₹ 11.42 crore became infructuous as the panel interlocking was changed subsequently to EI during the period November 2018 to July 2019.

The matter was brought to the notice of Ministry of Railways in July 2021. In their reply (October 2021), it was stated that Ministry vide letter of 2011 did not advise to adopt EI in place of PI for replacement work. It further stated that the PI system has not become useless, as the outdoor gear, signaling cables have already been reused in EI doubling work.

The reply of MoR was not acceptable as before awarding the contract of PI work in December 2013, there was every scope of revising the estimate from PI to EI. Further, Deputy Chief Signal and Telecommunication Engineer (Construction), MLDT has stated (September 2020) that no material used for PI in single line section was utilized for commissioning of EI in connection with doubling work.

3.7 Loss due to non-recovery of damage and deficiency cost of wagons from siding owners: East Coast Railway

East Coast Railway (ECoR) formulated a Joint Procedure Order (JPO) for half yearly joint inspection in sidings to assess average Damage and Deficiency (D&D) of wagons and recovery of D&D cost on total number of wagons handled in the siding. Audit noted that for private sidings of Khurda Road Division, bills related to D&D and repair charges of damaged wagons were not prepared. This resulted in non-realisation of D&D charges of ₹ 9.68 crore during the period 2017-18 to 2019-20.

Ministry of Railways (Railway Board) directed[140] Zonal Railways to step up action to effectively curb damage of wagons during loading/ unloading activities. Consequently, East Coast Railway (ECoR) issued a Joint

[140] MoR's letter of 11 April 2014.

Procedure Order (JPO) in June 2014 for assessment of damage and deficiencies of wagons in the private sidings. The JPO *inter alia* prescribed scheduled joint check[141] by Railway officials and Siding owners to record cost of damages to wagons inside the siding. The average cost of damage would be calculated and Damage and Deficiency (D&D) charges[142] would be recovered from siding owner for all the wagons handled in the siding during next six months. Further, the JPO authorised the division to recover the cost of damage to wagons on case to case basis where unusual damages are detected well over the average cost per wagon.

In ECoR, the heavily damaged wagons were sent to Waltair Division for major repairs. Minor repairs are dealt in the Division itself.

Scrutiny by Audit of Sambalpur Division and Khurda Road Division during the period 2017-18 to 2019-20 revealed the following:

In Sambalpur Division, in respect of a private siding viz. M/s Vedanta Aluminium Limited, Ambodala (MVAA), three types of bills (D&D, cost of minor repair and heavily damaged wagons) were raised. However, MVAA paid only the D&D Bills and objected to the other two kinds of bills. It was stated by MVAA that siding was not responsible for all the damages to wagons. ECoR recovered the minor repair bills in February 2021. However, the bills for major repair of wagons for ₹ 3.34 crore for the period 2017-18 to 2019-20 are still outstanding.

In Khurda Road Division, 1611 heavily damaged wagons were sent to Waltair Division for major repair during 2017-18 to 2019-20 without any joint inspection. Despite repairing those wagons, Waltair Division did not raise any bills against any sidings of Khurda Road Division. The reason for non-preparation of bills was due to non-maintenance of records and inability of Railway Administrations to identify the party responsible for heavy damages to wagons.

Khurda Road Division had not implemented the JPO for joint inspection in sidings of Mahanandi Coal Field, Talcher (MCL/TLHR) till August 2020. In MCL/TLHR sidings, total 43,764 rakes were handled during 2017-18 to 2019-

[141] Joint check in the siding for seven continuous days (subject to a minimum of 5 *per cent* of the total rakes unloaded in a month) at an interval not later than 6 months for both incoming and outgoing wagons.

[142] Calculation of D&D charge will include loss of earning capacity of wagons due to damages in addition to Prime cost (cost of materials and labour cost) and shop and general on cost (clause 3.4).

20 without any periodical joint inspection. Audit worked out loss of ₹ 0.85 crore during 2017-18 to 2019-20 on account of non-recovery of D&D charges.

Further, In Pardeep Port Trust (PPT) sidings of Khurda Road division 45,682 numbers of rakes were handled during 2017-18 to 2019-20. D&D bills worth ₹ 11.07 crore were raised against the siding. Out of that, an amount of ₹ 5.58 crore was recovered and ₹ 5.49 crore was still outstanding as on March 2021.

The above instances indicate lack of uniformity in assessment, billing and collection of D&D charges and cost of damages to wagons from sidings of ECoR. This resulted in non-realisation of D&D bills of ₹ 9.68 crore (₹ 3.34 crore in respect of MVAA siding of Sambalpur Division and ₹ 6.34 crore[143] in respect of MCL/TLHR and PPT sidings of Khurda Road Division) during the period 2017-18 to 2019-20.

The matter was brought to the notice of ECoR Administration in July 2020. In their reply (November 2020) it was stated that Minor repairing bills against MVAA siding were regularly raised as per the JPO and Waltair Division had also raised total bill of ₹ 4.04 crore against the repairing of damaged wagons received from MVAA siding as the last unloading point. Several reminders had been sent to the siding to clear the outstanding amount.

In respect of non-maintenance of records by Khurda Road Division, it was stated that damaged wagons are being sent for major repair to Waltair Division as per the prevailing practice. However, the exact location of siding could not be ascertained where wagons were actually damaged as rakes move in all over Indian Railways.

In MCL/TLHR, joint inspection was not being done as per the earlier practice, as it was only loading point and chances of wagon damages was very less. However, in the current year, joint inspection was conducted in August 2020 and average D&D cost of ₹65.48 per rake was assessed at MCL/TLHR.

The reply of Railway Administration is not acceptable as Senior Divisional Mechanical Engineer/Sambalpur intimated (June 2021) that the bills raised for ₹ 4.04 crore by Waltair Division were treated as null & void based on opinion of Principal Chief Mechanical Engineer/ECoR. This is in contradiction to Railway Administration's reply to the Draft Para (November 2020).

[143] ₹ 0.85 crore in respect of MCL/ Tarcher (+) ₹ 5.49 crore in respect of Paradeep Port Trust, Paradeep.

Further, Para No.3.4 of Railway Board's letter[144] of 2015 states that to identify the exact location of damage, the movement history of the rake should be monitored through Freight Operation Information System (FOIS).

Although JPO was issued for joint inspection of sidings to ascertain D&D cost in 2014, in MCL/TLHR of Khurda Road Division, the joint inspection was conducted in the month of August 2020 after issuance of audit objection (July 2020).

Thus, the JPO formulated for assessment of D&D charges was not followed uniformly in ECoR. This resulted in non-realisation of D&D charges of ₹ 9.68 crore during the period 2017-18 to 2019-20.

The matter was referred to MoR in August 2021; no reply was received (November 2021).

3.8 Non-recovery of Repair and Maintenance Charges from Private Sidings: South Western Railway

South Western Railway (SWR) Administration failed to comply with the codal provisions and specific clauses of Private Siding Agreement issued by Ministry of Railways in July 2005. This resulted in non-recovery of ₹ 8.84 crore towards Repair and Maintenance charges from 11 Private Sidings of Bangalore (SBC) Division.

As per provision 1827 (b) of Indian Railway Code for Engineering Department, the payment of Repair and Maintenance Charges would ordinarily cover the maintenance by the Railway of the works paid for by the applicant outside his premises. Further, Ministry of Railways (MoR) issued (July 2005) instructions with regard to revised standard form of Agreement for Private Sidings. According to Para 8 (a) of the Agreement, the applicant would also pay to the Railway Administration towards the ordinary maintenance of the said siding within Railway boundary *viz*., the permanent way, sub-grade work etc. at such rates as may be fixed by the Railway Administration from time to time. MoR, in supersession of all its previous orders, fixed (February 2015) the annual maintenance charges at ₹ 10,92,000 per kilometre.

Review of records (January to March 2019) of Engineering Department of SBC Division revealed that the Repair and Maintenance Charges from 11 Private Sidings of Bangalore (SBC) Division of SWR, where the length of the

[144] Ministry of Railways letter No.2010/TT-IV/9/1, dated 18 September 2015.

track within Railway premises ranged from 80 meter to 2600 meter, were neither assessed nor recovered by the Railway Administration for 12 serving stations. Audit assessed the amount of ₹ 8.84 crore **(Annexure 3.6)** towards Repair and Maintenance Charges for the period from August 2005 (the next month of issue of instructions by MoR i.e. July 2005) to September 2020 which was not recovered from 11 Private Sidings. The reasons for non-recovery of Repair and Maintenance Charges were also not found in the record of Engineering Department of SBC Division.

The matter was brought to the notice of MoR in July 2021. In their reply (October 2021), the MoR has accepted the facts and stated that one of the siding owners viz, Birla Bulk Cement have paid all their dues while the rest have agreed to pay their dues. The MoR further stated that continuous efforts are being made to realise the dues and wherever feasible, the dues are being collected by way of adjustment against Demurrage/Wharfage refunds.

3.9 Improper planning for setting up of Mid-Life Rehabilitation Workshop of coaches at Anara led to unproductive expenditure: South Eastern Railway

Ministry of Railways approved (February 2010) setting up a Mid Life Rehabilitation workshop at Anara in SER zone. The project was however dropped (September 2017) by Railway Board due to absence of committed funds. As a result, preliminary expenditure of ₹ 8.42 crore on the project was rendered unproductive.

Mid-Life Rehabilitation (MLR) of coaches is required for improvement of quality and reliability of the residual service life of the coaches[145].

The MLR of coaches are being done at Coach Rehabilitation Workshop (CRWS)/Bhopal, the only MLR workshop of Indian Railways. In view of the capacity shortage of the Bhopal Workshop, Ministry of Railways decided (February 2010) to set up a new MLR Workshop at Anara in Adra (ADA) division of South Eastern Railway (SER) with an annual capacity of 250 coaches.

Accordingly, SER Administration assessed the estimated cost of the project at ₹ 273.32 crore. In the Estimated Benefits/Financial Justification, the annual

[145]Mid-life Rehabilitation of Coaches is an essential mainstream activity which breathes life into old coaches and contributes immensely to improving not only the residual service life but also rejuvenates the interior.

savings due to MLR of 250 coaches was projected at ₹ 51.50 crore. Railway Board (RB) approved (September 2010) the project for ₹ 184.70 crore[146].

Initially, the Workshop Projects Organization (WPO)/Patna was entrusted (October 2010) to execute the project on a turnkey basis. The Government of West Bengal approved (November/ December 2011) handing over 119 hectares of land to SER on payment of ₹ 0.84 crore towards value of forest produce.

Subsequently, RB decided (April 2012) that WPO/Patna would carry out only the preparatory works for the project such as survey, tree cutting, earth cutting/filling, construction of boundary wall, approach roads etc. and the balance work would be executed by Rail Vikas Nigam Limited (RVNL) on turnkey basis. The work was planned to be completed by November 2014.

Examination of records of the SER Zone revealed that expenditure of ₹ 8.42 crore was incurred on Geo-Technical and Topographical survey of the land and trees (₹ 3.69 crore) and earth work cutting and filling, boundary wall and site office construction, cutting and disposal of trees etc. (₹ 4.73 crore).

Audit however noted that due to insufficient allotment of funds[147] from the RB, RVNL intimated (March 2013) SER Administration that they were not in a position to proceed further in the MLR project. They also refused to take over the site of MLR Workshop, Anara.

Thereafter, the project was shelved and the Divisional Railway Manager, Adra (DRM/ADA) proposed (April 2017) for shifting of the project from Anara to Bhojudih[148]. However, the proposal was not processed further. Finally, RB deleted the works related to the MLR Workshop at Anara in September 2017 on the recommendations of the Member, Rolling Stock. The reasons for the deletion of the work were however not made available to Audit.

Audit also noted that inadequate availability of water at Anara site was stated as one of the major constraint in implementation of the project. In the Abstract Estimate, ₹ 10 crore was provided for water supply arrangement from the existing water pipeline at Raghunathpur. However, no progress was made with regard to the water supply work.

[146]Deleted some items, through the Supplementary Demands for Grants 2010-11 (Item No. 65). The work appeared as Item No. 401 of Pink Book for 2011-12.
[147] ₹ 0.97 crore was allotted in the Railway Budget 2013-14
[148]In view of availability of necessary land and water at Bhojudih.

Thus, in view of the deletion of the project by RB, the expenditure of ₹ 8.42 crore incurred on the project proved to be unproductive. Besides, SER also failed to achieve the anticipated savings on MLR.

The matter was brought to the notice of Railway Administration in August 2019. Railway Administration in reply stated (January 2020) that the work did not progress further in absence of commitment of sufficient fund by the RB and availability of water was not the main issue. It further stated that a work proposal for development of infrastructure for integrated maintenance of MEMU, DEMU and other Coaching Stock at Anara was in the process of approval and the work done during MLR project shall be used for the new project.

Railway Administration's reply was not acceptable. The possibility of gainfully utilizing works, such as, preliminary land and geo-technical survey and other works related to an entirely different project to be undertaken in future was quite impracticable and remote.

The matter was referred to the MoR in September 2021; no reply was received (November 2021).

3.10 Hasty investment in a new line project without assessing its feasibility of execution resulted in unfruitful expenditure: Southern Railway

Southern Railway Administration proposed a new line between Mannargudi and Pattukottai stating that there was popular demand from public. However, there was strong public protest against the project. The co-operation from the State Government for the project was not forthcoming and no land was acquired so far. Taking up of a project without assessing the feasibility of its execution resulted in unfruitful expenditure of ₹8.26 crore without any tangible benefits.

Ministry of Railways issued instructions [149](July 1993) that in construction of a New Line project involving acquisition of land both forest and non-forest, tenders should be floated and contracts awarded only after land acquisition have been completed.

[149] Ministry of Railways letter No. F(X)II-93/Contracts/1 dated 15-07-1993 regarding awarding of contracts.

In terms of Para 266 of IR code for the Engineering Department, the Railways should supply a copy of the new line project report to the Local Government or Administration concerned and they should be asked to express their views on alignment, waterways, roadways over important bridges, etc. which, on receipt should be forwarded to the Railway Board. Further, as per Para No.710, part detailed estimates for bridge works could be sanctioned where the survey has been completed and alignment determined.

The Southern Railway (SR) Administration proposed (August 2010) a new line from Mannargudi to Pattukottai (41 Kms) justifying that there has been a popular demand from the general public, local MLA/MP and also from local chamber of commerce for connecting Mannargudi an important town in Thiruvarur district to the existing rail heads at Nidamangalam and Pattukkottai.

Ministry of Railways (MoR) approved (September 2010) construction of the new line between Mannargudi and Pattukkottai as a Material Modification to Mayiladuthurai (MV) – Tiruvarur (TVR) – Karaikudi (KKDI) and Tiruturaipundi – Agastiyampalli Gauge conversion and restoration of Needamanglam-Mannargudi line project at a cost of ₹215.59 crore. While approving the New line project, MoR stated that the detailed estimate for this work may be prepared after completion of Final Location Survey.

For construction of the new line, a part detailed estimate of ₹0.66 crore for conducting Final Location Survey (FLS) was sanctioned by SR Administration (December 2010) and contract was awarded (November 2011) for carrying out the FLS. There was protest (January 2012) by public in Pattukottai area against the new line project when the preliminary survey works were carried out. Public in Pattukottai and adjacent areas formed a 'Opposition committee' against the new line project. They represented (April 2012) that this line was neither demanded by them nor by any clubs such as Rotary or Lions club. Further, it was stated that the new line project will cause enormous hardships, since this will involve acquisition of cultivable land and demolition of built-up areas. Peoples' representatives also expressed their apprehension for the new line project.

The matter regarding opposition for the execution of the project was taken up with MoR by SR Administration during March 2012 and April 2012. However, MoR advised (July 2012) that the new line should be executed as per Railway's plan. Further, MoR sanctioned (August 2012) a part Detailed Estimate for ₹19.03 crore for construction of major bridges in Mannargudi – Pattukottai section.

Meanwhile, ignoring the opposition to land acquisition, a contract was awarded (February 2013) for construction of a major bridge across Paminiyar river at a cost of ₹ 6.70 crore. The construction of sub-structure was completed (January 2017) by firm. The construction of superstructure of the bridge was not taken up by the firm due to increase of cost of work/quantity and the contract was foreclosed (April 2018). Further, there was no progress in land acquisition and construction of other major bridges.

