



**PERFORMANCE AUDIT REPORT  
ON THE PROJECT  
SPECIAL REPAIR OF 150 DIESEL  
ELECTRIC LOCOMOTIVES BY  
PAKISTAN RAILWAYS  
AUDIT YEAR 2016-17**

**AUDITOR GENERAL OF PAKISTAN**

## **PREFACE**

The Auditor General of Pakistan conducts audit in terms of Articles 169 and 170 of the Constitution of the Islamic Republic of Pakistan 1973, read with sections 8 and 12 of the Auditor General's (Functions, Powers and Terms and Conditions of Service) Ordinance 2001. The performance audit of the Project titled Special Repair of 150 DE locomotives was carried out accordingly.

The Directorate General Audit Railways conducted performance audit of the Project during audit year 2016-17 for the period from 2012-13 to 2015-16 with a view to reporting significant findings to stakeholders. Audit examined the economy, efficiency and effectiveness aspects of the Project. In addition, Audit also assessed, whether the management complied with applicable laws, rules and regulations in managing the Project affairs. This Performance Audit Report indicates specific actions that, if taken, will help the management realise the objectives of the Project. The observations included in this report have been finalized in the light of discussion with project management. DAC meeting was not convened by the PAO despite reminders.

The Performance Audit Report is submitted to the President of Pakistan in pursuance of Article 171 of the Constitution of the Islamic Republic of Pakistan 1973, for causing it to be laid before both houses of Majlis-e-Shoora (Parliament).

Islamabad  
Dated:

**(Javaid Jehangir)**  
**Auditor General of Pakistan**

## TABLE OF CONTENTS

	Page
ABBREVIATIONS	i
EXECUTIVE SUMMARY	ii
1 INTRODUCTION	1
2 AUDIT OBJECTIVES	2
3 AUDIT SCOPE AND METHODOLOGY	2
4 AUDIT FINDINGS AND RECOMMENDATIONS	3
4.1 Organization and Management	3
4.2 Financial Management	4
4.3 Procurement and Contract Management	8
4.4 Constructions and Works	12
4.5 Asset Management	14
4.6 Monitoring and Evaluation	16
4.7 Sustainability	17
4.8 Overall Assessment	18
5 CONCLUSION	19
ACKNOWLEDGEMENTS	20
ANNEXURES	21

## ABBREVIATIONS

3Es	Economy, Efficiency and Effectiveness
AGM	Additional General Manager
AR	Audit Report
CCP	Chief Controller of Purchase
CD & ST	Custom Duty and Sales Tax
CDL	Central Diesel Locomotive
CDWP	Central Development Working Party
CEO	Chief Executive Officer
CFE	Cash Foreign Exchange
CME	Chief Mechanical Engineer
COPS	Chief Operating Superintendent
DCOS	District Controller of Stores
DE	Diesel Electric
DP	Director Procurement
ECNEC	Executive Committee of National Economic Council
FEC	Foreign Exchange Component
FOB	Free on Board
GM	General Manager
HP	Horse Power
HR	Human Resource
ISSAIs	International Standards of Supreme Audit Institutions
KC	Karachi Cantt
KM	Kilometer
LD	Liquidated Damages
LOCO	Locomotive
M & S	Manufacturing and Services
MD	Managing Director
MPKM	Million Passenger Kilometer
MPR	Monthly Progress Report
MTKM	Metric-ton kilometer
PC-I	Planning Commission Proforma-I
PD	Project Director
PLF	Pakistan Locomotive Factory
PMES	Project Monitoring and Evaluation System
PR	Pakistan Railways
PSDP	Public Sector Development Program
TC	Transfer Certificate
US	United States
UTEX	Unit Exchange
W.M	Works Manager

## EXECUTIVE SUMMARY

The Director General Audit (Railways) conducted performance audit of the project titled Special Repair of 150 Diesel Electric (DE) Locomotives during April-May 2017. The main objective of the audit was to review the performance of the Project against 3 Es (Economy, Efficiency and Effectiveness). The performance audit was conducted in accordance with the ISSAIs.

The scheme envisaged special repair of 150 DE locomotives. After carrying out special repair at Central Diesel Locomotive Workshop, Rawalpindi and Diesel Shop, Karachi respectively, 150 DE locomotives would be able to run passenger/ freight service and help in generating additional 6,500 MTKM of freight traffic and 26,500 MPKM annually. The availability and reliability of PRs fleet was to be improved and result in increased productivity. The PC-I was approved by ECNEC on 16.08.2012 at the cost of Rs 5,005.031 million (including FEC Rs 3,521.294 million) with completion period upto 30.06.2015. The project was closed on 30<sup>th</sup> June, 2016. The management turned out 148 locomotives out of 150 sent for special repair. Actual expenditure of the project was Rs 5,681.679 million. Thus, physical achievement of the project was 98.67% and financial cost was 113.52%.