The matter was referred to MoR in August 2021. The Ministry in its reply stated (October 2021) that the survey sanctioned by the Railway Board was examined for feasibility by the Zonal Railway and a Reconnaissance Engineering cum Traffic Survey was conducted and survey report prepared. Further, process of land acquisition was also under progress. As such the project was live and not shelved. The asset created (i.e., the bridge) would be a part of the original alignment. The balance works on the bridge would be taken up later and put to use on completion of the line. The bridge would remain an asset of Railways and thus the expenditure incurred on the bridge could not be termed as unfruitful.

The reply of Ministry was not tenable. Land to the extent of 484.12 acres was to be acquired for the new line project. So far, no land for the new line has been acquired. Thus, MoR in clear violation of its own instructions of 1993 floated the tender and awarded contract before ensuring availability of land. The detailed estimate had also not been sanctioned by the MoR till date. The execution of the new line project is unlikely to materialise as there is a strong public protest against the project and land was also not acquired so far.

Thus, the decision of SR Administration to take up the project without assessing the feasibility of its execution had resulted in unfruitful expenditure of ₹8.26[150] crore.

[150] Works Register Master (For Works Grants) dated 21-10-2019 for ₹8.66 crore, ₹0.40 crore paid towards Final Location Survey work has not been included as the contract for the work was awarded before public protest started (January 2012)

3.11 Failure to implement Ministry of Railway's orders resulted in damage to railway cables: South Eastern Railway and West Central Railway

South Eastern Railway and West Central Railway Administrations failed to ensure the conditions stipulated in Joint Procedure Order related to digging work in vicinity of Signalling, Electrical & Telecommunication Cable. As a result, the Zonal Administrations could not impose penalty amounting to ₹7.11 crore on contractors in 537 cases of cable cut.

Ministry of Railways (Railway Board) issued (June 2013) a Joint Procedure Order (JPO) on "Procedure for undertaking of digging work in the vicinity of Signalling, Electrical & Telecommunication Cable". The JPO was issued with the objective of controlling and minimising the instances of cable cut. As per the JPO, a contractor was liable to pay penalty for damaging cable. However, the penalty imposition on contractor was subject to the following conditions:

(i) Provisioning of detailed cable route plan by Railways.
(ii) Alignment of cable tallies with the information provided to the contractor.
(iii) Depth of cable to be not less than 800 mm from normal ground level.
(iv) A representative of Signal and Telecommunication department/ Rail Tel has to be available at the site.

South Eastern Railway (SER)

Review of records (March 2017 to March 2020) revealed instances of cable cut in 223 locations. The details are furnished in **Table 3.16.**

Table 3.16

Division	No. of locations of cable cut	Penalty for cable cut ₹ in lakh	Remarks
Chakradharpur (CKP)	104	111.50	In CKP and KGP Divisions, S&T Staff conducted joint survey with the concerned department and contractor for showing the cable route plan. However, Senior Divisional Signal and Telecommunication Engineer, CKP/KGP did not furnish any Joint Survey Report stating that no documents are available with them. Audit could not ascertain the joint survey exercise, as claimed by the Department.
Kharagpur (KGP)	24	29.50	
Ranchi (RNC)	74	84.50	In RNC Division no cable survey was done by the Executive Department before starting the work.
Adra (ADA)	21	23.50	In ADA Division, necessary permission from S&T Department was not sought for by the Executive Department before starting the digging work.
Total	**223**	**₹ 2.49 crore**	

Thus, in the above cable cut instances at 223 locations, SER Administration did not fulfil the pre-conditions mentioned in the JPO before handing over the site to the contractor for digging work. Audit further noted that despite the provision of penalty clause in the JPO, SER Administration in above all cases failed to include a suitable penal clause in the work orders of the contractors. Thus, failure of the SER Administration to meet the conditions of JPO resulted in a situation where penalty of ₹ 2.49 crore for cable cuts could not be imposed on contractors.

The matter was referred to SER Administration (December 2020); reply was not received (November 2021).

West Central Railway (WCR)

Review of records (2014-15 to 2019-20) revealed instances of cable cut in 314 locations. The details are furnished in **Table 3.17.**

Table 3.17

Division	No. of locations of cable cut	Penalty for cable cut (₹ in lakh)	Remarks
Jabalpur	182	456.60	No prior information to S&T Department was furnished before commencement of work.
Kota	81		
Bhopal	46		
Kota	4	4.25	WCR Administration failed to provide the marking of the cable to the contractor before the digging work. Also S&T officials were not present at the site during the digging work.
Kota	1	1.00	Cable route plan was not made available to contractor by WCR Administration.
Total	**314**	**₹ 4.62 crore**	

Thus, WCR Administration in 314 locations of cable cut did not meet the JPO conditions. As a result, the WCR Administration could not impose penalty amounting to ₹4.62 crore on contractors.

The matter was brought to the notice of WCR Administration in August 2020. Railway Administration in their reply (December 2020) accepted the objections raised by audit and issued instructions to ensure verification of cable route plan at site before starting the work.

The matter was referred to MoR in September 2021; no reply was received (November 2021).

3.12 Non-execution of Land License Agreement on occupation of railway land for commercial use resulting in non-recovery of licence fee: Northeast Frontier Railway

Northeast Frontier Railway Administration failed to enter into land licence agreement with a private firm for 6.55 acre of railway land occupied during June 1992 to January 2016 for commercial use. This resulted in non-recovery of licence fee amounting to ₹ 7.11 crore.

As per the Indian Railway Code for the Engineering Department[151], Railway land should be managed on commercial lines and each Railway Administration should endeavour to put to profitable use, any areas in its occupation which, though not eligible for disposal are lying idle. To enable management on commercial lines, Railway Administration are permitted to lease land under a licence to outsiders for purposes whether or not connected with Railway working.

In this regard, Railway Board issued (August 1995)[152] instructions stating that in each case of licensing, proper Agreement must be executed between the Railway Administration and the Licensee before the Licensee is given possession of the land/plot.

In 1992, Northeast Frontier Railway (NFR) executed an agreement[153] with M/s Punam Chand Mittal (PCM) for setting up a factory in Katihar Division, for manufacture and supply of mono-block concrete sleepers. For this, NFR leased out (June 1992) 3.09 acre of Railway land to M/s PCM for an annual rent of ₹ 1000/-.

Audit noted that the land licence agreement of 3.09 acre land had expired in June 2015 and the same has not been renewed till date (August 2021). Audit further noted that an additional plot of 1.26 acre land adjacent to the Concrete Sleeper factory was under occupation of the firm since June 2006. However, the licence agreement for 1.26 acre of railway land could not be entered till date (August 2021) i.e., even after more than 15 years of occupying the land. As a result, the licence fee amounting to ₹ 0.55 crore related the additional plot of land is due from the private firm.

Railway Administration cited (April 2021) administrative difficulties including lack of communication between Division and Headquarter as the reason for the inordinate delay in entering into a land licence agreement with the firm for

[151] Para 1008 and 1013 of the Revised Edition, 1982 (Fourth Re-print) 2012.
[152] RB's Letter No: 83/W2/LM/18/87 dated 29.08.1995.
[153] Agreement No: C/E/47 dated 11.02.1992.

the additional land. It further stated that the Division has been advised to process this licensing proposal of the additional land afresh at the earliest.

Audit further noted that Zonal Railway Administration during a joint survey with the representative of the private firm found (April 2016) that the private firm was in occupation of 10.725 acre (7.725 acre within the sleeper plant and 3 acre outside sleeper plant) of railway land.

Railway Administration stated (April 2021) that other plots measuring 5.29 acre[154] was unauthorisedly occupied by the firm and the Division failed to take action as per the Public Premises (Eviction of Unauthorised Occupants) Act, 1971. Out of total 5.29 acre of land, 3.62 acre was vacated by the private firm, after January 2021, leaving 1.67 acre still under their occupation.

Audit noted that the unauthorisedly occupied railway land of 5.29 acre had four different plots occupied at different time periods. The details of these four plots and licence fee due from these are mentioned in **Table 3.18**

Table no. 3.18

Plot area (In acre)	Unauthorised Railway Land occupation date	Unrecovered Licence fee
1.11	June 1992	
0.87	June 2006	
1.39	December 2014	
1.92	May 2015	
5.29	**Total**	**₹ 6.56 crore**

Thus, in contravention of the extant provisions non-execution of Land License Agreement for the additional 6.55 acres occupied by the private firm NFR Administration resulted in non-realization of ₹ 7.11 crore (till March 2021) towards Land License Fee. Additionally, government taxes (service tax and GST) amounting ₹ 1.10 crore on the outstanding licence fee could also not be realized.

The matter was referred to MoR in September 2021; no reply was received (November 2021).

[154] 10.725 acre – 3.09 acre original licensed plot- 1.26 acre additional land -1.08 acre land later found to be not under occupation of the private firm

3.13 Infructuous expenditure on capital infrastructure: South Western Railway

South Western Railway administration without ensuring availability of land for the approach roads from the State Government entered into a contractual obligation for construction of a four lane RoB. This resulted in infructuous expenditure amounting to ₹ 16.84 crore (Railway share ₹ 7.06 crore) on creation of RoB without availability of land for approach roads.

Road over Bridges (RoBs) are constructed to eliminate Level Crossings (LCs) in order to improve the efficiency of Railway operations and to ensure safety of public.

At LCs, where the traffic density is one lakh Train Vehicle Units (TVUs) per day or more, Railways and the State Government concerned share the cost of constructions of RoBs in lieu of LCs.

Ministry of Railways (MoR) periodically reiterated instructions that Railways should not enter into contractual liabilities unless land has been acquired, site is clear of all obstructions and all other formalities like finalization of plans and drawings have been completed. Further, MoR instructed (October 2009) that the State Governments shall make available to Railways land free from encroachments/ encumbrance and free of cost for the construction of the complete RoB including approaches.

Examination of records of Construction Wing of South Western Railway (SWR) revealed that construction of a RoB in lieu of LC No. 11 between Chennasandra and Yelahanka Stations near Jakkur was sanctioned in May 2012. The project was sanctioned on a cost sharing basis between Railways and Bruhat Bangalore Mahanagara Palike (BBMP), Government of Karnataka (GoK) at a total estimated cost of ₹ 13.72 crore.

The tender was invited for two lane RoB and SWR entered (January 2013) into a contract agreement for construction of two lane RoB with RCC sub-way and approach roads with M/s Sri Ganesh Engineering Works, Bangalore. The project was to be completed at a total cost of ₹ 13.27 crore with a completion period of 18 months i.e. by July 2014.

Audit, however, noted that SWR administration entered into a contractual obligation for construction of two lane RoB without ensuring the availability of land (3804.96 sq.m.) for the approach roads for the RoB.

Subsequently, based on the request of the State Government, the project was converted (April 2013) from two lanes to four lanes RoB. Owing to the

changed plan, the requirement of land for approach roads increased by 2746.62 sq.m. thus taking the total land requirement to 6551.58 sq.m.

Audit noted that despite the non-availability of the land for the approach roads, the two lane project was converted into four lanes by the SWR Administration. The changed plan led to increase in the scope of work and revised estimate was sanctioned with a total cost of ₹ 26.17 crore.

A total expenditure of ₹ 16.84 crore (BBMP share ₹ 9.78 crore and Railways share ₹ 7.06 crore) has been incurred till date. Audit noted that the four lane RoB work remained incomplete (July 2021) as the State Government could not provide land to Railways for the approach roads. Due to non-availability of land from State government, Railways finally foreclosed (November 2019) the contract and the Performance Bank Guarantee of the Contractor was released in January 2020.

Thus, failure of SWR Administration to acquire encumbrance free land from BBMP for the project and non-adherence to MoR instructions before entering into contractual liabilities resulted in non-completion of RoB even after a lapse of seven years from the scheduled date of completion of work. The expenditure of ₹ 7.06 crore incurred by Railways on project was infructuous and the capital infrastructure created was un-utilisable.

SWR Administration accepted the audit findings and stated (June 2021) that the work for bridge structure (RoB) was taken up on assurance from State Government that the land would be acquired expeditiously. However, in spite of several reminders to BBMP on the land issue, the required land was not handed over at all, leading to foreclosure of the agreement to avoid any litigation.

The reply of SWR was not acceptable as SWR in contravention to RB's instructions, entered into contractual obligations with the contractor without acquiring the land. This has led to a situation where the asset created could not be used for the desired safety purpose of eliminating LCs apart from the infructuous expenditure incurred amounting to ₹ 7.06 crore.

The matter was referred to MoR in August 2021; no reply was received (November 2021).

3.14 Wrong interpretation of Ministry of Railways Guidelines on utilization of funds resulted in irregular expenditure: East Coast Railway

As per Constitutional Provisions, all 'voted' expenditure must receive Parliament's prior approval. Moreover, Ministry of Railways in March 2002/ April 2006 introduced a scheme of distribution of Survey and Inspection charges. The scheme was exclusively meant for funding creation of additional infrastructure in private sidings. However, ECoR Administration, incurred capital expenditure of ₹ 6.22 crore on construction of office building by utilizing this fund in violation of Ministry of Railways guidelines and budget approval process.

As per Para 1829 of the Engineering code for the Railways, when the work of survey and construction of a private siding is allowed to be carried by the party through an approved Consultant, Survey and Inspection charges at the rate of two *per cent*[155] of the estimated cost of the project are to be recovered by Railway. In addition, 2 *per cent* of the cost of project is recoverable during Final Inspection and approval of the completed works.

Ministry of Railways (MoR) in March 2002, November 2003, October 2004 and in April 2006 introduced a scheme of distribution of Survey and Inspection charges. The scheme was exclusively meant for survey and construction of private sidings. As per the guidelines, 51 *per cent* of the deposits given by the approved consultants/ the siding applicants will be credited to earning of the Railways and 49 *per cent* of the deposit will be utilized for creation of the additional infrastructure of the siding.

During a special investigation (June 2019) Audit observed that, ECoR Administration decided (January 2018) to construct 2040 sqm of office building on 2nd and 3rd floor in North Block (East Side) of Rail Sadan[156]. Accordingly, a detailed estimate of ₹ 7.16 crore was approved by the competent authority in February 2018. A contract for this work was awarded at a cost of ₹ 7.04 crore in May 2018. The work was executed and final bill for ₹ 6.22 crore was passed in June 2019.

It was observed that the existing building of Rail sadan was built through budgetary fund provision, but for further construction of 2040 sqm of office building on 2ndand 3rd floor of Rail Sadan, no regular budget was sought.

[155] Of the estimated cost of the project at the stage of approval of survey plan and estimate.

[156] East Coast Railway Headquarters office-Rail Sadan building was constructed and inaugurated in January 2009 for which Railway Board had sanctioned ₹92.98 Crore of funds through budgetary provision sourced from Capital, DF-II and DF-III.

Moreover, in contravention to MoR's Guidelines of April 2006, ECoR Administration utilized the amount of ₹ 6.22 crore from survey and construction charges of private sidings to construct office building.

The matter was referred to the Ministry in August 2021. In their reply (October 2021) it has been stated that the contention of the audit that the scheme was exclusively meant for funding creation of additional infrastructure in private sidings is not laid down. It is expressly clear that this 49 *per cent* element can be utilized towards creation of Railway Infrastructure and not Siding Infrastructure. It is to mention here that the letters of Ministry of Railways (MOR) in March 2002, November 2003, October 2004 and finally in April 2006 is for creation of fund from the sidings i.e. at the rate 2 *per cent* (Survey Inspection charges deposited for approval of plan and estimate) of the estimated cost of the project and another 2 *per cent* of the cost of the project recoverable during Final Inspection and passing charges for approval of the completed works. Out of which 51 *per cent* of the cost is to be deposited for Railway earnings and 49 *per cent* of the cost is to be utilized for creation of additional infrastructure only.

The reply of Railway Board was not acceptable. Para 401 of Indian Railways Finance Code Volume I stipulate that 'Railway Budget is an instrument of Parliamentary Financial Control. For securing the Parliamentary Financial Control, all 'voted' expenditure must receive Parliament's prior approval and there is system of reporting back to it through the Pubic Accounts Committee, the actual expenditure incurred against the Grants voted by Parliament and Appropriations sanctioned by the President'. Further, Railway Board intimated (12 April 2021) that as no reference was made to any particular additional infrastructure vide Board's letter of 26 April 2006, it is understood that additional infrastructure in the letters referred only to the subject matter i.e. for siding purpose only.

Thus, the 49 *per cent* of the deposits given by approved consultant/ the siding applicants will be utilized for creation of additional infrastructure of the siding only and not for other infrastructure of Railway. Capital expenditure of ₹6.22 crores on construction of office building by utilizing the codal charges without seeking budget from parliament was in violation of Railway Boards guidelines and budget approval process.

Audit never objected the need of creation of infrastructure in Rail Sadan. The Audit observation is on not-following the laid down procedure of seeking budget from parliament for creation of infrastructure.

3.15 Non-adherence to the codal provisions resulted in short realization of land license fee: South East Central Railway

Non-revision of land value led to less fixation of land license fee of the Railway land licensed to a private siding. This resulted in short realization of land license fee to the tune of ₹ 5.93 crore.

Para 1024 of the Indian Railway Code for the Engineering Department stipulates that 'A quinquennial[157] revision of rent for railway land licensed to private parties should be made in large towns and commercial centers. At other locations, rent should be revised at interval of 10 years only. The exact location at which 5 yearly revisions should be applied is to be decided by the Railway Administration in consultation with their Financial Adviser and Chief Accounts Officers (FA&CAOs). In all relevant agreements, provision should exist for such periodical revision of rent and recovery of enhanced rent with retrospective effect.

A private siding was constructed on Railway land near Railway Stores Depot (RSD), Raipur to cater to the need of Steel Plant of M/s SKS Ispat and Power limited (SKS). Railway land measuring 63223.3 sqm was licensed to SKS in April 2008[158]. The land was licensed to the siding owner in accordance with Master Circular of 10 February 2005 on Policy on "Licensing of Railway Land for commercial plots etc.". As per the policy, the land was initially licensed for five years on recommendation of a three member Heads of the Department (HOD) committee[159].

The committee in its report stated (February 2008) that "RSD/Raipur is not a remote area and therefore land will be licensed to them for a period of 5 years". Para 2 of land license agreement executed with the party also stipulated that 'the provision of periodic revision of land license fee by Administration. It was also mentioned that for revision of license fee, cost of getting the valuation of the premises by the State Revenue Authorities shall be recoverable from the licensee'.

As per codal provision and HOD committee's report, land rate should have been revised every five years in a city like Raipur for fixation of the land license fee. However, Audit noticed that the land value was not revised for fixation of land license fee after five years in the year 2013-14 in contravention

[157] Occurring once every five years or over a period of five years.

[158] Licence Agreement Dated 3 April 2008

[159] HOD committee members- Chief Engineer, Chief Commercial Manager & Financial Advisor & Chief Accounts Officer.

to the Rules[160]. The land license fee continued to be fixed on the land rate of 2007-08 by increasing the land value at the rate of seven *per cent* over the previous years' land value instead of current land rate.

It was also noticed that the land value increased twice[161] in 2013-14 and 2018-19. However, Railway Administration did not recover the land license fee as per the land rate of 2013-14 and 2018-19. Moreover, the land value was also not increased after interval of every five year. This has resulted in short realization of land license fee amounting to ₹ 5.93 crore for the period from 2013-14 to 2019-20 (except from 1 April 2018 to 5 August 2018[162]) on the land rate fixed by the District Authority from time to time.

The matter was brought to the notice of Railway Administration in November 2020. Railway Administration in their reply (January 2021) stated that "land rate was calculated as per Railway Board's Master Circular of 10 February 2005. As per the policy, land value shall be increased at the rate of seven *per cent* every year over the previous year's value to cater to the enhancement of market value of land. The policy doesn't state to revise license fee periodically based on market value of land of City like Raipur".

Railway Administration's reply was not acceptable because Raipur is the capital city of Chhattisgarh and the licensed land was in the middle of the city. The land was licensed to the SKS siding quoting para 1024 of the code initially for five years as RSD/Raipur Yard not being a remote area. After five years from 2008-09, revision of licence fee in the year 2013-14 and 2018-19 should have been done based on current market rate of land as per Para No 1024 of the Engineering Code as well as recommendation of HOD Committee.

Thus, non-revision of land value as per codal provisions led to less fixation of land license fee of the Railway land licensed to the siding. This resulted in short realization of land license fee amounting to ₹ 5.93 crore**.**

The matter was referred to MoR in August 2021; no reply was received (November 2021).

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160 Para 1024 of the Indian Railway Code for the Engineering Department.

161 Land value in 2007-08 was ₹1419 per square meter. In 2013-14 the land value was fixed as ₹4040 per square meter and from 2017-18 the land value was fixed as ₹4500 per square meter by the State Revenue Authority, Raipur.

162 The period of restrictions imposed by COM for which recovery of land license fee is subjudice. CCM/SECR office letter dated 6 August 2018.

3.16 Non maintenance of records led to non recovery of siding charges in respect of three sidings: Eastern Railway

Eastern Railway Administration failed to maintain records in respect of three goods sheds which were situated beyond the station limits. Non maintenance of records led to non recovery of siding charges in respect of three sidings amounting to ₹ 5.68 crore. In addition, interest, maintenance and depreciation charges could not be assessed and levied due to failure of the Engineering and Accounts Departments to maintain the required details in respect of these three sidings.

Ministry of Railways (July 2012) advised all Chief Commercial Managers of Indian Railways that if a goods shed is located within station limits, it should be treated as a part of station. In case where a goods shed is laid at a distance from the main station, i.e outside the station limits, such goods shed should separately be notified by the zonal railways as public sidings. In such cases, siding charges will accrue and get accounted for in accordance with instructions[163] already stipulated.

Ministry of Railways (September 2014) issued a Rates Master Circular on the subject consolidating all guidelines. Para 2 of the ibid circular stated that the system of charging freight on through distance basis is not followed in the following circumstances:

(i) When the inward rake coming on electric power upto the serving station are subsequently taken by diesel power into the siding
(ii) When outward rake moved by diesel power upto the serving station from the siding are subsequently moved by electric power
(iii) In case of piecemeal traffic, which are other than block rakes.

Ministry of Railways clarified (January 1979) to all the General Managers of All Indian Railways that siding charges have to be fixed after taking the elements of interest, maintenance and depreciation charges.

Indian Railway Code[164] for Traffic (Commercial) department also stipulate that the user of the siding have to pay to the Railway a siding charge. The siding charges are to be fixed by the Railway Administration from time to time for every wagon, whether loaded or empty, hauled over the siding in each direction.

Audit observed that three goods sheds viz Chitpur, Budge Budge and Bhadreswar Ghat over Eastern Railway (ER) were situated beyond station limits. Audit further noticed that, siding charges were not raised and collected by the Railway Administration. In case of these three sidings, direct reception

[163] Para 2523 of Indian Railways Commercial Manual Vol II-
[164] Para 1805 of Indian Railway Code for Traffic (Commercial) Department

and dispatch of trains were not done. Instead, a change locomotive was needed due to change of power from electrical to diesel. These sidings being non-electrified, the inward rakes arrived with electric power upto the serving station and then taken by diesel power. Similarly, the outward rakes come with diesel power up to the serving stations and then taken by electric power.

Audit assessed the loss of revenue of ₹ 5.68 crore to the ER Administration on account of non levy of siding charges (excluding the element of Interest, Maintenance and Depreciation charges) during the period April 2012 to October 2020.

The matter was referred to MoR in July 2021. In their reply (September 2021), it was stated that "the three goods sheds Chitpur, Budge Budge and Bhadreswar Ghat are independent stations open for handling of goods traffic since long and are not sidings. Accordingly, levy of interest, maintenance and depreciation charges were not applicable therein. Chitpur, Budge Budge and Bhadreswar Ghat are goods handling points where freight traffic is dealt".

The reply of Ministry of Railways was not acceptable as Ministry itself in it's order of July 2012 on chargeable distance of Goods Shed, had clarified that 'in case where a Goods Shed is laid at a distance from the main station, the same should separately be notified by Zonal Railways as Public Sidings. Further, ER had already admitted that Chitpur, Budge Budge and Bhadreswar Ghat Goods Sheds were situated beyond station limits and they have taken initiatives to ascertain interest, maintenance and depreciation charges on these Sidings for fixation of leviable Siding Charges. However, they failed to fix it due to non-availability of records.

3.17 Non-retrieval of Railway land given to Maharashtra State Government under Grow More Food Scheme and non-recovery of license fee: Central Railway

Surplus railway land measuring 922.43 acres was handed over to State Government of Maharashtra in year 1949. The State Government allotted this land for cultivation to adjacent farmers under Grow More Food (GMF) Scheme. In October 1984, Ministry of Railways decided to take back the railway land handed over to the State Governments under the GMF Scheme. However, the railway land worth ₹ 27.84 crore handed over to State Government of Maharashtra could not be retrieved even after more than three decades. Also, the license fee amounting to ₹ 4.94 crore pertaining to period from April 1958 to March 2021 was outstanding for recovery.

Under the Grow More Food (GMF) Scheme, surplus railway lands were temporarily licensed to nearby farmers through the State Governments to augment food production after independence.

In October 1984, Ministry of Railways (MoR) decided that railway land handed over to the State Governments in connection with GMF Scheme should be taken back from them after expiry of existing license term and utilized for afforestation. The MoR issued instructions to General Managers of all Zonal Railways to start dialogue with the State Governments for release of railway land and pursue the matter vigorously till possession is given back to the Railways.

Land measuring 922.43 acres was acquired by the then Barshi Light Railway (now Central Railway) for the proposed Pandharpur-Lonand Railway Line in year 1929. As the project did not materialize at that time, the surplus land was handed over to the State Government of Maharashtra in year 1949. The State Government allotted this land for cultivation to adjacent farmers on Ek Sali (per year) basis under GMF Scheme.

Divisional Railway Administration/Solapur of Central Railway approached (July 1998) the Divisional Commissioner/Pune for arranging to return the above Railway land. However, the land has not been returned to the Railway till date. Land license fee was fixed at ₹ 25 per acre per year initially, which was revised from time to time[165]. However, no license fee was recovered from the State Government. Divisional Railway Administration/Solapur worked out the arrears of license fee at ₹ 4.94 crore, due from the State Government for the period from April 1958 to March 2021.

The Public Accounts Committee, in its 94th Report (1982-83) had expressed concern over inability of the MoR in collecting license fee for the GMF land from State Governments (and cultivators). The Estimates Committee of Parliament, in its Report (1992-93)[166], had also mentioned that despite various measures taken by the MoR to take back land given under GMF Scheme, 6,000 hectares of land was still with the State Governments. The Estimates Committee strongly urged the MoR to deal with various State Governments at the highest possible level and expedite the return of railway land still under their possession.

Audit observed that the Divisional Railway Administration/Solapur repeatedly requested[167] the Divisional Commissioner/Pune for remittance of license fee

[165]License fee to be collected for the land given under GMF scheme was revised from time to time. Last revision was made in April 2010 and license fee was fixed at ₹ 4,050 per acre.

[166]Estimates Committee (1992-93), Railway Lands and Land Use Policy-Ministry of Railways (Presented to Lok Sabha on 29th April 1993)

[167] Vide letter No. U/W/278/Genl dated 17 July 1998, 24 November 1998, 10 December 1998, 15 July 1999, 27 October 1999, 09 August 2000 and SUR/W/3744/LM dated 10 July 2007, 28 April 2008, 18 February 2010, 30 November 2010, 13 March 2013, 14 June 2014, 31 October 2014, 02 June 2016, 10 April 2017, 06 April 2018, 04 April 2019

and returning the railway land (worth ₹ 27.84 crore assessed in Audit). The Chief Engineer (General)/Central Railway/CSMT though pursued (January 2015) the matter with the Principal Secretary/Maharashtra State Government for returning of railway land and remittance of the land license fee, State Government neither returned the land to railway nor remitted the license fee.

Audit reviewed the status of railway land and enquired the matter from Solapur Divisional Authorities of Central Railway in January 2013. In reply, Senior Divisional Finance Manager/Solapur stated (September 2019) that there was little scope at divisional level to deal with the issue and it should be dealt with at Headquarters level.

From the records, it could not be ascertained whether any meeting, dialogue or correspondence was made by General Manager/Central Railway to the Chief Secretary or Revenue Department of Maharashtra State Government. Correspondences with Divisional Commissioner of Pune was not yielding any result and no further action by the Zonal Railway authorities to get back the land and dues was seen on record. Thus, failure of Central Railway Administration to pursue the matter at the highest level resulted in non-recovery of license fee amounting to ₹ 4.94 crore as well as non-retrieval of railway land worth ₹ 27.84 crore even after more than three decades.

Matter was taken up with the Central Railway Administration in April 2020. In reply, they stated (July 2021) that

- Central Railway is pursuing issues related to land with the Government of Maharashtra from time to time at different levels and subject matter was raised in various meetings with the State Government. Solapur Division had made various correspondences in past with Collector, Solapur & Satara for clearing the outstanding dues and relinquishing 922.43 acres of land from the State Government.
- Collector, Solapur & Satara insisted for the 7/12 extracts[168] as well as acquisition documents before they could deal further. Efforts are being made to get the acquisition documents and 7/12 extracts from concerned Revenue Authority by the Division.

[168] 7/12 Extract (Record of Rights) is the extract from the Land Records Register held by the Revenue Department (Government of Maharashtra). 7/12 Extracts contain complete information about land property in rural areas and is an important indicator of the legal status of the property (agriculture land).

- Latest reference in this connection has been made at Headquarter level to the Principal Secretary (Revenue & Forest Department)/Government of Maharashtra on 19 April 2021.

The fact remains that the railway land (admeasuring 922.43 acres) given to the State Government of Maharashtra could not be retrieved even after more than three decades of MoR' decision for taking back the land given to the State Governments under the GMF Scheme. Even the license fee of ₹ 4.94 crore pertaining to period 1958-59 to 2020-21 was yet to be recovered from the State Government of Maharashtra.

The matter was referred to MoR in August 2021; no reply was received (November 2021).

Railway Public Sector Undertakings

3.18 Imprudent decision of opting for Freight Advance Scheme resulted into loss of interest: Container Corporation of India Limited (CONCOR)

CONCOR India Limited opted for Freight Advance Scheme of Ministry of Railway and paid an advance of ₹ 3,000 crore to the Railways without properly evaluating benefits accruing to the Company. For payment of the advance, the Company encashed Fixed Deposits of ₹ 2,300 crore and took a working capital loan of ₹ 700 crore at the interest rate of 8.45 *per cent per annum*. Subsequently, the Company opted out of the Scheme. This resulted into loss of interest amounting to ₹ 85.69 crore to the Company.

Ministry of Railways (MoR) issued (March 2019) guidelines regarding Freight Advance Scheme (Scheme). The Scheme provided a facility to major freight customers to avail tariff certainty against payment of advance freight to Indian Railways. As per guidelines, the customers who agreed to pay Freight Advance to cover their estimated freight for the subsequent financial year will have the benefit of fixed base freight rate and class of commodity.

Under the Scheme the customers were required to approach the Railways during the last quarter of a calendar year to avail the fixed freight rate and class benefit during the next financial year.

Container Corporation of India Limited (the Company) decided (March 2019) to opt for the Scheme as it was eligible[169] for the Scheme. The Company assessed that due to the growth of business, the estimated payment of freight

[169] Payment of Rail Freight (haulage) charges was more than ₹ 500 crore during calendar year 2018-19

(haulage) charges to Railways, in financial year 2019-20,would be around ₹ 4,500 crore.

Accordingly, the Company entered (March 2019) into an agreement with Northern Railway for availing the Freight Advance Scheme. It deposited first instalment of ₹ 3,000 crore with Northern Railways on 28th March 2019 and decided to pay the second instalment of ₹ 1,500 crore by 30 September 2019. For payment of the first instalment of ₹ 3,000 crore, the Company encashed the Fixed Deposits (FDs) amounting to ₹ 2300 crore[170] and also took a working capital loan of ₹ 700 crore at an interest rate of 8.45 *per cent per annum.*

Subsequently, the Company decided (November 2019) not to pay the second instalment as there was no increase in freight (haulage) charges. Consequently, the agreement (March 2019) was terminated.