### Key audit findings

- i. Irregular expenditure incurred due to appointment of unsuitable/inexperienced official – Rs 2.744 million.<sup>1</sup>
- ii. Liabilities/Payments relating to the project supplies remained unsettled at closing date of the project – Rs 24.860 million.<sup>2</sup>
- iii. Irregular procurement of material took place due to negotiation with the suppliers against PPRA Rules – Rs 12.378 million.<sup>3</sup>

---

<sup>1</sup> Para 4.1.2

<sup>2</sup> Para 4.2.1

<sup>3</sup> Para 4.3.1

- iv. PR incurred wasteful expenditure on procurement of extra spare parts lying surplus after the completion of the project – Rs 91.142 million.<sup>4</sup>
- v. Wasteful expenditure incurred due to late delivery of material after project completion date – Rs 57.867 million.<sup>5</sup>
- vi. Warranty claims were pending for want of settlement – Rs 143.607 million.<sup>6</sup>
- vii. Warranty claims against defective material were not lodged – Rs 135.708 million.<sup>7</sup>
- viii. PR sustained loss of expected earnings due to non-repair of locomotives – Rs 135.352.<sup>8</sup>
- ix. PR sustained loss due to substandard repair of 25 locomotives – Rs 946.925 million.<sup>9</sup>
- x. Irregular utilization of project material on repair of already turned out locomotives – Rs 123.027 million.<sup>10</sup>
- xi. PR suffered loss of potential earnings due to delayed repair of 57 locomotives and putting 02 locomotives in shunting service instead of freight operation – Rs 4,243.749 million.<sup>11</sup>

#### **Recommendations**

- i. Suitable selection criteria should be established/adopted and ensure that strong internal controls are in place over recruitment of staff.
- ii. PPRA Rules should be strictly followed to avoid negotiations with suppliers in future procurements.

---

<sup>4</sup> Para 4.3.2

<sup>5</sup> Para 4.3.4

<sup>6</sup> Para 4.3.5

<sup>7</sup> Para 4.3.6

<sup>8</sup> Para 4.4.1

<sup>9</sup> Para 4.4.2

<sup>10</sup> Para 4.4.3

<sup>11</sup> Para 4.5.1

- iii. Procurement need assessment and management should be improved to avoid cases of late delivery.
- iv. Responsibility be fixed for inefficient procurement management and internal controls be strengthened to avoid recurrence.
- v. Proper follow up procedures should be taken against claims lodged. Necessary action, as required under the contractual obligations, may be taken against the suppliers for non-settlement of warranty claims.
- vi. Responsibility for not lodging warranty claims may be fixed.
- vii. All liabilities should be settled before closure of the project.
- viii. Responsibility for non-achievements of targets envisaged in the PC-I be fixed and disciplinary action be taken against those held responsible.
- ix. Management should ensure quality of work being carried out to avoid substandard repairs.
- x. Expenditures should be properly allocated between Capital expenditure and Revenue expenditure to avoid non-compliance with Fundamental Principles of Accounting.
- xi. Schedule of commencement and completion of the project must be observed and the locomotives be utilised for the intended purpose.

## **1. INTRODUCTION**

The PC-I of project titled special repair of 150 DE locomotives was approved by ECNEC on 16.08.2012 at the cost of Rs 5,005.031 million (including FEC Rs 3,521.294 million). Completion period of the Project was 36 months commencing from 1<sup>st</sup> July, 2012 (target date 30.06.2015). But its completion period was extended to 48 months upto June 2016. The project was closed on 30.06.2016 without achieving the required targets because 148 locomotives were put into operation while (02) two locomotives were left un-repaired up to June 2016. Cumulative expenditure up to June 2016 was Rs 5,681.679 million as against the sanctioned cost of Rs 5,005.031 million.

As per targets fixed in the five years Corporate Business Plan (2011-12 to 2015-16), the Railway administration was required to run 32,800 MPKM and 20,529 MTKM for passenger and freight traffic respectively during 2015-16. To achieve the said target, Pakistan Railways required 657 DE locomotives as against the available fleet of 494 DE locomotives. Even out of available fleet, 217 DE locomotives had outlived their lives and were required to be condemned. Pakistan Railways had a condemnation plan for 114 locomotives. Therefore, keeping in view the aforesaid condemnation plan, induction of 380 locomotives was necessary to meet the requirement of 657 DE locomotives. The net shortage of locomotives by the year 2015-16 was worked out to 197 locomotives. After carrying out special repair of 150 DE locomotives at Central Diesel Locomotive Workshop, Rawalpindi and Diesel Shop, Karachi respectively, it was envisaged that Railway Administration would be able to run passenger/ freight service and help in generating additional 6,500 MTKM of freight traffic and 26,500 MPKM passenger traffic annually. The availability and reliability of PRs fleet would be improved and resultantly it would increase the productivity.

### **Scope of work of the project**

The scope of work included repair with replacement/ recoupment of different spares of DE locomotives with foreign/locally manufactured components and spares. Major portion of special repair was to be carried

out by replacement/ recouplement with imported foreign components like, Traction Motors, Crank Shafts, Power Assemblies, Air Compressors, Power Axles and Turbo Charger etc. However, rest of the special repair was to be executed through locally manufactured spares.

## **2. AUDIT OBJECTIVES**

The major objectives of the audit were:

- i. To review project's performance against intended objectives to ascertain whether the objectives laid down in the PC-I have been fully achieved with regard to 3E's (Economy, Efficiency and Effectiveness)
- ii. To verify the effectiveness of internal controls.
- iii. To review compliance with applicable rules, regulations and procedures

## **3. AUDIT SCOPE AND METHODOLOGY**

### **3.1 Audit Scope**

The performance audit of the project was conducted during Audit Year 2016-17 covering the period from 2012-13 to 2015-16. Major locations which were visited for the purpose of this audit includes the office of the PD/special repair of 150 DE locomotives, Mughalpura, Lahore, offices of the Chief Mechanical Engineer Loco, Chief Controller of Purchase, Pakistan Railways Headquarters Office Lahore, Works Managers, Central Diesel Locomotive Workshop, Rawalpindi, Diesel Shop, Karachi and office of the District Controller of Stores, Shipping Karachi.

### **3.2 Audit Methodology**

All the relevant documents/files were scrutinized besides carrying out physical visits and discussions with the management of the project.

## **4. AUDIT FINDINGS AND RECOMMENDATIONS**

### **4.1 Organization and Management**

The management did not adhere to the guidelines of the Planning Commission and the provisions embodied in the PC-I. The Project was managed by different Project Directors instead of a single full-time dedicated incumbent as required under the “Guidelines for Project Management” proclaimed by the Planning Commission. Significant audit findings are given below:

#### **4.1.1 Frequent posting/transfer of Project Directors**

According to Clause 2.2 of the Project Management Policy, framed by the Planning Commission, the Project Director is responsible for project execution according to its objectives, work scope and implementation schedule. Suitable and qualified Project Director should be appointed in case of each project that should not be transferred during currency of the project.

During performance audit of special repair of 150 DE locomotives Project, it was observed that the Ministry of Railways was not complying with the project management policy as four Project Directors, detailed below, were posted in the project from 2012 to 2016. Due to frequent change of PD, the objectives of the project could not be achieved in a timely manner.

<b>S. No</b>	<b>Project Director</b>	<b>Tenure</b>	
		<b>From</b>	<b>To</b>
1	Muhammad Yousaf	09.10.2012	02.07.2013
2	Majeed Baig	03.07.2013	14.06.2015
3	Syed Mir Badsha	15.06.2015	31.07.2015
4	Ansar Billah Khan	01.08.2015	30.06.2016

The matter was discussed with project management. The management replied that transfer/posting of the Project Directors related to Ministry of Railways. Para may be referred to Ministry of Railways for clarification. The reply was not tenable because it was the responsibility

of the Project Director to furnish reply after contacting with the concerned quarters.

Audit, therefore, recommends that reasons for frequent posting/transfer of project directors may be explained and responsibility for non-achievement of objectives be fixed.

#### **4.1.2 Irregular expenditure due to deployment of unsuitable person – Rs 2.744 million**

There was a provision for one post of Specialist Monitoring and Evaluation (BPS-18) in PC-I of special repair of 150 locomotives Project.

During performance audit of the Project, it was noticed that instead of appointing a suitable/experienced official, the services of a District Controller of Purchase (DCP), having no past experience of monitoring and evaluation of projects, were utilized against the post. This resulted in irregular expenditure of Rs 2.744 million on account of pay and allowances to the DCP (**Annex-1**).

The matter was discussed with Project Director on 25.05.2017. The Project Director replied that the subject matter pertained to the Office of General Manager/M&S. Therefore, the Para may be referred to the Office of General Manager/M&S. The reply was not tenable because it was the responsibility of the Project Director to furnish reply after contacting with the concerned quarters.

Audit recommends that reasons be explained for posting of unsuitable officer against the post of Specialist Monitoring and Evaluation, responsibility for this posting be fixed, disciplinary action be taken against those held responsible and internal control be strengthened to avoid such recurrence in future.

#### **4.2 Financial Management**

According to Project Management Guidelines the two main principles to be observed are economy (getting full value of money) and regularity (spending money for the purposes and in the manner prescribed by Law and Rules). These Policy Guidelines also indicate that the New

Financial Control and Budgeting should be referred to for guidance in all financial matters.

During performance audit of the project, it was noticed that detailed estimate of the project was neither prepared nor got sanctioned from the competent authority before commencement of the project. Released material worth millions of rupees was not accounted for. The significant observations are discussed in the following paras:

#### **4.2.1 Non-clearance of liabilities for procurement of spare parts – Rs 24.860 million**

The Project was closed on 30.06.2016 vide Projects Director's Letter No. PSDP/SR-150 DEL (2015-16) dated 27.05.2016.

During performance audit, it was noticed that Railway administration suddenly decided to wind up the project on 30.06.2016 without clearing accrued liabilities of the project as the bills of various suppliers had not been paid by the project management. Therefore, payment amounting to Rs 24.860 million remained outstanding. This showed financial mismanagement, weak internal controls and inefficiency of project management.

The matter was discussed with Project Director on 25.05.2017 who replied that the para was valid. The matter was already under investigation and the outcome would be conveyed accordingly. However, result of investigation was not received from the management up till now.

Audit, therefore, recommends that reasons be explained for closing down the project without clearing liabilities and responsibility be fixed over those who failed to liquidate the liability of the project before its completion.

#### **4.2.2 Non-preparation of detailed estimate after approval of PC-I**

Para 1201 of Pakistan Government Railway Code for the Mechanical Department states that detailed estimates should be prepared for all works whether chargeable wholly or in part to Capital or to

Depreciation Reserve Fund and works of a special nature, such as special overhauls of rolling-stock, even though chargeable to ordinary revenue.

During performance audit, it was noticed that neither detailed estimate of the project was prepared nor sanctioned by the competent authority before the commencement of work. The project's work was commenced during September 2012 and was completed on 30<sup>th</sup> June, 2016. Due to non-preparation of detailed estimate the cost of the project could not correctly be assessed. This resulted in deviation to the codal provisions due to negligence of project management.

The matter was discussed with Project Director on 25.05.2017. The Project Director replied that the subject matter pertained to Chief Mechanical Engineer, Loco as such same may be forwarded to the Office of Chief Mechanical Engineer, Loco for clarification/ comments. The reply was not tenable because preparation of detailed estimate was the responsibility was executing agency.