Audit observed that the Company did not conduct proper Cost – Benefit analysis before deciding (February/ March 2019) to opt for the Freight Advance Scheme offered by the Railways as explained below:

- During the last five years, the rates of freight (haulage) charges for movement of containers had been increased only on two occasions i.e. in December 2014 and October 2018. Thus, the assumption that the Scheme will provide stability of freight was misplaced. Further, the analysis of rail freight paid by the Company during last five years was as given in **Table 3.19.**

Table 3.19

Particulars	2015-16	2016-17	2017-18	2018-19	2019-20
Rail freight expenses (₹ crore)	3,644	3,338	3522	3731	3498
Per cent increase over previous year.	-	(-)8.40	5.51	5.95	(-) 6.24

The trend of payment of rail freight expenses during last five years also indicated that the total rail freight expenses of the Company was not fluctuating widely to impact freight stability. Thus, the projections of Freight Advance exceeding ₹ 4,500 crore was incorrect.

- The BoD of the Company had already discussed (February 2019) about requirement to pay an advance of ₹ 2,000 crore to the Indian Railways even though the Scheme was launched in March 2019. A nominee director had even stated that "since the demand was from Indian Railways, their views are already covered in the demand." The BoD subsequently revised the

[170] ₹ 2137 crore from Fixed Deposit Receipt pre-maturity (₹ 2064 crore Principal + ₹ 73 crore interest) and ₹ 163 crore from flexi deposit.

advance to ₹ 4,500 crore. On both the occasions the cost benefit analysis of the Scheme were not discussed.

➢ As per para 4.1.2 of the Scheme, the freight advance committed can be either in one or maximum two instalments each of minimum 40 *per cent* of total advance committed. However, the Company paid 66.67 *per cent* (₹ 3,000 crore) as the first instalment. There was nothing on record to justify payment of first instalment of advance in excess of the minimum prescribed level under the Scheme guidelines. More so, when the advance payments were met out of borrowed funds and after prematurely terminating the Fixed Deposits.

➢ The decision of the Company put a tremendous stress on the cash reserves of the Company as was clear from the details given in **Table 3.20**.

(₹ in crore)

Table 3.20

Financial Year	Current Assets		Non-Current Assets	Total Cash and Bank Balances	Short Term working capital loan
	Cash & Cash Equivalents	Other Bank balances	Other bank balances		
	1	2	3	4 =1+2+3	5
2014-15	134.58	2453.35	0	2587.93	0
2015-16	157.10	642.75	1570	2369.85	0
2016-17	103.73	310.72	1482	1896.45	0
2017-18	177.38	1804.32	30.09	2011.79	0
2018-19	**115.29**	**55.13**	**12.5**	**182.92**	**700**
2019-20	56.32	2112.27	0	2168.59	0

Audit further noted that the Company incurred a loss of ₹ 85.69 crore **(Annexure 3.7)** during March 2019 to March 2020 on account of payment of interest on working capital loan (₹ 6.18 crore) and loss of interest on encashing the FDs (₹ 79.51 crore).

The Ministry in its reply stated (October 2021) that it participated in the Freight Advance Scheme to stabilise the dynamism in haulage charges. This Scheme could offer price stability to the consumers and attract more volumes or retain the customers. The Management also stated that it faced stiff competition from road transportation and other private train operators. By offering price stability, the Company tried to be competitive to road transportation and shift traffic from road to rail. It also stated that advance freight with Indian Railways was a Government to Government transaction and amount paid to Indian Railways was a direct contribution to Government exchequer.

The reply of the MoR was not tenable as the decision to participate in the Scheme was arbitrary and taken without conducting any due diligence. The Company is a listed company working as a separate legal entity; therefore,

the financial interest of the Company were required to be ensured while taking the decision to participate in the Freight Advance Scheme.

Thus, imprudent decision of opting for Freight Advance Scheme without properly evaluating the benefits resulted into loss of ₹ 85.69 crore to the Company.

3.19 Unauthorised payment of additional increments to employees: CONCOR

CONCOR awarded two additional increments to their employees without Presidential Directives or approval of Administrative Ministry/ Department of Public Enterprises which resulted in unauthorised payment ₹ 41.93 crore.

Board of Directors (BoD) of Container Corporation of India (Company) in their 192nd meeting (September 2017) decided to grant two annual increments to the employees. The grant of two annual increments was justified on the grounds that proposed pay scales of the Company w.e.f 1st January 2017 were not at par with several Maharatna and Navratna CPSEs. Moreover, two increments were granted in order to attract, retain and motivate manpower in highly competitive talent market. The two increments were granted to the employees on revised pay scales w.e.f January 2017.

As per laid down provisions[171], the BoD of each CPSE is required to consider the proposal of pay revision based on their affordability to pay and submit the same to the Administrative Ministry for approval. The Administrative Ministry concerned will issue the Presidential directive with the concurrence of its Financial Adviser in respect of each CPSE separately.

The Company approached (September 2017) Ministry of Railways with the proposal for revision of Pay and Allowances with effect from 01 January 2017. However, the Company did not seek approval regarding issue of grant of two additional increments in the proposal of pay revision. The Ministry of Railways issued the Presidential Directive in November 2017, for the pay revision based on the Company's proposal. The Ministry issued the Presidential Directive for the pay revision however Audit noted that the Company did not seek specific approval for grant of two additional increments in the proposal of pay revision.

Audit observed that the Company had unauthorisedly granted additional increments to its employees w.e.f 1st January 2017. This had resulted in

[171] Clause 18 of Office Memorandum dated 3 August 2017 issued by Department of Public Enterprises, Ministry of Heavy Industries and Public Enterprises

unauthorised payment of ₹ 41.93 crore during the period from January 2017 to March 2020.

The issue was raised with MoR (October 2021). The MoR in its reply (November 2021) stated that two additional increments were given only after obtaining due approval from the BoD of the Company. Further, the grant of increments was not in the nature of revision of pay scales and BoD was empowered to decide about the remuneration/ award to the employees.

The reply of MoR was not acceptable as the laid down provisions provide that the proposals of pay revisions should have concurrence of the Administrative Ministry. The mere approval of the BoD instead of the Administrative Ministry was not provided in the laid down provisions.

Thus, grant of additional increments to the employees of the Company without any Presidential Directives or approval of Administrative Ministry/DPE resulted in unauthorised payment of ₹ 41.93 crore.

3.20 Avoidable expenditure in violation of Department of Public Enterprises Guidelines: Rail Vikas Nigam Limited

Rail Vikas Nigam Limited incurred avoidable expenditure of ₹ 14.19 crore on account of irregular payment of ex-gratia/bonus to deputationists from Railways / other Government Departments in violation of DPE Guidelines.

As per the Department of Public Enterprises (DPE) Guidelines (November 1997) on Wage Policies and Related Matters, the payment of bonus/ ex gratia to employees of public sector enterprises was to be regulated under the provision of Payment of Bonus Act, 1965.

Vide amendment of 2015 in Payment of Bonus Act, 1965, the eligibility limit for entitlement of bonus was fixed to salary/ wage not exceeding ₹ 21,000/- per month.

Examination of records of Rail Vikas Nigam Limited (Company) revealed that the Company was paying bonus to all its employees on deputation since 2009-10. The annual approval of payment of bonus to the deputationists was obtained from the Board of Directors of the Company. Audit noted that during the 2015-2020 the Company paid ₹ 14.19 crore, as bonus to the employees on deputation despite the fact that their monthly salary exceeded the prescribed limit of ₹ 21,000/-.

Audit noted that the payment of bonus to employees on deputation to the Company was irregular as it was in contravention of the DPE Guidelines.

The Management in its reply (February 2020) stated that “payment of ex-gratia/ bonus as reward for the hard work put in by the employees does not

infringe upon any extant instructions of the Government as far as pay and allowances payable to deputationists are concerned. Further, the ex-gratia/bonus payment was paid to the employees after due approval of the Board of Directors of the Company with a view to motivate them for higher productivity and to ensure that the targets are achieved. Board of Directors in CPSEs are competent to approve the payment of ex-gratia as reward to the employees for their hard work and devotion to duties and such payment does not infringe upon any DPE guidelines."

The Management reply was not acceptable in view of the fact that the payment of ex-gratia to deputationists was against the instructions of DPE. Moreover, the DPE instructions did not contain any provision where the BoD of the Company was empowered to approve payment of ex-gratia /bonus for the employees not covered under the Payment of Bonus Act, 1965.

Thus, payment of ex-gratia amounting to ₹ 14.19 crore to the unentitled employees, under the provisions of the Payment of Bonus Act/ DPE instructions, was irregular.

The matter was referred to MoR in August 2021; no reply was received (November 2021).

3.21 Infructuous payment of spectrum charges: RailTel

RailTel made a payment of ₹ 13.82 crore to Ministry of Communications during the period October 2006 to September 2018 towards royalty charges for the spectrum allocated. However, RailTel did not utilise the Spectrum allotted as no rollout plan existed for utilization of the spectrum. As the spectrum alloted had been surrendered without its utilisation, royalty paid amounting to ₹ 13.82 crore had become infructuous.

RailTel Corporation of India Ltd., (the Company) was set up in September 2000 to modernize Railway's train control, operation, safety systems and network. The objective of the Company is to plan, build, develop, operate and maintain a nationwide broadband telecom and multimedia network of international quality. The Company uses 2.4 GHz unlicensed band with (free for all providers) for its nationwide telecommunication and multimedia network requirements.

With a view to establish wireless connectivity on RF network throughout India, the Company obtained (October 2006) licence for spectrum frequency in

2.839 GHz from Wireless Planning Commission (WPC), Ministry of Communication and Information Technology.

As per the licence, the Company was to make payment of royalty of ₹ 1,44,000 per year per Base Transceiver Station (BTS)[172] and licence fee of ₹ 1,000 per year per customer. In 2012, the royalty rates were revised to ₹ 3,60,000 per year per BTS and licence fee of ₹ 1,000 per year per customer. The Company renewed this licence periodically by making payment for the spectrum charges from time to time.

Audit observed that the Company did not use the alloted spectrum frequency (2.839 GHz) since the date of allotment. No equipment was procured to enable deployment at any of the 43 sites to enable use of the alloted frequency. Consequently, the spectrum was surrendered and finally accepted by the Ministry in August 2018.

During the period from October 2006 to September 2018, the Company made payment of spectrum charges amounting to ₹ 13.82 crore to WPC as per the licence.

Audit further noted that the Ministry of Communications raised (October 2019) a fresh demand on account of outstanding spectrum charges including penalty and late fees amounting to ₹ 4.33 crore on Rail Tel. This amount was yet to be settled by the company.

The issue was raised with Ministry in August 2021. The Ministry of Railways in its reply stated (November 2021) that the cost of radios in frequency band of 2839 MHz was on the higher side since they were manufactured for RailTel. As such retaining and utilising the Licensed Frequency band had become unviable.

The above reply of the Ministry vindicates audit observation that the payment of spectrum charges of ₹ 13.82 crore without utilisation of the licensed frequency (2.839 GHz for) for more than a decade was infructous.

[172] A Base Transceiver Station (BTS) is a fixed radio transceiver in any mobile network. The BTS connects mobile devices to the network. It sends and receives radio signals to mobile devices and converts them to digital signals that it passes on the network to route to other terminals in the network or to the Internet.

3.22 Irregular payment of allowances: RITES Limited

Irregular payment of allowances amounting to ₹ 9.01 crore to employees on deputation to the Company in contravention of DoPT/MoR guidelines.

Para 7.6 (a) of the Department of Personal & Training (DoPT) instructions issued (June 2010) contained instructions for admissibility of allowances and benefits of employees while on deputation/Foreign Service. As per the instructions "such allowances as are not admissible to regular employees of corresponding status in the borrowing organisations shall not be admissible to the officer on deputation/foreign service, even if they were admissible in parent organisation". Ministry of Railways endorsed (July 2010) the above instructions mutatis –mutandis for Railway employees.

During the period from 2015-16 to 2019-20, RITES Limited (Company) paid ₹ 9.01 crore towards 'Expert Professional Allowance' to employees on deputation to the Company. Audit observed that the Company was paying 'Expert Professional Allowance' to all its employees on deputation. However, the same was not paid to the regular employees of RITES Limited. Thus, payment of 'Expert Professional Allowance' to employees on deputation to the Company was in violation of above instructions of DoPT.

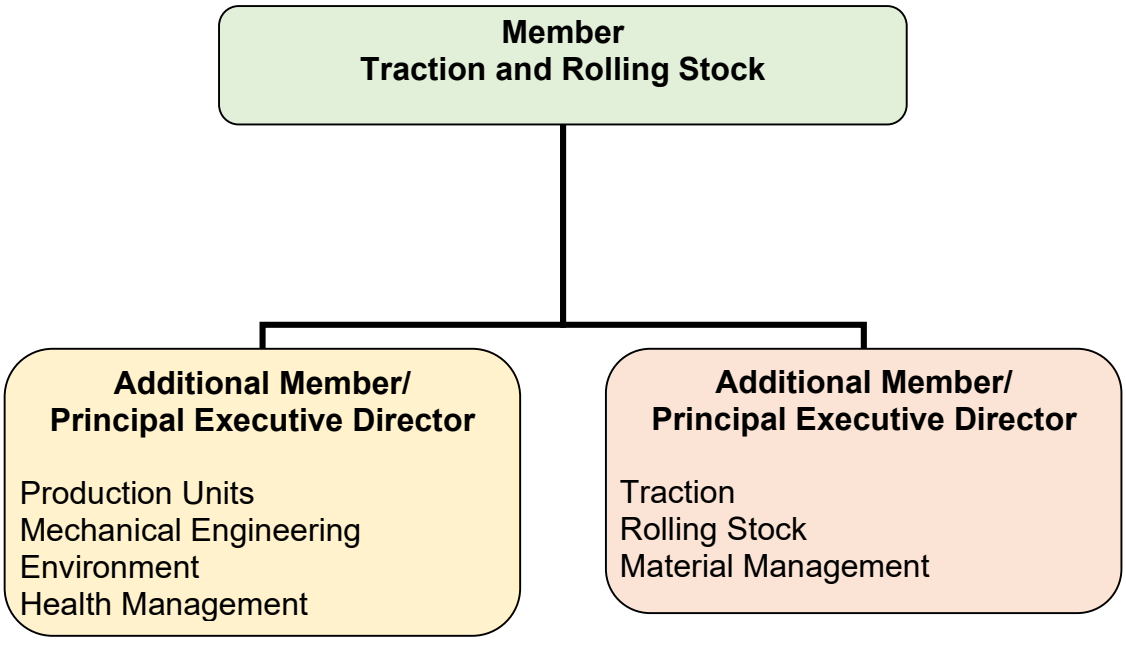
The matter was referred to MoR in August 2021. MoR in its reply stated (November 2021) that the Company has moved a proposal for discontinuing the existing practice of payment of Expertise Allowance.

Thus, the payment of 'Expert Professional Allowance' amounting to ₹ 9.01 crore to the employees on deputation to Company was irregular.

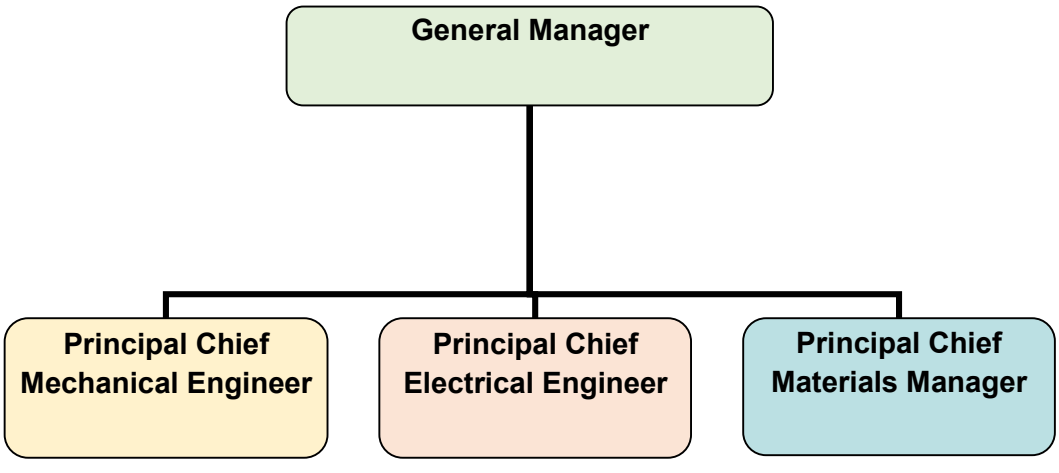
Chapter 4 – Traction and Rolling Stock

Member (Traction and Rolling Stock) at Railway Board is overall in-charge of Mechanical Department including Workshops and Production Units as well as Material Management Department. The works related to Electric Multiple Unit/Mainline Electric Multiple Unit (EMU/MEMU) and electrical maintenance of all coaching stock along with Environment and Health Management (EnHM) is also the responsibility of the Member (Traction and Rolling Stock).