Audit recommends that reasons be explained for non-compliance of codal provisions, responsibility for non-adherence to rules be fixed and action be taken against the persons held responsible.

#### **4.2.3 Loss on account of establishment charges paid beyond cutoff date due to delay in completion of project – Rs 5.657 million**

As per approved PC-I of the project titled Special Repair of 150 DE locomotives, the Project was scheduled to be completed within thirty six months. (from 1<sup>st</sup> July, 2012 to 30<sup>th</sup> June, 2015).

During performance audit, it was noticed that the Project which was scheduled to be completed by 30<sup>th</sup> June, 2015 was actually completed on 30<sup>th</sup> June, 2016. Thus, an extra expenditure of Rs 5.657 million was incurred on account of establishment charges beyond the project completion date. This resulted due to inefficiency of the project management.

The matter was discussed with Project Director on 25.05.2017. The Project Director replied that subject matter had been taken up with Ministry of Railways, for regularization of the period. The reply was not

tenable because it was the responsibility of the project management to complete the project within approved timelines.

Audit recommends that reasons for delay in completion of the project may be explained, responsibility be fixed for non-completion of the project within stipulated time and action be taken against the persons held responsible.

#### **4.2.4 Likely misappropriation of used spare parts/released material due to its non-accountal**

Para 1240(4) of Pakistan Government Railway Code for the Mechanical Department states that during verification of estimates it should be seen that in case of renewal, replacement and dismantlement works, credit for sale proceeds of released material has been provided for in the estimate.

During performance audit of the Project, it was noticed that no provision for credit of released material was made in the project estimates. Consequently, no released material was accounted for in the project. Audit also observed that new material and spare parts worth Rs 2,861.200 million were issued for special repair of locomotives, but no record of released material was maintained. The above state of affairs indicated that the released material had likely been misappropriated. This resulted in possible misappropriation of spare parts as well as overstatement of project's cost due to negligence of project management.

The matter was discussed with project management on 25.05.2017. The management replied that the para pertained to Chief Mechanical Engineer Loco Office. The reply was not tenable because accounting of released material was the responsibility of executing agency.

Audit recommends that the issue regarding non-accounting of released material may be investigated at an appropriate level for fixing responsibility for suspected misappropriation of the released material and disciplinary action be taken against the persons held responsible.

### **4.3 Procurement and Contract Management**

Procurement and contract management are essential components of infrastructure sector projects. Value for money should be the main consideration for the procurement and contract management. The management should have proper procurement policy and procurements should be made after proper need assessment

During the performance audit of the project, it was observed that the procurement process in the Project was neither economical nor efficient. Instances of mis-procurement, violation of contractual obligations were noticed. The significant observations are discussed in the following paras:

#### **4.3.1 Irregular procurement of material through negotiation – Rs 12.378 million**

Clause- 40 of PPRA Rules provides that there shall be no negotiation with the bidder having submitted the lowest evaluated bid or with any other bidder.

During performance audit, it was noticed that procurements valuing Rs 12.378 million were made after making negotiations with the contractor who tendered the lowest rates in clear violation of PPRA Rules. This resulted in irregular procurement of material valuing Rs 12.378 million (**Annex-2**).

The matter was discussed with Project Director on 25.05.2017 who replied that negotiation had been made by the project management in view of the urgency in procurement of spares/ material and there was no financial loss to department. The reply was not acceptable because compliance of PPRA Rules was the responsibility of all Government functionaries.

Audit recommends that responsibility be fixed for making irregular purchases in violation of PPRA Rules and internal controls be strengthened to avoid recurrence in future.

### **4.3.2 Loss due to wasteful expenditure on excess procurement of spare parts – Rs 91.142 million**

Para 1801 of Railway General Code states that means should be devised to ensure that every Railway servant realizes fully and clearly that he will be held personally responsible for any loss sustained by Government through fraud or negligence.

While reviewing the stores of Central Diesel Locomotive Workshop, P.R, Rawalpindi and Diesel Shed, PR, Karachi it was noticed that spare parts valuing Rs 91.142 million were lying surplus after completion of the project. Procurement of material in excess of the requirements resulted in wasteful expenditure of Rs 91.142 million due to inefficient inventory management (**Annex-3**).

The matter was discussed with the Project Director on 25.05.2017 who remarked that para may be referred to Chief Mechanical Engineer Loco Office for clarification. The remarks of the Project Director were not acceptable as the Project Director was himself responsible for the procurement of excess material.

Audit recommends that responsibility be fixed for procuring surplus material and inventory management be strengthened to avoid recurrence in future.

### **4.3.3 Time overrun due to inefficient procurement of material/spare parts.**

As per PC-I the project titled special repair of 150 DE locomotives was required to be completed upto 30.06.2015.

While checking the procurement cases it was noticed that tendering and subsequent processing were quite inefficient. The required material for special repair arrived with inordinate delay which was the main contributory factor of time overrun. Had the required spares parts been procured and supplied to concerned workshops in time, the project would have been completed within stipulated time. This resulted in time overrun of twelve months due to inefficiency of project management (**Annex-4**).

The matter was discussed with Project Director on 25.05.2017 who replied that the matter pertained to Chief Controller of Purchase. The report was issued to the formation but no reply was received till finalisation of the report.

Audit, therefore, recommends that reasons be explained for delayed procurement of required spare parts that eventually led to time overrun and responsibility be fixed for non-procurement of spare parts within stipulated time.

#### **4.3.4 Wasteful expenditure due to late delivery of material after project completion date – Rs 57.867 million**

The Project was closed on 30.06.2016 vide Projects Director's Letter No. PSDP/SR-150 DEL (2015-16) dated 27.05.2016.

While reviewing the procurement cases, it was noticed that project was closed on 30.06.2016 but delivery of various purchase orders of material/spare parts was fixed after 30.06.2016. Procurement with late delivery period beyond the completion date of project was totally unjustified and resulted in wasteful expenditure of Rs. 57.867 million due to inefficient procurement management (**Annex-5**).

The matter was discussed with Project Director on 25.05.2017 who replied that the para pertained to the office of the Chief Controller of Purchase. The report was issued to the formation but no reply was received.

Audit, therefore, recommends that reasons be explained for wasteful procurement of spare parts after completion of the project, responsibility be fixed for such irregular expenditure and internal controls be strengthened to avoid recurrence.

#### **4.3.5 Non-settlement of warranty claims – Rs 143.607 million**

Para 1801 of State Railway General Code states that means should be devised to ensure that every railway servant realizes fully and clearly that he will be held personally responsible for any loss sustained by Government through fraud or negligence.

During performance audit, it was noticed that warranty claims worth Rs 143.607 million were pending for want of settlement. The warranty claims were required to be got settled within the project timelines but the same was not done. This showed mismanagement and weak internal controls on the part of Railway management (**Annex-6**).

The matter was pointed out to project management in August 2017. The management replied in March 2018 that the firms have been finally advised to immediately replace the material otherwise their bank guarantees would be forfeited. Moreover, the FA&CAO office has also been requested not to release bank guarantees of the related firms till solution of the issue.

Audit recommends that the outstanding warranty claims be got settled without further loss of time otherwise bank guarantees of the firms be forfeited

#### **4.3.6 Non-placement of warranty claims against defective material – Rs 135.708 million**

Para 1801 of State Railway General Code states that means should be devised to ensure that every railway servant realizes fully and clearly that he will be held personally responsible for any loss sustained by Government through fraud or negligence.

While reviewing purchase order No 19/0013/SR-150/4-2014 dated 28.01.2014, it was noticed that Assistant Controller of Stores, Rawalpindi informed the Project Director vide his letter dated 18.06.2016 about the failure of fitted material in locomotive No.5220 but warranty claims of the above material Rs 135.708 million were not lodged (**Annex-7**). This resulted due to negligence of project management.

The matter was discussed with Project Director on 25.05.2017 who replied that the para pertained to Chief Mechanical Engineer/Loco. Therefore, the para may be referred to CME/Loco for clarification. The report was issued to the Railway management in August 2017 but no reply was received.

Audit, therefore, recommends that, reasons be explained for non-placement of warranty claims against defective material and responsibility be fixed over those who failed to lodge warranty claims of defective material.

#### **4.4 Construction and Works**

The construction and works should be done in an efficient and economic manner in accordance with the requirements of PC-I.

##### **4.4.1 Loss of potential earning due to non-repair of 02 locomotives – Rs 135.352 million**

As per sanctioned PC-I the Project Directorate was required to carry out special repair of 150 DE locomotives by 30.06.2015.

During performance audit, it was observed that in contravention to the provision of PC-I, the project management could carry out repair of 148 DE locomotives by abandoning the repair of two DE locomotives without any cogent reason. Hence the scope of PC-I was changed by management without seeking any formal approval of the competent forum. This showed poor performance on the part of project management and resulted in loss of potential earning of Rs 135.352 million (**Annex-8**).

The matter was pointed out to project management in May 2017. The management replied that para pertained to CME/Loco, therefore, same may be referred to him for comments. The reply was not relevant and rational on the part of Project Director, because it was the responsibility of Project Directorate to accomplish the assignment as per sanctioned PC-I.

Audit recommends that reasons be explained for non-repair of 150 DE locomotives completely as per provision of sanctioned PC-I and responsibility be fixed for abandonment of repair of 02 DE locomotives and action be taken against those held responsible.

#### **4.4.2 Loss due to substandard repair of 25 locomotives – Rs 946.925 million**

Para 1801 of State Railway General Code states that means should be devised to ensure that every railway servant realizes fully and clearly that he will be held personally responsible for any loss sustained by Government through fraud or negligence.

During performance audit, it was noticed that after completion of special repair work in Workshops, the repaired locomotives were turned out to the respective operational divisions. After lapse of very short period, 23 locomotives were again sent to Central Diesel Locomotive Workshop, PR, Rawalpindi and 02 locomotives at Diesel Shed, PR, Karachi for repair. This showed that special repair of locomotives was unsatisfactory and substandard. The average expenditure amounting to Rs 37.877 million was incurred on special repair of each locomotive. Thus, total expenditure amounting to Rs 946.925 million incurred on special repair of 25 DE locomotives gone wasted (**Annex-9**).

The issue was pointed out to project management in May 2017. The management replied that due to late receipt of material, the locomotives were repaired by utilising existing old serviceable parts. The remarks were not acceptable because after undergoing special repair and incurring huge expenditure, frequent failure of locomotives reflected substandard repair work.

Audit, therefore, recommends that inquiry may be conducted and responsibility for carrying out sub-standard special repair be fixed and action be taken against those held responsible.

#### **4.4.3 Irregular utilization of project material on repair of already turned out locomotives – Rs 123.027 million**

As per PC-I, the material procured under the project was required to be utilized on special repair of locomotives only.