Railway Board Level



Zonal level



At Zonal level, Principal Chief Mechanical Engineer (PCME) is responsible for overall supervision and maintenance of all coaches, wagons *etc.* Chief Workshop Engineer (CWE) is overall in-charge of the workshops, which

undertake maintenance of rolling stock and related items. Principal Chief Electrical Engineer is overall in-charge of electrical maintenance of electric rolling stock, which includes electric Locos, Electric Multiple units, Electric Loco sheds, electric workshops, General services and Over Head Traction services etc.

Total revenue expenditure on repair and maintenance of rolling stock[173] in workshop during 2019-20 was ₹ 17,368.21 crore[174]. Operating expenses on rolling stock and equipment was ₹ 17,830 crore[175] during 2019-20. Further, capital expenditure on Production Units[176] during 2019-20 was ₹ 30,206 crore. During the year, apart from regular audit of vouchers and tenders, 745 offices of the Mechanical Department were taken up for inspection.

Material Management Department is responsible for planning, procurement of various types of stores required for operations and maintenance of trains. These include supply of spare parts, components, fittings, sub-assemblies to production units, maintenance, and manufacturing workshops. The Department is also responsible for total inventory management of all stores, their purchasing and distribution to consignees. Besides this, Material Management Department also carries out disposal of scrap items through public auction and tenders (selected items).

At the Zonal level, Principal Chief Materials Manager is the principal head of the Department who is assisted by Chief Material Managers and Deputy Chief Material Managers. At Divisional level, Senior Divisional Material Manager is head of the Department and reports to Divisional Railway Manager. Total expenditure of the Stores Department during 2019-20 was ₹ 1,156.45[177] crore. During the year, apart from regular audit of vouchers and tenders *etc*., 281 offices of the Stores Department were inspected.

This Chapter includes five individual paragraphs. These paragraphs cover compliance issues on Rolling stock and Material Management.

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[173] including Carriages & Wagons, Plant & Equipment
[174] Sub head 3002-3003 (4)-Repair and maintenance of Carriages and Wagons and Minor head 300 of Sub head 3002-3003 (5)-Repair and maintenance of Plant and Equipment-Appropriation Accounts – 2019-20
[175] Sub head 3002-3003 (6)-Operating Expenses - Rolling Stock and Equipment-Appropriation Accounts – 2019-20
[176]ICF/Chennai, RCF/Kapurthala, MCF/Raebareli, RWP/Bela, RWF/Yelahanka, DMW/Patiala, DLW/Varanasi and CLW/Chittaranjan – Appropriation Accounts – 2019-20
[177] Minor Head 400 of Sub head 3002-3003 (01) – General Superintendence and Services-Indian Railways Appropriation Accounts-2019-20

4.1 Avoidable expenditure towards procurement of power from Bhartiya Rail Bijlee Company Limited: Central Railway and Railway Board

Indian Railways had incurred avoidable expenditure of ₹ 968.73 crore towards procurement of power from Bhartiya Rail Bijlee Company Limited (BRBCL). This avoidable expenditure includes ₹ 463.30 crore towards fixed capacity charges, transmission charge and surcharge for belated payment of dues and ₹ 505.43 crore due to injudicious decision to discontinue power purchase agreement with TATA Power-Distribution and procurement of power from BRBCL at higher tariff.

In November 2007, Indian Railway (IR) had set up a 1000 mega watt (MW) captive power plant as a Joint Venture company, Bharatiya Rail Bijlee Company Limited (BRBCL), at Nabinagar, Bihar in collaboration with National Thermal Power Corporation Limited (NTPC). On behalf of IR, East Central Railway (ECR) executed a Bulk Power Purchase Agreement (BPPA) with BRBCL in December 2010. As per the agreement, IR would draw upto 900 MW of power through open access for various Traction Sub-stations (TSS) of IR located in different states for a period of 25 years.

BRBCL declared the Commercial Operation Date (COD) of the first unit of 250 MW from 15 January 2017. The 90 per cent of power from this unit was scheduled for Railways' in the states of Bihar (50 MW), West Bengal (95 MW) and Odisha (60 MW). These states, however, did not agree to issue 'No Objection Certificate' (NOC). As a result, IR could not draw power from the first unit of BRBCL. Ministry of Railways raised the issue at various levels with the competent authorities of those states. Bihar had stated that NOC would be issued in about two years time as the transmission network of the state was being strengthened. While the matter was under consideration with Odisha Electricity Regulatory Commission, no response was received from West Bengal.

In view of the above, IR re-scheduled the power plan. 130 MW was allocated to Mumbai area (Central and Western Railway) and 75 MW for Damodar Valley Corporation (DVC) area[178]. Audit observed that Central Railway (CR) had PPA with Tata Power Company-Distribution (TPC-D) up to 10 February 2017 for supply of power at the rate of ₹ 4.70 per Kilowatt hour (Kwh) from nine TSS located in Mumbai Suburban area. For implementation of the

[178] Railways allocation was 90 per cent of 250 MW capacity of the first unit i.e. 225 MW ex BUS (electricity generation point). This 225 MW reduces to 205 MW at the consumption point due to transmission losses.

revised power plan, it was decided to discontinue the existing Power Purchase Agreement (PPA) with TATA Power after its expiry in February 2017. Chairman Railway Board, however, did not agree (December 2016) to the decision on the ground that TATA Power had advantage of local standby distribution networks and cheap tariff. Power Purchase Agreement with TATA was, therefore extended up to 01 August 2017. The agreement with TATA power was not renewed further. The supply of power from the first unit of BRBCL commenced from 02 August 2017.

Audit observed that IR failed in compliance of statutory requirement of 'No Objection Certificate'(NOC) for transmission of power to different states as per power plan during the long gestation period between setting up of BRBCL in December 2010 and commissioning of first unit of the plant in January 2017. As a result, IR could not draw power from BRBCL during the period 15 January 2017 (COD) to 01 August 2017. During the period 15 January 2017 (COD) to 31 July 2017, when no power was drawn from Unit I, BRBCL paid fixed capacity charges of ₹ 200.89 crore. It includes CR's share was ₹ 127.71 crore. Out of ₹ 273.14 crore paid towards consumption of power for the period 15 January 2017 to 01 August 2017, CR adjusted ₹ 59.81 crore against the debit raised by ECR during the period August 2017 to March 2018.

In respect of 2nd unit, COD was 10 September 2017. During the period September 2017 to November 2017, only 118.336 MW power was supplied from Unit II. Thereafter, no power was drawn from Unit II till June 2018 resulting in extra expenditure of about ₹ 262.41 crore[179] towards payment of fixed capacity charges for the period from December 2017 to June 2018. Further, discontinuation of PPA with TATA to draw power from BRBCL at higher tariff also led to extra expenditure of ₹ 505.43 crore for the period August 2017 to May 2021 as shown in **Annexure 4.1.**

In response to special letter issued in March 2019 on loss due to procurement of power from BRBCL at higher tariff, the Central Railway Administration stated (April 2019) that the power was availed from BRBCL to reduce the impact of payment of fixed capacity charges irrespective of energy being drawn from BRBCL. It was also stated that availing of power from Tata Power Corporation – Distribution (TPC-D) was not financially beneficial to CR as it would have resulted in non-utilisation of capacity already tied up with BRBCL and payment of capacity charges to both TPC-D and BRBCL. The Railway Administration further asserted that the decision to switch over the

[179] Calculated in audit based on the average expenditure on account of fixed capacity charges for Unit I.

procurement of power supply from TPC-D to BRBCL was as per the policy decision taken by Railway Board.

The contention of the Railway Administration was not tenable. The Railway Administration could not draw power from BRBCL due to its failure in obtaining NOC for transmission of power to Bihar, West Bengal and Odisha. Indian Railways (IR) was compelled to reallocate power to Mumbai area and discontinue the PPA with TPC-D to counter the financial liability towards payment of fixed charges due to non-utilisation of capacity already tied up with BRBCL.

Thus, IR had incurred avoidable extra expenditure of ₹ 968.73 crore towards fixed capacity charges and procurement of power from BRBCL at higher tariff.

The matter was taken up with MoR in September 2021; no reply was received (November 2021).

4.2. Avoidable expenditure due to payment of penalty for excess load: North Eastern Railway and Northern Railway

Despite clear directives of Ministry of Railways for review of Contract Demand and its timely revision, North Eastern and Northern Railway Administrations failed to assess the Contract Demand realistically and take timely action for its revision. Failure in assessment and timely revision of Contract Demand resulted into avoidable payment of penalty of ₹ 16.87 crore by North Eastern Railway and ₹ 15.16 crore by Northern Railway.

As per Para 20102 of Indian Railway Manual of AC Traction Maintenance and Operation, the Contract Demand (CD)[180] for each sub-station should be stipulated in relation to the expected actual Maximum Demand[181] in such a manner that infructuous payments viz., penal charges for exceeding the Contract Demand, are avoided. The Manual also stated that the Contract Demand has to be carefully determined, reviewed periodically and if necessary, modified to avoid penal charges. Also, the notice period for altering Contract Demand should be kept as low as possible in the agreement, preferably four to six weeks.

As per the Rate Schedule of State Electricity Suppliers[182], there is a penalty charged for exceeding the contracted demand. In case the Maximum Demand

[180]Contract Demand means the maximum KW/KVA demand for supply of which the Supplier undertakes to provide facility to the Consumer from time to time.
[181]Maximum Demand means the average amount of KW/KVA delivered to the point of supply of the Consumer and recorded during a 15 minutes period of maximum use in the month.
[182]UPPCL; MVVNL and PVVNL.

in any month exceeds the Contract Demand, excess demand shall be levied equal to 200 *per cent* of the normal rate. This would be in addition to the normal demand charges as per the maximum load recorded by the meter.

In order to avoid payment of penalty for exceeding the Contract Demand, the Ministry of Railways (MoR) directed (February 2000[183]) the General Managers of all Zonal Railways to monitor the maximum demand at each supply point on regular basis. It further advised to revise it to the desired level based upon the Agreements and Tariffs of Electric Supply Companies once in two years or earlier. MoR reiterated (January 2011) these instructions to all the Zonal Railways for compliance.

4.2.1 North Eastern Railway

Examination of records of Sr. Divisional Electrical Engineer/Traction Distribution, Lucknow and Varanasi Divisions of NER revealed that in case of four Traction Sub stations (TSS)[184] the actual consumption of electricity was much higher than the Contract Demand. As a result, penalty charges amounting to ₹ 16.87 crore during the period August 2016 to July 2018 were levied on NER. The details indicated in **Annexure 4.2.**

Audit further noted that there were delays at both stages viz., assessment and requesting for increase in the Contract Demand from 5,000 to 10,000 KVA for the four TSSs and follow up with Suppliers for effecting the increase in CD. The details indicated in **Table 4.1**.

Table 4.1

TSS	Date of request for increasing CD from 5000 to 10000 KVA	Remarks
Baruachak	July/August 2016	Increased in November 2017 after 12 months.
Gorakhpur	August 2016	Not increased till July 2018 i.e., until when the TSS became open access[185].
Govind Nagar	January 2017	Increased in September 2017 after 7 months.
Nunkhar	No request made.	Not increased till July 2018 i.e., until when the TSS became open access.

Audit also noted that the NER Administration in violation of the manual did not include the 'Notice period clause' in the agreements entered with the Electricity Suppliers. In the absence of this clause, NER Administration failed to enforce the timely altering of the CD within a period of 4 to 6 weeks as provided in the IR Traction Manual.

[183] MoR's letter No. 2000/Elect/150/1 dated 22 February 2000
[184] Baruachak, Gorakhpur, Govind Nagar and Nunkhar.
[185] Under open access system there was no need for maximum demand for an individual TSS.

Thus, had NER Administration taken effective steps to review the CD of all these four TSS, the penalty of ₹ 16.87 crore paid to the Suppliers could have been avoided.

4.2.2 Northern Railway

Review of electric energy bills of the seven TSSs for the period May 2013 to June 2018 revealed that in all the TSSs[186], the Maximum Demand exceeded the Contract Demand. Increase in Maximum Demand over Contract Demand ranged between 2,100 kVA (70 *per cent* of Contract Demand)[187] to 5,056 kVA (101 *per cent* of Contract Demand)[188]. Even after revision of the Contract Demand, the Maximum Demand exceeded the revised Contract Demand. Increase in Maximum Demand over the revised Contract Demand ranged between 954 kVA (19 *per cent of* revised Contract Demand)[189] to 2,722 kVA (45 *per cent* of revised Contract Demand)[190]. Thus, assessment of Contract Demand and its revision was not made correctly.

There were delay at stages viz., assessment and requesting for increase in the Contract Demand in five TSSs and also follow up with Electric Supply Companies for enhancing the Contract Demand. Details indicated in **Table 4.2.**

Table 4.2

TSS	Date of request for revising/increasing Contract Demand sent to Electricity Supply Companies	Remarks
SYC	06 March 2016 (3000 kVA to 6000 kVA)	Contract Demand revised (increased) in February 2017 (11 months)
GRMR	05 April 2016 (3000 kVA to 5000 kVA)	Contract Demand increased in March 2017 (11 months)
SYW	18 November 2013 (5000 kVA to 8000 kVA)	Contract Demand increased in June 2015 (19 months)
	12 December 2015 (8000 kVA to 10000 kVA)	Contract Demand increased in March 2017 (15 months)
SLN	18 November 2013 (5000 kVA to 8000 kVA)	Contract Demand increased in June 2015 (19 months)
SVZ	19 November 2013 (5000 kVA to 8000 kVA)	Contract Demand increased in June 2015 (19 months)
BOY	Contract Demand not revised, Processed for Open Access	
AMS	Contract Demand revised lastly in April 2007	

[186]TSS/Amausi (AMS), TSS/Sultanpur (SLN), TSS/Sindurwa (SYW), TSS/Sarai Chandi (SYC), TSS/Garhi Manikpur (GRMR), TSS/Bhadohi (BOY) and TSS/Sarai Harkhu (SVZ)
[187] TSS at GRMR
[188] TSS at SYW
[189] TSS at GRMR
[190] TSS at SYC

Actual consumption of electricity was much higher than the Contract Demand. As a result, penalty charges amounting to ₹ 15.16 crore were levied during the period May 2013 to June 2018[191]. Details indicated in **Annexure 4.2.**

Northern Railway Administration stated (December 2020) that trend of Maximum Demand was analyzed and if Maximum Demand bursting was observed regularly then application for enhancement of Maximum Demand was initiated. It further stated that a standard procedure was required to be followed at Divisional and Headquarter level including vetting of case from Accounts and obtaining approval of competent authority. This normally takes time since examination of the case was involved at all stages. Also, during single line electrification, it was difficult to exactly assess the initial demand of any TSS as the load was shared by various TSSs.

Reply of Northern Railway Administration was not acceptable. Railway Authorities had not correctly assessed the initial Contract Demand and while requesting for enhancement of Contract Demand. Maximum Demand exceeded the Contract Demand in all the TSSs checked in audit.
These matters were referred to MoR in August/ September 2021. In case of NER, Ministry stated (November 2021) that Railway Administration not only took all necessary steps on time regarding increasing the CD of all four TSS but also saved ₹ 18.42 crore in respect of Gorakhpur and Baruachak TSS by not accepting the revised estimate of the electricity suppliers for upgrading the CD.