During performance audit, it was noticed that large quantity of material/ spare parts procured for the project was utilized on ordinary repair of locomotives particularly those already turned out after special

repair. As a matter of principle, the ordinary/routine repair should be carried out from the revenue allocation instead of PSDP funds. Thereby the concerned authorities utilized the project material valuing Rs 123.027 million irregularly (**Annex-10**). This happened due to weak controls.

The matter was pointed out to project management in May 2017. The management replied that due to acute shortage of locomotives these were got repaired on urgent basis by cannibalization of serviceable parts to those locomotives. However, on receipt of new spares under the project, the said locomotives were actually repaired. The reply was not tenable because it was evident from the record of concerned shops, that the above material of the project was utilized on routine and ordinary repair which was irregular.

Audit, therefore, recommends that reasons be explained for irregular utilization of project material on the repair of already rolled out locomotives, responsibility be fixed over those held responsible for such major lapses and internal controls be strengthened to avoid recurrence.

#### **4.5 Asset Management**

The asset management in a project should be done in an effective and efficient manner in order to secure the machinery from any kind of misuse. It is the responsibility of the PD to implement the rules and regulations with respect to asset management and to ensure that the assets are managed in efficient and economic manner.

During performance audit of the project, it was observed that asset management in the project was not done in an efficient manner. The significant observations are discussed in the following paras:

##### **4.5.1 Loss of potential earning – Rs 4,243.749 million**

As per PC-I of the project titled special repair of 150 DE locomotives, all the locomotives were required to be turned out upto 30.06.2015 to contribute in passenger and freight earning.

During performance audit, it was noticed that project management failed to achieve targets within stipulated time and only 91 locomotives

out of 150 were repaired upto 30.06.2015. Therefore, 57 locomotives were turned out upto 30.06.2016 after one year delay which resulted into loss of potential earning of Rs 3,857.532 million (**Annex-11**). Moreover, two locomotives of Rawalpindi Division were put in shunting services instead of passengers/freight train operation after special repair. As a result of non-utilization of those two locomotives on passenger/freight train operation, Railway Administration was deprived of potential earning of Rs 386.217 million (**Annex-11**).

The issue was pointed out to project management in May 2017. The management replied that delay in turning out of these locomotives was due to late receipt of material and the para pertained to CCP office. Regarding utilization of locomotives in shunting instead freight train operation, the issue pertained to COPS. The report was issued to the formation in August 2017 but no reply was received till finalisation of the report.

Audit, therefore, recommends responsibility be fixed for delay in repair of 57 locomotives as well as putting 02 locomotives in shunting service instead of passenger/freight train operation and action be taken against the persons held responsible.

#### **4.5.2 Wasteful expenditure due to non-utilization of vehicle purchased for project – Rs 1.023 million**

Para 1801 of State Railway General Code states that means should be devised to ensure that every railway servant realizes fully and clearly that he will be held personally responsible for any loss sustained by Government through fraud or negligence.

During performance audit of the project, it was noticed that a Suzuki Cultus No GY-594, was purchased by project authorities in March 2013. The said vehicle was not utilized by project authorities and the vehicle was kept idle in PD Office from March 2013 to June 2014. However, on request of the Project Director Rehabilitation Mughalpura, the vehicle was transferred to his office in June 2014, without making any cost adjustment. This indicated that the vehicle was purchased without

any requirement, which resulted in wasteful expenditure of Rs 1.023 million due to negligence of the project management.

The issue was pointed out to project management in May 2017. The management replied that it was the decision of seniors and there was no wasteful expenditure, it was transferred and due procedure had been adopted. The reply of the Project Director was not convincing, because the vehicle was purchased without its requirements on the project.

Audit, therefore, recommends that reasons be explained for wasteful expenditure and non-receipt of credit of transferred vehicle and responsibility be fixed over those held responsible for such wasteful expenditure.

#### **4.6 Monitoring and Evaluation**

The Project Wing of Planning Commission has clearly laid down the guiding principles with regard to monitoring and evaluation of the projects. For ensuring completion of the project within approved cost and time, the Planning Commission advises to monitor project activities on monthly basis.

During performance audit of the project, it was observed that the management did not adhere to the directions of Planning Commission. There was no effective mechanism to monitor timely completion of each phase of the Project. The significant observations are discussed in the following paras:

##### **4.6.1 Non-preparation of completion report of the project**

As per para 3.33 of Project Management Guidelines issued by the Planning Commission of Pakistan, the project is considered to be completed/closed when all the funds have been utilised or objectives achieved or abandoned due to various reasons. At this stage the project has to be closed formally, and reports to be prepared on its overall level of success, on a proforma of PC-IV and forwarded to the Projects Wing of Planning Commission.

During performance audit, it was observed that the project was closed on 30.06.2016. As per the above guidelines, completion report (PC-IV) on the overall level of success of the project was required to be prepared and forwarded to Projects Wing of Planning Commission of Pakistan but no completion report was prepared till finalization of the report due to slackness of management.

The issue was pointed out to project management in May 2017 but no reply was received.

Audit, therefore, recommends that reasons be explained for non-preparation of completion report of the project and responsibility be fixed over those held responsible for the negligence.

#### **4.7 Sustainability**

##### **4.7.1 Un-satisfactory performance of locomotives due to lesser reliability/availability**

According to PC-I, after special repair of 150 locomotives under the Project, their availability of locomotives was planned to be increased from 60% to 73% while reliability was supposed to be maintained not lesser than 19,860 KM per failure.

During performance audit, it was noticed that since putting into service after special repair, either availability or reliability of locomotives was not up to the mark, which indicated that the money spent on special repair of locomotives did not yield envisioned benefits. Average availability and reliability of locomotives remained 66% only from December 2016 to February 2017 which was below the benchmark (**Annex-12**). This indicated that special repair of locomotives was not carried out as per standard specification.

The issue was pointed out to project management in May 2017. The management replied that most of the locos nominated for special repairs had completed their economical life, therefore, it was not possible to achieve the desired target of reliability in view of benchmark. The Project Director in his remarks had admitted that the scheme for special repair of locomotives was unviable.

Audit, therefore, recommends that reasons be explained for massive financial loss to PR due to substandard repair and responsibility be fixed over the project authorities for huge loss.

#### **4.7.2 Non-achievement of targets for restoration of passenger trains**

It was envisaged in the objectives of PC-I of the project that as a result of special repair of 150 locomotives, the availability of locomotives would be increased which would help to restore 92 trains suspended due shortage of locomotives.

During performance audit, it was noticed that up till 30.06.2016 average passenger trains per day were the same as the level of 2011-12 with 101 average trains per day and special repair of 150 DE locomotives did not contribute to restore even single passenger train up to 30.06.2016 which showed failure on the part of Railway administration against the target of envisaged restoration of 92 cancelled passenger trains per day given in PC-I.

The issue was pointed out to project management in May 2017. The management replied that the objectives of the project had been achieved, however utilization of locomotives either on passenger or freight services pertained to COPS as such the para might be referred to COPS for clarification. The report was issued to the formation but no reply was received till finalisation of the report.

Audit, therefore, recommends that reasons be explained for non-achievement of targets regarding restoration of passenger trains.

#### **4.8 Overall Assessment**

Overall performance of the project was unsatisfactory because the availability/reliability of 66% locomotives was not up to the mark. The prime objective of generating additional 6,500 MTKM freight traffic/ 26,500 MPKM passenger traffic per annum was not achieved due to delay in turning out of remaining 57 locomotives. Pakistan Railways suffered a loss of potential earning Rs 3,857.352 million per annum. Due to frequent failures, trains were detained causing inconvenience to the passengers.

## **5 CONCLUSION**

The Project special repair of 150 DE locomotives was started without proper planning. Neither it was properly managed nor it was executed seriously. The relevant rules, Planning Commission's Guidelines for Project Management and principles of economy and efficiency were completely neglected. Since putting into service, average reliability of majority of the repaired locomotives was not up to the mark. Moreover, frequent failures of repaired locomotives followed by massive warranty claims within a short span of time were the factors which indicated that the quality of material and workmanship used in the special repair of locomotives was substandard. Instead of spending huge capital on repair of over aged locomotives, Pakistan Railways should have opted for procurement of new locomotives with latest sophisticated technology or for arranging their manufacturing in PLF, Risalpur.

### **5.1 Key Issues for the Future**

The project should start after proper home work so that envisaged benefits could be achieved. There should be a single, dedicated Project Director. For assessment of design as well as quality of material/workmanship used in the manufacturing of locomotives, third party validation needs to be considered. Services of Pakistan Locomotive Factory, Risalpur may also be utilised in manufacturing of locomotives as the factory has the capacity to manufacture 25 locomotives per year. In future penalty clauses for suppliers should be included in contracts to ensure provision of quality products.

### **5.2 Lessons Identified**

The Project was started without proper planning and ascertaining the ground realities. There was no single dedicated Project Director as required by Planning Commission's Guidelines and Project Directors were frequently changed during the execution of the Project. Project material procured from PSDP funds was mis-utilized on the ordinary repair of locomotives. Due to slow and inefficient procurement process, the project got into considerable time overrun.

## **ACKNOWLEDGEMENT**

Audit acknowledges the support of the Project Director special repair of 150 DE locomotives, Chief Controller of Purchases, Chief Mechanical Engineer, Loco, District Controller of Stores (Shipping), Works Managers Central Diesel Electric Locomotive, Workshop, Rawalpindi and Diesel Shop, Karachi for their cooperation and assistance in providing necessary information and record.

**Annex-1**

**Statement showing the detail of pay drawn by Mr. Abdul Aziz DCP  
against the post of Specialist Monitoring and Evaluation Officer  
(Para 4.1.2)**

<b>S.No</b>	<b>Period Involved</b>	<b>Months Involved</b>	<b>Gross Pay Drawn</b>	<b>Amount (Rs)</b>
1	01.05.2013 to 30.06.2013	2	62203	124,406
2	01.07.2013 to 30.11.2013	5	65853	329,265
3	01.12.2013 to 30.06.2014	7	67503	472,521
4	01.07.201 to 30.11.2014	5	71303	356,515
5	01.12.2014 to 30.06.2015	7	79953	510,671
6	01.07.2015 to 30.11.2015	5	79133	379,330
7	01.12.2015 to 30.06.2016	7	81562	570,934
<b>Total</b>				<b>2,743,642</b> <b>2.743 (m)</b>