The reply of MoR was not acceptable as NER Administration took more than one year time to get the CD increased from 5000 to 10,000 KVA for Baruachak and Govind Nagar TSSs and continued to pay the penalty charges. With regard to Gorakhpur and Baruachak TSSs, the saving amount claimed by MoR also included refundable security deposit charges. Further, the reply of MoR is silent on non-inclusion of Notice Period clause in the agreements entered into with the electricity suppliers. No reply was received (November 2021) in respect of Northern Railway.

[191] From July 2018, traction power was procured through Open Access and all TSSs connections taken from UPPCL have been disconnected.

4.3 Procurement of Pantographs for Passenger Electric Locomotives at higher rate: Chittranjan Locomotive Works

CLW procured 400 Direct Air Raised Pantographs for high speed Passenger Locomotives at exorbitantly higher rates than the rates of regularly procured AM 92 type Pantographs which resulted into a loss of ₹ 7.65 crore.

A Pantograph is a movable apparatus mounted on the roof of electric train to collect power through contact with an overhead tension wire. Chittranjan Locomotive Works (CLW) procured Pantographs from approved vendors[192]for manufacture of passenger and freight electric locomotives.

As per Railway Board's instructions regarding stocking of new items (October 2015), it was recommended to purchase new items in part quantity of the requirement rather than initial purchase based on annual contract basis. Further, forecasting techniques should be utilised to avoid unnecessary inventory built up.

For the production period 2015-19, CLW placed orders for 1005 AM-92 type Pantographs[193] from the two sources viz. M/s Contransys Private Limited, Kolkata (905 nos.) and M/s Stone India Ltd, Kolkata (100 nos.). During the four years the Total Unit Rate (TUR) for AM-92 type pantographs ranged between ₹ 93,975 to ₹ 1, 28,419**.**

Audit noted that for the production year 2018-19, CLW decided (October 2017) to float tender for procuring 400 Direct Air Raised type Pantographs as a new item. Subsequently, based on the recommendation of the Tender Committee CLW placed (April 2018) a bulk purchase order of 400 new type of pantographs from M/s Schunk Metal & Carbon Private Limited (single approved vendor for this new item) at a TUR of ₹ 3,19,683. This price per pantograph was higher by ₹ 1,91,264 i.e., more than double the rate of the last purchase held in November 2017.

The Tender Committee justified the procurement of the Direct Air Pantographs at higher rates on the grounds that availability of AM-92 Pantograph was poor as one of the suppliers had internal problems and other had limited capacity constraint. TC also stated that the new item had advantages over conventional type of pantograph as it not only gave aerodynamic stable behavior in operation but also improved the current

[192]Three firms as in October 2017 viz., M/s Stone India Limited; M/s Contrasys Pvt. Limited; M/s Schunk Metal &Carbon (I) Pvt Limited for procurement of passenger locomotives.
[193] As per specification of CLW- CLW/ES/P-5/F

collection. TC also recorded that the use of conventional type Pantograph was henceforth discontinued in the world.

Audit noted that the justification of the Tender Committee for purchase of bulk quantity of 400 Nos at a much higher rate was not proper. The fact that total annual quantity procured each year during past three years[194] had not exceeded 230 units and there was no significant increase in the production plan indicated that the bulk purchase decision of a costlier pantograph lacked prudence. This was also in violation of the instructions of Railway Board of October 2015.

The production target for manufacture of Passenger Locomotives during the years 2017-18 and 2018-19 was only 115 and 100, respectively. Thus, the annual requirement was not more than 230 (Two per engine) for 2017-18. As of July 2021, an inventory of 84 Nos of Direct Air Pantographs (21 *per cent*) was still lying in the stock unused.

Audit also noted that in February 2019, CLW reverted to the purchase of AM 92 pantographs. CLW placed purchase orders for procurement of 461 AM 92 Pantographs on M/s Contrasys Pvt. Limited at a unit rate of ₹ 1, 57,605 (only 51 *per cent* of the rate of Direct Air Pantograph).

The advantages of procuring Direct Air Pantographs were not established as CLW, subsequently, discontinued procuring direct air pantographs and 21 *per cent* inventory of direct air pantographs was still lying unutilized.

Thus, the decision of CLW to procure huge quantity (400 Nos) of Direct Air Pantographs from a vendor, as new item, resulted in procurement of the item at higher cost by ₹ 7.65 crore (400 sets x ₹ 1, 91,264).

The issue was raised with Ministry in September 2021. Ministry of Railways in its reply stated (November 2021) that availability of Passenger Pantographs became very critical due to closure of M/s Stone India Limited. For ensuring availability of material, it was necessary to place order on additional source at that time. It was not prudent to depend on single source after closure of M/s Stone India Limited. Further, as the two types of pantographs were of different design, it would not be proper to compare the cost of spring operated pantograph with direct air raised pantograph. Ministry of Railways further stated that the decision was taken as one time measure.

The reply of the MoR that availability of Passenger Pantographs had become very critical was contrary to the fact that it had placed orders for procurements in bulk rather than to procure quantity for maintaining buffer stock to avoid

[194] 2015-16, 2016-17 and 2017-18.

inventory reaching critical levels. A scrutiny of bin card revealed that stock of AM 92 pantographs in hand as of November 2017 was 36 which was equal to at least three months of the production of passenger locomotives.

Moreover, TC neither deliberated about the decision as one time measure nor conducted any cost benefit analysis of the Direct Air Pantographs. As of July 2021, out of 400 Direct Air Pantographs procured by CLW for Locomotives production, 84 were lying unused in stock and 144 were issued to other Zonal Railways without any specific demand of Direct Air Pantograph from Zonal Railways. CLW had also subsequently ordered bulk quantity of 461 regular pantographs (AM 92) instead of direct air pantographs.

4.4 Short deduction of Income tax at source from contractor and discrepancies in payment to contractor: East Central Railway

Payment of ₹ 18.66 crore was made to a contractor on PAN number of another firm which had not entered into any agreement with the Railway Administration. As a result, there was short deduction of Income tax of ₹ 3.24 crore.

As per the Income Tax Act,[195] in cases, where the Permanent Account Number (PAN) provided to the tax deductor is invalid or does not belong to the tax deductee, it shall be deemed that the deductee has not furnished his PAN. In such cases tax at source shall be deducted at the rate of 20 *per cent*.

The IT Act also stipulated that the tax deductee shall furnish his PAN to the tax deductor and both shall indicate the same in all the correspondence, bills, vouchers and other documents that were sent to each other.

East Central Railway (ECR) Administration entered into an agreement with M/s. Young Bengal Co-operative Labour Contract Society Limited, Kolkata (Contractor). This agreement was for six works related to mechanized cleaning of coaches, watering of coaches, cleaning of station and circulating area, housekeeping of entire Railway station *etc*. at different locations of Pt. Deen Dayal Upadhayaya Division from 2014-15 to 2018-19.

Audit noticed that for all the six works awarded to Contractor, the payment was made through PAN 'X'. Audit, however, noted that the PAN used for payments was issued by Income Tax Department in the name of another firm M/s Young Bengali Co-operative Labour Contract Society Limited, Chandauli. A total amount of ₹ 18.66 crore was paid to the contractor during November

[195]Section 206AA(1)

2014 to April 2019 using the invalid PAN 'X' which was registered in the name of another firm.

Thus, PAN used by the tax deductor (Railway Administration) to deduct the Income Tax from the tax deductee (contractor) did not belong to the tax deductee. Railway Administration had deducted only 2 *per cent* Income tax at source from the payment made to the deductee, whereas, in terms of Income tax Act provision, in such cases, TDS should have been deducted at the rate 20 *per cent*. As a result, there was a short deduction of income tax of ₹ 3.24 crore from the contractor bills.

Audit also noted that as per data generated through IPAS (Railway IT Application), the payments were made to M/s Young Bengal Co-operative Labour Contract Society Limited, Kolkata with PAN 'X' (PAN of another firm *i.e.* M/s Young Bengali Co-operative Labour Contract Society Limited, Chandauli). Whereas Form 16A was issued by the Railway Administration to M/s Young Bengali Co-operative Labour Contract Society Limited, Chandauli which had not entered into any agreement with the Railway Administration.

The issue was raised with Ministry in September 2021. Ministry of Railways in it's reply stated (November 2021) that, ECR Administration has decided (November 2021) to hand over the matter to Vigilance for detailed enquiry and subsequent action.

Thus, in view of payment of ₹ 18.66 crore made through PAN of another firm and on the basis of provision of Rule (I) of 206AA, Railway Administration had made short deduction of income tax at source of ₹ 3.24 crore from the contractor bills.

4.5 Purchase of Dress materials even after issuance of instructions by Ministry of Railways for payment of Dress Allowance: West Central Railway and South Central Railway

On the recommendations of 7th Central Pay Commission, Ministry of Railways issued instructions in October 2017 for payment of Dress Allowance to the employees in lieu of Dress materials. However, the Zonal Railway Administrations did not cancel/short close the existing Purchase Orders of ₹ 2.16 crore for Dress Materials despite MoR's instructions of October 2017. They issued fresh Purchase Orders for Dress materials of ₹ 1.15 crore to the firms after October 2017. Procurement of Dress materials of ₹ 3.31 crore after issue of MoR's instructions was irregular. In some cases, dual benefits (i.e. Dress materials as well as Dress Allowance) were extended to the employees.

Prior to October 2017, the railway employees were issued Uniform and related allowances such as Kit Maintenance Allowance, Shoe Allowance, Uniform Allowance, Washing Allowance *etc.* as per extant instructions issued by the Ministry of Railways (MoR). Consequent to the implementation of the 7th Central Pay Commission recommendations, the uniform-related allowances subsumed in a single Dress Allowance. Accordingly, in October 2017, MoR issued instructions[196] for grant of Dress Allowance[197] to different category of employees in July each year with effect from 1st July 2017.

Dress Allowance of ₹ 5,000 per annum was fixed for the category of staff, who were required to wear regular uniform like Trackmen, Running Staff, Staff Car Drivers, MTS, Canteen Staff *etc*. are to be credited to the salary in the month of July every year.

Audit reviewed the records[198] of Store Depots of Kota, Bhopal (BPL) and Jabalpur (JBP) Divisions of West Central Railway and observed the following:

After issue of MoR's instructions, four Purchase Orders of ₹ 0.34 crore for procurement of Dress materials were placed in February 2018, March 2018 and June 2018. Placement of Purchase Order by Zonal Railway Hqrs/Jabalpur for purchase of Dress Materials and the extension of delivery period was not in order. Audit observed that Dress/Dress materials valuing ₹ 1.41 crore[199] (including ₹ 0.34 crore against fresh orders) were received up to August 2018 from the suppliers even after issue of MoR's instructions.

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[196] Vide Circular No. RBE 141/2017 dated 3 October 2017
[197] covering all the type of dress both summer and winter and related allowances
[198] Tally Book/ledger books maintained in the Store Depots
[199] Kota Division - ₹ 0.39 crore, BPL Division - ₹ 0.54 crore, JBP Division - ₹ 0.48 crore

The Senior Divisional Material Manager/Kota had requested (November 2017 to September 2018) the Zonal Railway Hqrs/WCR for cancellation of existing Purchase Orders and for issue of guidelines for disposal of received uniform material. However, no action was taken by the Zonal Railway Headquarters.

Audit reviewed the records for the period from October 2017 to June 2018 in respect of 924 employees in Bhopal Division and 610 employees in Jabalpur Division. Audit observed that in all 924 cases[200] (100 *per cent)* in Bhopal Division and in 292 cases (47 *per cent*) in Jabalpur Division, both the Dress Allowances and Dress materials were released to the employees. Thus, in Jabalpur and Bhopal Division, dual benefits i.e. Dress materials and Dress Allowances of ₹ 0.61 crore[201] were extended to the employees. In Kota Division, only Dress Allowances were paid to the employees and Dress materials valuing ₹ 0.39 crore is lying in stock.

FA&CAO (F&B)/WCR had issued (December 2017) instructions to the Divisional Accounts Offices that as the procurement of Dress materials for 20l7-18 and 2018-19 (Summer) have been issued; therefore Dress Allowance for 2017-18 and 2018-19 (Summer) is not to be made. Divisional Authority/Bhopal stated (November 2020) that no recovery has finally been effected in view of the representations from the employees association/labour unions.

Matter was referred to West Central Railway Administration in November 2020. In reply, they stated (June 2021) that Railway Administration had decided to procure and distribute the uniforms of winter 2017 and summer 2018 and to implement the payment of Dress Allowance w.e.f. July 2018. Payment has been made by the Divisions/field units in line with MoR's instructions after matter was raised by labour unions in different PNMs[202]. Further, MoR has stated (February 2018[203]) that 7th CPC recommendations on Dress Allowance did not comment on liquidation of uniform stock procured/under procurement prior to payment of Dress Allowance.

The reply was not acceptable. Para 4 of MoR's instructions clearly stipulates that 'With the payment of Dress Allowance, categories of staff that were earlier being provided uniforms will henceforth not be provided with uniforms.' Hence, only Dress Allowance was to be paid to the employee wef 1st July

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[200] 223 Employees received Dress materials along with Dress Allowance for 2017-18, 701 Employees received Dress materials along with Dress Allowance for 2018-19

[201] 1,216 Employees (924 Employees in BPL+292 Employees in JBP)* ₹ 5,000 = ₹ 60.80 lakh (say ₹ 0.61 crore)

[202] Permanent Negotiating Machinery

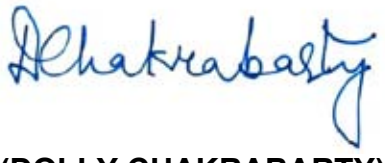
[203] MoR's letter No. PCVII/2018/I/7/5/1 dated 15 February 2018

2017. MoR, while issuing the instructions, failed to issue instructions to Zonal Railways for disposing of the Dress materials already procured/lying in stock in Stores Depots and the Purchase Orders already placed on the firms for supply of Dress materials.

Audit examined the implementation of MoR's instructions in South Central Railway. Three Purchase Orders for Dress materials of ₹ 0.81 crore were placed in November 2017. Audit observed that dress materials valuing ₹ 1.90 crore (including ₹0.81 crore against fresh orders) were received after October 2017.

Thus, procurement of Dress materials of ₹ 1.15 crore through fresh purchase orders after issue of instructions of MoR for payment of Dress Allowance to the employees was irregular.

The matter was referred to the MoR in September 2021; the reply was not received (November 2021).



New Delhi **(DOLLY CHAKRABARTY)**
Dated: 21 December 2021 **Deputy Comptroller and Auditor General**

Countersigned

New Delhi **(GIRISH CHANDRA MURMU)**
Dated: 27 January 2022 **Comptroller and Auditor General of India**

ANNEXURE

Annexure 1.1
Year-wise Pendency position of Action Taken Notes (ATNs) – (As on 30 September 2021)
(Reference Paragraph 1.8)

Sl.No.	Report year	Total number of Paras in the Report	No. of Paragraphs on which ATNs finalized	No. of Reports/Paras on which ATNs have not been submitted by Ministry even for the first time	No. of Reports/ Paras on which revised ATNs are awaited from Ministry	No. of ATNs which have been finally vetted by Audit but pending with Ministry for submission to PAC	No. of ATNs pending with Audit for vetting	Total No. of pending ATNs (Ministry and Audit both)
1	2013-14	47	46	0	0	0	1	1
2	2014-15	44	42	0	1	0	1	2
3	2015-16	45	37	0	4	0	4	8
4	2016-17	46	30	0	4	0	12	16
5	2017-18	52	4	5	12	2	29	48
6	2018-19	2	0	0	1	1	0	2
Total		**236**	**159**	**5**	**22**	**3**	**47**	**77**

Annexure 2.1 Sample Selection (Para 2.1.6)			
S.N.	**Category**	**Sample Size**	**Sample selected**
1.	Route(s) for Holistic review & Simulation analysis	All sections of New Delhi-Howrah route	New Delhi – Howrah. All 92 pairs of MEMU and 152 pairs of Passenger trains selected.
2.	HDN and Non-HDN Sections (other than the selected route of SN 1).	**(i)** Sections in HDN routes falling in the zones.	HDN Routes:
		(ii) One Non-HDN section having line capacity utilisation of more than 80 *per cent*.	1.NER: Burhwal-Chappra (HDN 4)
			2.NFR: Guwahati to Katihar (HDN 4)
			3.NWR: Rewari-Chittorgarh (HDN 3A) and Suratgarh-Bhatinda (HDN 1C)
			4.WCR: New Katni Jn.-Bina (HDN 2A)
			5.WR: Ratlam-Nagda (HDN 3)
			Non-HDN Routes:
			Rawatpur-Farukkhabad (NER); Guwahati-Lumding (NFR); Phulera-Degana (NWR); New Katni Jn.-Jabalpur (WCR) and Nagda-Ujjain (WR).
3.	Long-distance mail/express /superfast trains covering a distance of 500 Km to 1500 Km	Two trains originating from the zones in each category. The trains running on the selected section and selected HDN routes.	32 trains selected in 16 Zonal Railways
	Premium trains-Rajdhani, Shatabdi, Jan Shatabdi and Humsafar		28 trains selected in 16 Zonal Railways
	Short distance trains (upto 500 km)/Intercity Express Passenger/DEMU/ MEMU		41 trains selected in 16 Zonal Railways
	Special trains (Summer special, Mela special etc.) wherever originating.		32 trains selected in 16 Zonal Railways

Annexure 2.1 Sample Selection (Para 2.1.6)			
S.N.	**Category**	**Sample Size**	**Sample selected**
4.	Freight trains carrying priority commodities like Coal, Iron Ore, Cement, Container, Foodgrains and POL traffic	Two trains carrying the commodity with the highest volume of traffic in the zone.	FOIS data of freight train operation received from CRIS for selected four months of May, July, October and January of 2015-16 and 2018-19 were selected.
5.	Completed works having a direct impact on timeliness & punctuality.	Completed major works between 2015-16 and 2018-19 of traffic facilities, Doubling, Track renewal, Electrical and S&T	Completed works of Doubling, traffic facilities, track renewal S&T and Electrical having a direct impact on Punctuality and travel time selected in 16 zonal railways.
6.	Movement of Goods trains in yards	One major Goods yard in each zone for a comprehensive review to ascertain the impact of insufficient infrastructure/lack of effective design/ traffic facilities on travel time and detention.	Total 16 Goods yards selected in 16 Zonal Railways.
7.	Goods shed/siding	Two Goods shed/siding in each zone.	Total 32 Goods Sheds/sidings have been selected in 16 Zonal Railways.
8.	Two Junctions in a zone for the comprehensive review	Two junctions along with adjacent stations in each zone for analysis of train operations, constraints	Total 32 Junctions have been selected in 16 Zonal Railways.
		Crew lobbies for review of crew booking, pre-departure detention, etc. and its impact.	Total 17 Crew lobbies have been selected in 16 Zonal Railways.

Annexure 2.2 Zone wise scheduled speed summary for Mail/Express (Reference Para 2.1.8.2.(a))			
Zone	**Average scheduled speed**	**Zone**	**Average scheduled speed**
CR	54.86	NWR	55.12
ECOR	53.48	SCR	54.9
ECR	45.62	SECR	56.01
ER	49.72	SER	56.71
KR	53.55	SR	51.44
NCR	62.04	SWR	47.55
NER	44.85	WCR	59.11
NFR	46.45	WR	54.44
NR	47.5	IR	52.98
Source: ICMS COIS REPORT NO.704			

Annexure 2.3 Details of Factor (Reference Para 2.1.8.5)	
Detention code	**Detention Description**
ACC	ACCIDENT
ACP	ALARM CHAIN PULLING
AGT	AGITATION
CNST	CONSTRUCTION
COM	COMMERCIAL
CONNI	NON INTERLOCKING WORKING CONSTRUCTION
DCW	CARRIAGE AND WAGON (DIRECT)
DDSL	DIESEL LOCO (DIRECT)
DELC	ELECTRIC LOCO (DIRECT)
ELEC	ELECTRIC DEFECT
ENG	ENGINEERING
ICW	CARRIAGE AND WAGON (INDIRECT)
IDSL	DIESEL LOCO (INDIRECT)
IELC	ELECTRIC LOCO (INDIRECT)
INC	INCIDENT
LC	LC GATE
LO	LAW AND ORDER
MA	MISCREANTS ACTIVITY
OHE	OHE/GRID FAILURE
OPLNI	NON INTERLOCKING WORKING OPEN LINE
ORL	FROM OTHER RAILWAY
OTH	OTHERS
PATH	OUT OF PATH
PBC	PLANNED BLOCK CONSTRUCTION
PBOL	PLANNED BLOCK OPEN LINE
PRONI	NON INTERLOCKING WORKING PROJECT

Annexure 2.3 Details of Factor (Reference Para 2.1.8.5)	
Detention code	**Detention Description**
RE	RAILWAY ELECTRIFICATION
RF	RE-SCHEDULING OF TRAIN RUNNING WITH IN DIFFERENT RAILWAY
RL	RE-SCHEDULING OF TRAIN RUNNING WITH IN RAILWAY
RUNO	RUN OVER
ST	SIGNAL AND TELECOM
TFC	TRAFFIC
WEA	BAD WEATHER

Annexure 2.4
Zonal Railways wise details of trains detained during 2017-18 and 2018-19
(Reference Para 2.1.8.5)

Zonal Railways	Total Detention time during 2017-18 and 2018-19 (In minutes)	Percentage to total detention over IR	Zonal Railways	Total Detention time during 2017-18 and 2018-19 (In minutes)	Percentage to total detention over IR
NR	17231450	25.9	NFR	2101092	3.16
NCR	16181185	24.32	ECoR	1987007	2.99
ECR	8441739	12.69	NWR	1861584	2.8
NER	3779966	5.68	SCR	1341178	2.02
SR	2459478	3.7	WR	1210186	1.82
CR	2416059	3.63	SECR	1085124	1.63
ER	2408645	3.62	SER	1003492	1.51
WCR	2210358	3.32	SWR	816010	1.23
Total Detention over IR				**6,65,34,553**	

(Source: ICMS Report No.102 for 2017-18 and 2018-19)

Annexure 3.1 Statement showing the extent of check and sample size selected (Reference Paragraphs 3.1.4 & 3.1.7)		
Item	**Extent of check**	**Sample Selected (In Number)**
Selection of Sections	33 *per cent*	**A. <u>Eastern Corridor</u>** 1. Bhaupur- Khurja (343 Km) 2. DDU- Bhaupur (402Km) **B. <u>Western Corridor</u>** 1. Vaitrana- JNPT (102 Km) 2. Rewari- Iqbalgarh (639 Km)
Main Contracts *(Civil, Electrical & Signaling)*	100 *per cent*	16
Contracts above ₹ 1 crore money value	25 *per cent*, subject to a minimum of 02 and maximum 04 Contracts	12
Contracts below ₹ 1 crore money value	25 *per cent*, subject to a minimum of 02 and maximum 04 Contracts	08
Arbitration/Court Cases	Pertaining to Land Acquisition: 15 cases	75
	Other than Land Acquisition: 100 *per cent*	09
Interim Payment Certificate (IPC)	20 *per cent* subject to a maximum of 30 IPC	146

Annexure 3.2
Loan Terms and Conditions
(Reference Para 3.1.8)

Terms and conditions for JICA loan

- All loans for WDFC project are signed by DEA with JICA and passed to MoR/DFCCIL as GBS @ Interest Rate of 7 *per cent* p.a.
- Tenure- 10 years moratorium for interest and 30 years for interest payment thereafter (total 40 years)
- No Foreign currency risk on DFCCIL in present arrangement of 7 *per cent* interest payment. There is no principal re-payment for DFCCIL.
- Withdrawal of JICA Loan is through two procedure:
  i. **Reimbursement Procedure: -** Amount is first spent out of Funds received from MoR and then claim in prescribed format is sent to JICA through Controller of Aids Accounts and Audit (CAAA) for disbursement.
  ii. **Commitment procedure: -** Party wise/currency wise letter of credit is opened with BOI Tokyo Branch. Statement of Performance (SOP) is prepared and given to Beneficiary for receiving the payment in designed bank account.

Terms and conditions of World Bank Loan

- World Bank Loan withdrawal is through Reimbursement procedure. Interim Unaudited Financial Report (IUFR) is submitted on quarterly basis to World Bank for drawl of loan.
- Payment of Interest, Principal re-payment and payment of Commitment charges to World Bank is to be done as per scheduled dates. For EDFC-I, the repayment has started w.e.f 15/11/2018.
- Guarantee Fee payment to MoR on scheduled date i.e. 1st of April each year.
- EDFC-II & III are direct loan to DFCCIL against GOI Guarantee Fee.
- Commitment Charges @0.25 *per cent* on undrawn loan on payment date i.e. 15 May and 15 November applicable only for EDFC-III loan.
- Foreign currency risk is with DFCCIL.
- Half yearly interest and principal repayment i.e. on 15 May and 15 November of each year.
- Interest Rate - Six-month variable Index + Spread (Current Rate = (2.86+0.59) 3.45 *per cent* for EDFC-I & EDFC-II and (2.86+0.79) 3.65 *per cent* for EDFC-III).
- Tenure- 7 years moratorium for principal and 15 years repayment period thereafter (Total 22 years)
- Front end fee is payable @ 0.25 *per cent* of the loan amount. EDFC-I loan is through GOI/ MoR and loan proceeds goes to MoF.

Annexure 3.3
Funding for DFC Project
(Reference Para 3.1.9)

World Bank loan for EDFC

Section		Loan Amount *(In Million US$)*	Loan Agreement Date	Loan Amount after restructuring *(In Million US$)*
EDFC-1	Khurja-Bhaupur (343 Km) Khurja-Dadri (46Km)	975	27-10-2011	555
EDFC-2	Bhaupur-DDU (402 Km)	1100	11-12-2014	660
EDFC-3	Ludhiana-Khurja (401 Km)	650	21-10-2016	560
Total		**2,725**		**1,775**

JICA Loan for WDFC

Phase	Section	Estimated Loan amount *(Billion Yen)*	Tranche Loan *(Billion Yen)*	Date of Agreement
I	Rewari-Vadodara (947 Km)	349	2.606	27-Oct-09
			1.616	26-July 10
			90.2	31-Mar-10
			103.664	31-Mar-16
II	Vadodara-JNPT (430Km) Rewari-Dadri (127Km)	296	130.002 136.119	27-Mar-20 28-Mar-13
Total		**645**	**464.207**	

Annexure 3.4
Calculation of avoidable payment of Commitment Charges
(Reference Paragraph 3.1.9)

Year	Loan Amount (in million dollar)	Loan Amount Drawn in million dollar	Cumulative Total (in million dollar)	Scheduled Withdrawal (in million dollar)	Excess Undrawn Amount (in million dollar)	Excess Commitment Charges paid (Amount in Dollars)	Dollar Value as of 31 March 2020 (Amount in ₹)	Commitment Charges attributable to the Slow Progress of Work (Amount in ₹)
2016-17	650	20.28	20.28	20	-0.28	- 695.64	64.83	- 45098.96
2017-18	650	17.90	38.17	80	41.83	104565.48	65.08	6805121.57
2018-19	650	43.28	81.45	240	158.55	396375.82	69.37	27496590.43
2019-20	650	78.18	159.63	520	360.37	900935.60	75.32	67858469.59
2020-21	650	89.17	248.80	560	311.20	778007.50	73.2	56950151.28
Total								**15,90,65,233.90**

Annexure 3.5
Statement showing Details of Non-recovery of Commercial Staff cost from siding owners
(Reference Paragraph 3.5)

Sl. No.	Siding Owner	Status of ownership of Siding	Present Status of functioning of siding	Period and amount outstanding (In ₹)		Amount recovered and period (Rs.)		Total Outstanding (In ₹) (As on 31.03.2020)	Period for which staff cost bills were not raised	No. of months staff cost not billed
				Period	Amount outstanding	Amount recovered	Period			
1	2	3	4	5	6	7	8	9	10	11
Mumbai Division										
1	Bharat Petroleum Corporation Limited, Trombay	Central PSU	Functioning	July 2016 to December 2016	19632717	0		19632717	07/2016 to 12/2016	6 months
2	Bharat Petroleum Corporation Limited, Uran	Central PSU	Functioning	October 2013 to December 2013	14709689	0		14709689	10/2013 to 12/2013	3 months
3	Rashtriya Chemical Factory,Thal	Central PSU	Functioning	UP TO 3/20	6643057	0		6643057		
4	Visakhapatnam Steel Project, Kalamboli	Private	Functioning	04/13 to 12/14 & 10/17 to 12/17	4122550	0		4122550	04/2013 to 12/2014 & 10/2017 to 12/2017	24 months
5	Tata Iron and Steel Company, Kalamboli	Private	Functioning	10/14 to 12/14 & 07/18 to 09/18	2028005	0		2028005	10/2014 to 12/2014 & 07/2018 to 09/2018	6 months
6	Tata Thermal Power Corporation , Trombay	Private	Functioning	10/18 to 03/2020	1501248	0		1501248	10/2018 to 03/2020	18 months
7	Steel Authority of India Ltd , Kalamboli	Central PSU	Functioning	04/13 to 12/13	2407113	0		2407113	04/2013 to 12/2013	9 months

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				Period	Amount outstanding	Amount recovered	Period			
1	2	3	4	5	6	7	8	9	10	11
8	Food Corporation of India, KLMG	Central PSU	Functioning	2012, 2015 to 03/2020	8627805	0		8627805		
9	Hindustan Petroleum Corporation Limited VOSG	Central PSU	Functioning	01/2016 to 03/2020	14107496	0		14107496		
10	Rashtriya Chemical Factory, Trombay	Central PSU	Functioning	07/16 to 03/2020	25020589	0		25020589		
11	Bulk Cement Corporation of India KLMG	Private	Functioning	Prior to 2014, 2014 to 03/2020	8415381	7356118	04/12 to 03/18	1059263		
12	Central Warehousing Corporation KLMG (Earlier B2B Milk Siding)	Private	Functioning	12/08 to 02/16	11328916	0		11328916		
13	Navkar Corporation Ltd.Somathane	Private	Functioning	01/17 to 12/19	8145873	0		8145873		
14	JSW Steel Coated Product Limited, Vasind	Private	Functioning	04/11 to 12/15	12936382	0		12936382		
15	PNP Maritime Service Private Limited, PEN	Private	Functioning	01/19 to 09/19	1632935	0		1632935	10/2019 to 12/2019	3 months

Annexure 3.5
Statement showing Details of Non-recovery of Commercial Staff cost from siding owners
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Sl. No.	Siding Owner	Status of ownership of Siding	Present Status of functioning of siding	Period and amount outstanding (In ₹)		Amount recovered and period (Rs.)		Total Outstanding (In ₹) (As on 31.03.2020)	Period for which staff cost bills were not raised	No. of months staff cost not billed
				Period	Amount outstanding	Amount recovered	Period			
1	2	3	4	5	6	7	8	9	10	11
16	JSW Steel Limited, Pen, Dolvi	Private	Functioning	04/18 to 09/19	4704892	3290089	April 18 to March 2019	1414803	01/2018 to 03/2018 & 10/2019 to 12/2019	6 months
17	Container Corporation of India,(CONCOR) Mulund	Central PSU	Not functioning from 1.1.21	07/2015 to 03/2020	1511071	0		1511071		
18	Container Corporation of India (CONCOR), Turbhe	Central PSU	Functioning	07/2015 to 03/2020	2600996	0		2600996		
19	Dronagiri Rail Terminal.(CONCOR)	Central PSU	Functioning	01/19 to 03/20	2334558	0		2334558		
20	Indian Oil Terminal Limited, MIOJ	Private	Functioning	01/14 to 09/15, 01/16 to 03/20	18131984	0		18131984		
21	Welspun Maxsteel Ltd(Earlier Vikram Ispat Ltd.) Roha	Private	Functioning	01/13 to 09/15	494863	0		494863	10/2015 to 03/2020	54 months

Annexure 3.5
Statement showing Details of Non-recovery of Commercial Staff cost from siding owners
(Reference Paragraph 3.5)

Sl. No.	Siding Owner	Status of ownership of Siding	Present Status of functioning of siding	Period and amount outstanding (In ₹)		Amount recovered and period (Rs.)		Total Outstanding (In ₹) (As on 31.03.2020)	Period for which staff cost bills were not raised	No. of months staff cost not billed
				Period	Amount outstanding	Amount recovered	Period			
1	2	3	4	5	6	7	8	9	10	11
22	Jawaharlal Nehru Port Trust	-	-	Prior to 09/19 & 09/2019 to 03/2020	50229592	0		50229592		
Total					**221267712**	**10646207**	**0**	**210621505**		
Pune Division										
1	Garrison Engineer, Kirkee	Central Government	Functioning	Upto 31.03.2019	3508670	1344833	2018-19	2163837		
2	Food Corporation of India, Pune	PSU/Central	Functioning	Upto 31.03.2018	976836	0	nil	976836		
3	Rama Krishi Rasayan, Loni	Private	Closed in 2017-18	Upto 31.03.2018	6821079	0	nil	6821079		
Sub-Total					**11306585**	**1344833**		**9961752**		
Nagpur Division										
1	Central Ammunation Depot, Pulgaon	Govt	Functioning	01/19 to 06/19	500560	0		500560		
2	Filling Factory, Bhandak	Govt	Functioning	04/18 to 06/19	440655	0		440655		
3	Uttam Value Siding, Wardha	Private	Functioning	01/18 to 06/19	2631517	2018867	01/19 to 06/19	612650		

Annexure 3.5
Statement showing Details of Non-recovery of Commercial Staff cost from siding owners
(Reference Paragraph 3.5)

Sl. No.	Siding Owner	Status of ownership of Siding	Present Status of functioning of siding	Period and amount outstanding (In ₹)		Amount recovered and period (Rs.)		Total Outstanding (In ₹) (As on 31.03.2020)	Period for which staff cost bills were not raised	No. of months staff cost not billed
				Period	Amount outstanding	Amount recovered	Period			
1	2	3	4	5	6	7	8	9	10	11
4	Maharashtra State Electricity Board, Chandrapur	State PSU	Functioning	01/19 to 12/19	7207360	4397089	01/19 to 06/19	2810271		
5	Majri CHP, Chargaon	Central PSU	Functioning	01/18 to 06/19	4488502	3500862	01/18 to 12/18	987640		
Sub-Total					**15268594**	**9916818**		**5351776**		
Bhusawal Division										
1	Maharastra State Electricity Distribution Co. Ltd. (MSEDCL/MSE), Eklahare, Nasik Road	PSU (STATE)	Functioning	2017-18	85053	0	-	85053		
2	Central Warehousing corporation) CWC, Khandwa	PSU (CENTRAL)	Closed in Nov.2019	2015-16 to 2019-20	3626690	0	-	3626690		
3	Maharastra State Electricity distribution co. Ltd.(MSEDCL) Deep Nagar, Bhusawal	PSU (STATE)	Functioning	2019-2020	4064116	66910	2016-2017	3997206		

Annexure 3.5
Statement showing Details of Non-recovery of Commercial Staff cost from siding owners
(Reference Paragraph 3.5)

Sl. No.	Siding Owner	Status of ownership of Siding	Present Status of functioning of siding	Period and amount outstanding (In ₹)		Amount recovered and period (Rs.)		Total Outstanding (In ₹) (As on 31.03.2020)	Period for which staff cost bills were not raised	No. of months staff cost not billed
				Period	Amount outstanding	Amount recovered	Period			
1	2	3	4	5	6	7	8	9	10	11
4	Maharastra State Electricity distribution co. Ltd.(MSEDCL), Paras	PSU (STATE)	Functioning	2019-2020	3544805	0	-	3544805		
5	Container corporation of India (CONCOR),(Inland container Depot- ICD), Bhusawal	PSU (CENTRAL)	Closed in July 2020	2019-2020	1989195	0	-	1989195		
Sub-Total					**13309859**	**66910**		**13242949**		
Grand Total ₹ in crore								**23.92**		

Annexure 3.6
Non-recovery of Repair and Maintenance charges from Private Sidings
(Reference Paragraph 3.8)

Sl. No.	Name of the Siding	Alpha Code	Serving Station	Length within Rly's premises (Take of point to interchange point) in mtr.	Rate per Km (w.e.f. 01.08.2005) ₹	Rate per Km (w.e.f. 01.03.2015) ₹	Total amount due from 01.08.2005 to 28.02.2015. (Col. 5x115xCol. 6/12x1000)	Total amount due from 01.03.2015 to 30.09.2020. (Col. 5x67xCol. 7/12x1000)	Total amount of non-recovery (Col. 8 + Col. 9) ₹
1	2	3	4	5	6	7	8	9	10
1	FCI	WFCS	WFD	500	834827	1092000	4000213	3048500	7048713
2	FCI	KJMS	KJM	185	834827	1092000	1480079	1127945	2608024
3	OIL SIDING	DKNS	DKN	945	834827	1092000	7560402	5761665	13322067
4	LPG SIDING	DKNG	DKN	125	834827	1092000	1000053	762125	1762178
5	SAIL SIDING	CSAS	CSDR	362	834827	1092000	2896154	2207114	5103268
6	TATA SIDING (TISCO)	TCS	CSDR	320	834827	1092000	2560136	1951040	4511176
	TATA SIDING (TISCO)	TCS	CSDR	320	834827	1092000	2560136	1951040	4511176
7	BIRLA BULK CEMENT SIDING	BSBD	DBU	80	834827	1092000	640034	487760	1127794
8	ACC CEMENT LTD. SIDING	MAPT	TDV	145	834827	1092000	1160062	884065	2044127
9	GAS TURBINE SIDING	YNKS	YNK	550	834827	1092000	4400234	3353350	7753584
10	BEML SIDING	BNCB	BYPL	2600	834827	1092000	20801106	15852200	36653306
11	KSSIDC SIDING*	CKSS	CSDR	300	834827	0	1920102	0	1920102
Total							**5,09,78,711**	**3,73,86,804**	**8,83,65,515**

1. TISCO Siding/CSDR has two separate lines with a track length of 320 mtr. Repair and Maintenance Charges were arrived at accordingly.

*2. KSSIDC siding at CSDR is not in operation since 2013-14. Hence charges are arrived upto March 2013 only.

3. Revised Form of Agreement was effective from 12-07-2005. For calculation purpose, period from August 2005 to February 2015 and from March 2015 to September 2020 have been taken into account.

Annexure 3.7
A-Interest Calculation on ₹ 2,300 crore
(Reference Paragraph 3.18)

Period		No of days	Opening balance of FDs terminated for payment of advance(in ₹)	Actual Rail Freight adjusted for the period(in ₹)	Repayment of Working Capital Loan during the period(in ₹)	Amount for adjustment in closing balance(in₹)	Rate[204] of Interest (*per cent*)	Interest on opening balance (in ₹)
From	To	1	2	3	4	5=4-3	6	7= (6/100*2)/365*1
28-03-2019	30-04-2019	34	23000000000	2967905311	2350000000	617905311	6.4	137117808
01-05-2019	31-05-2019	31	22382094689	3215398196	2350000000	865398196	6.4	121660482
01-06-2019	30-06-2019	30	21516696493	3102661642	2300000000	802661642	6.4	113183719
01-07-2019	31-07-2019	31	20714034851	3309062752	0	3309062752	6.4	112593548
01-08-2019	31-08-2019	31	17404972099	3275820610	0	3275820610	6.4	94606752
01-09-2019	30-09-2019	30	14129151489	3068057224	0	3068057224	6.4	74323208
01-10-2019	31-10-2019	31	11061094265	3021484504	0	3021484504	6.4	60123866
01-11-2019	30-11-2019	30	8039609761	2895484511	0	2895484511	6.4	42290550
01-12-2019	31-12-2019	31	5144125250	3089716791	0	3089716791	6.4	27961492
01-01-2020	31-01-2020	31	2054408459	2051858345	0	2051858345	6.4	11166976
01-02-2020	29-02-2020	29	2550114		0	0	6.4	12967
01-03-2020	31-03-2020	31	2550114		0	0	6.4	13861
Total								**79,50,55,230**

B- Interest paid on working capital loan of ₹ 700 crore= ₹ 6.18 crore

Total interest paid on working capital loan and encashment of FDs
=₹ 6.18 crore + ₹ 79.51crore =₹ 85.69 crore

[204] Rate of interest of SBI as on 22/2/2019 for duration of more than 211 days to less than one year

Annexure 4.1
Statement showing the details of amount actually paid by CR to ECR towards payment of power supply from M/s BRBCL
(Reference Paragraph 4.1)

Month	Total Number of units supplied by BRBCL	Rate per Unit of BRBCL at TSS end (In ₹)	Amount of debit raised by ECR (In ₹)	Amount actually paid to ECR by CR (In ₹)	Rate per unit of TPC-D at TSS end (In ₹)	Amount payable to TPC-D (In ₹)	Loss due to change of supply from TPC-D to BRBCL (In ₹)
1	2	3	4	5	6	7	Col.8 = Col. 5 - Col. 7
Aug-17	41822976	7.75	439726940	323981357	4.7	196567987	127413370
Sep-17	44509006	9.41	564036608	418787821	4.7	209192328	209595493
Oct-17	44865521	6.74	414553615	302401644	4.7	210867949	91533695
Nov-17	40718328	8.95	454150458	364448302	4.7	191376142	173072160
Dec-17	45876102	6.69	334213604	293122384	4.7	215617679	77504705
Jan-18	41565192	7.6	346393795	316009471	4.7	195356402	120653069
Feb-18	43199604	9.66	450387910	417265216	4.7	203038139	214227077
Mar-18	48599876	9.96	514490161	483877226	4.7	228419417	255457809
Apr-18	40651459	7.35	298606534	298606534	4.7	191061857	107544677
May-18	48488307	6.4	310245360	310245360	4.7	227895043	82350317
Jun-18	40916501	7.17	293338888	293338888	4.7	192307555	101031333
Jul-18	32774260	5.99	196222445	196222445	4.7	154039022	42183423
Aug-18	32315529	5.6	181091080	181091080	4.7	151882986	29208094
Sep-18	38762078	6.09	236112286	236112286	4.7	182181767	53930519
Oct-18	48545237	4.93	239561230	239561230	4.7	228162614	11398616
Nov-18	49189066	6.22	306071077	306071077	4.7	231188610	74882467
Dec-18	58571639	6.43	376738113	376738113	4.7	275286703	101451410
Jan-19	56621097	6.91	391476652	391476652	4.7	266119156	125357496

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1	2	3	4	5	6	7	Col.8 = Col. 5 - Col. 7
Feb-19	59060241	6.46	381355052	381355052	4.7	277583133	103771919
Mar-19	66360748	6.86	455312045	455312045	4.7	311895517	143416528
Apr-19	66633288	7.40	493326549	493326549	4.7	313176456	180150093
May-19	66752921	6.67	445390520	445390520	4.7	313738729	131651791
Jun-19	63286257	6.12	387369981	387369981	4.7	297445410	89924571
Jul-19	56689734	6.17	349548308	349548308	4.7	266441752	83106556
Aug-19	52486056	6.59	345643796	345643796	4.7	246684464	98959332
Sep-19	51398996	7.10	365144792	365144792	4.7	241575283	123569509
Oct-19	60518090	6.78	410152046	410152046	4.7	284435022	125717024
Nov-19	63178980	6.80	429420813	429420813	4.7	296941204	132479609
Dec-19	57120954	6.76	386291440	386291440	4.7	268468485	117822955
Jan-20	65895903	6.01	395760146	395760146	4.7	309710743	86049403
Feb-20	69079238	5.80	400862646	400862646	4.7	324672418	76190228
Mar-20	57782847	6.88	397267530	397267530	4.7	271579383	125688147
Apr-20	20194790	13.99	282537767	282537767	4.7	94915515	187622252
May-20	15985796	19.05	304601529	304601529	4.7	75133242	229468287
Jun-20	23684669	13.87	328489966	328489966	4.7	111317944	217172022
Jul-20	43390027	7.83	339643583	339643583	4.7	203933125	135710458

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Month	Total Number of units supplied by BRBCL	Rate per Unit of BRBCL at TSS end (In ₹)	Amount of debit raised by ECR (In ₹)	Amount actually paid to ECR by CR (In ₹)	Rate per unit of TPC-D at TSS end (In ₹)	Amount payable to TPC-D (In ₹)	Loss due to change of supply from TPC-D to BRBCL (In ₹)
1	2	3	4	5	6	7	Col.8 = Col. 5 - Col. 7
Aug-20	44718162	7.17	320852622	320852622	4.7	210175364	110677258
Sep-20	49168378	6.23	306528297	306528297	4.7	231091378	75436919
Oct-20	63653582	5.73	364926162	364926162	4.7	299171834	65754328
Nov-20	67343360	5.85	394264401	394264401	4.7	316513791	77750610
Dec-20	52139506	6.32	329460715	329460715	4.7	245055677	84405038
Jan-21	60874591	5.44	330966711	330966711	4.7	286110576	44856135
Feb-21	60002677	5.48	328981727	328981727	4.7	282012584	46969143
Mar-21	65820554	5.26	346032338	346032338	4.7	309356605	36675733
Apr-21	64122027	5.43	347896810	347896810	4.7	301373528	46523282
May-21	63134077	5.94	374704137	374704137	4.7	296730162	77973975
Total			**16690149185**	**16092089515**		**11037800679**	**5054288836**

Annexure 4.2 Penalty charges levied by Electricity Supply Companies on Zonal Railways (Reference Paragraphs 4.2.1 and 4.2.2)				
TSS	**Contract Demand (A)**	**Actual Consumption range (B)**	**No. of months B>A**	**Demand penalty (₹ in crore)**
Baruachak	5000 KVA	8,160 to 13,440 KVA (10/2016 to 10/2017)	13	5.00
	Revised to 10000 KVA	11,520 to 13,440 KVA (11/2017 to 05/2018)	5	0.96
Gorakhpur	5000 KVA	6,528 to 11,808 KVA (08/2016 to 07/2018)	25	5.28
Govind Nagar	5000 KVA	7,200 to 13,776 KVA (09/2016 to 08/2017)	12	3.97
	Revised to 10000 KVA	10,752 to 12,960 KVA (09/2017 to 06/2018)	9	0.98
Nunkhar	5000 KVA	5,088 to 8,664 KVA (02/2017 to 06/2017)	5	0.68
Total (North Eastern Railway)			**69**	**16.87**
TSS	**Contract Demand (A)**	**Actual Consumption range (B)**	**No. of months B>A**	**Demand penalty (₹ in crore)**
SYC	3000 KVA	3457 to 7700 KVA (12/2015 to 01/ 2017)	13	2.82
	Revised to 6000 KVA	6014 to 8722 KVA (02/2017 to 04/ 2018)	07	
SYW	5000 KVA	5216 to 10056 KVA (09/2013 to 05/2015)	21	3.80
	Revised to 8000 KVA	8160 to 9632 KVA (10/ 2015 to 02/ 2017)	11	
	Revised to 10000 KVA	10088 to 10408 KVA (04/ 2018 to 06/2018)	02	
SVZ	5000 KVA	5328 to 8160 KVA (05/ 2013 to 03/2015)	24	2.70
	Revised to 8000 KVA	8064 to 9744 (06/ 2015 to 06/ 2018)	11	
GRMR	3000 KVA	3442 to 5100 KVA (01/ 2016 to 03/ 2017)	14	1.17
	Revised to 5000 KVA	5130 to 5954 KVA (08/ 2017 to 02/ 2018)	06	
BOY	3000 KVA	3854 to 5520 KVA (11/ 2017 to 05/ 2018)	08	0.77

Annexure 4.2
Penalty charges levied by Electricity Supply Companies on Zonal Railways
(Reference Paragraphs 4.2.1 and 4.2.2)

TSS	Contract Demand (A)	Actual Consumption range (B)	No. of months B>A	Demand penalty (₹ in crore)
SLN	5000 KVA	5280 to 8400 KVA (05/ 2013 to 05 2015)	25	2.08
	Revised to 8000 KVA	8304 to 9000 KVA (08/ 2017 to 06/ 2018)	05	
AMS	5000 KVA	14040 to 16416 KVA (05/ 2015 to 06/ 2018)	26	1.82
	Revised to 10000 KVA to 16500 KVA and 14000 KVA			
Total (Northern Railway)			**173**	**15.16**

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