## Annex-2

## Statement showing the detail of procurement made through negotiation (Para 4.3.1)

S.No	Description	Rate Quoted (Rs)	Discounted Rate (Rs)	QTY	P.O No Date	Dated	Amount
1	Air Duct Motor	52,900	52,000	40	19/0031/sr-150/5-2014	31.05.2014	208,000
2	Air Duct T/M	39,990	39,000	20	19/0031/sr-150/5-2014	31.05.2014	780,000
3	Rubber Spring	6,666	5,650	216	19/0062/sr-150/5-2014	28.08.2014	1,220,400
4	Cushion	880	790	144	19/0062/sr-150/5-2014	28.08.2014	113,760
5	Air Duct	7,440	72,000	114	19/0062/sr-150/5-2014	28.08.2014	820,800
6	Magnet valve	19,800	18,998	40	19/0004/sr-150/5-2014	20.02.2014	759,920
7	Nozle Tips	102,500	10,000	240	19/0014/sr-150/5-2014	21.04.2014	2,400,000
8	Hose Nose	6,750	6,550	35	19/0033/sr-150/5-2014	05.06.2014	220,500
9	Shell Bearing	1,882	1,820	384	19/0040/sr-150/5-2014	30.06.2014	722,688
10	Buffer light front & Rear Light	18,495	16,995	40	19/0073/sr-150/5-2014	30.12.2014	679,800
11	Crank Shaft webco	123,000	120,000	16	19/0067/sr-150/5-2014	29.11.2014	1,920,000

12	Buffer Light Assey	4,990	4,790	128	19/0065/sr-150/5-2014	28.08.2014	638,720
13	Suspension Motor	21,060	20,400	54	19/0005/sr-150/5-2014	20.02.2014	1,101,600
<b>Total</b>							<b>12,378,188</b> <b>12.378 (m)</b>

**Statement showing the detail of material lying in stores after 30.06.2016  
(Para 4.3.2)**

<b>Description</b>	<b>Amount (Rs)</b>
MATERIAL AT DIESEL SHOP KARACHI.	Rs 68,332,081
DPU CLASS MATERIAL AT CDL RAWALPINDI	Rs 15,996,229
MATERIAL IN STORES OF DCOS CDL RAWALPINDI.	Rs 6,813,571
<b>Total</b>	<b>91,141,881 91.142 (m)</b>

## Annex-4

**Statement showing detail of purchase orders in which delivery period  
was extended (Para 4.3.3)**

<b>S.No.</b>	<b>Purchase Order No</b>	<b>Date</b>	<b>Delivery Period</b>	<b>Extended Delivery Period</b>	<b>Amount (Rs)</b>
1	19/0053/SR-150/3-2014	23.04.2014	30.10.2014	30.06.2016	450,295
2	19/0028/SR-150/3-2014	30.09.2014	30.09.2014	30.08.2015	23,732,461
3	19/0023/SR-150/3-2013	07.11.2013	30.06.2014	31.05.2015	17,973,000
4	19/0007/SR-150/4-2014	21.04.2014	30.6.2014	30.09.2015	31,713,439
5	19/0067/SR-150/4-2014	11.06.2014	31.12.2014	30.06.2016	15,984,000
6	19/0027/SR-150/3-2013	27.11.2013	31.05.2014	31.10.2015	5,784,209
7	19/0010/SR-150/4-2013	31.07.2015	16.02.2015	31.07.2016	4,409,701
8	19/0009/SR-150/4-2014	27.01.2014	31.08.2014	31.08.2015	44,809,682
<b>Total</b>					<b>144,856,787</b> <b>144.857 (m)</b>

**Annex-5**

**Statement showing late delivery of material after project completion  
date 30.06.2016 (Para 4.3.4)**

<b>S. No</b>	<b>Purchase Order No. &amp; date</b>	<b>Date of receipt/ Delivery Period</b>	<b>Amount (Rs)</b>
1	19/0002/SR-150/2-2016 dated 14.05.2016	11/2016	588,554.00
			252,237.00
2	19/0013/SR-150/2-2016 dated 17.05.2016	14.10.2016	1,303,910.23
			625,876.85
3	19/0109/SR-150/2-2014 dated 17.05.2016	16.10.2016	8,646,953.00
			8,646,953.00
4	19/0004/SR-150/3-2016 dated dated		668,652.00
5	19/0017/SR-150/3-2015 dated 30.12.2015	18.03.2017	2,443,975.00
			10,460.00
			1,115,019.00
6	19/0017/SR-150/3-2015 dated 30.12.2015	18.03.2017	13,463.00
			20,682.00
7	19/0001/SR-150/2-2016 dated 04.02.2016	31.08.2016	31,442,840
8	19/0002/SR-150/2-2016 dated 14.05.2016	31.10.2016	602,070
9	19/0003/SR-150/2-2016 dated 17.05.2016	30.11.2016	1,485,106
<b>Total</b>			<b>57,866,751.08</b> <b>57.867 (m)</b>

## Statement showing the detail of unsettled warranty claims Rs 143.607

(Para 4.3.5)

S.No.	Purchase Order No. & Date	Item No.	Description	Firm's Name	Qty. claimed	Claims Landed Cost (Rs).
1	19/0101/SR-150/2-2014 dated 21.08.2014 = 95 Nos.	5	Sealing Gum Red	M/s AD King Lhr.	95	0
2	19/0007/SR-150/4-2014 dated 22.01.2014 = 39 Nos.	9	Hose Assembly	M/s GE, USA	39	274,399
3	19/0016/SR-150/3-2013 dated 11.10.2013 = 26 Nos.	7	Load Ring	M/s GE, USA	26	0
4	19/0021/SR-150/3-2014 dated 28.02.2014 = 108 Nos.	17	Speed Sensor	M/s GE, USA	108	5,209,427
5	19/0068/SR-150/4-2014 dated 12.06.2014 = 96 Nos.	10	Connector Assy: Interpol	M/s GE, USA	96	606,663
6	19/0068/SR-150/4-2014 dated 12.06.2014 = 96 Nos.	11	Connector Assembly Interpol	M/s GE, USA	96	659,782
7	19/0107/SR-150/4-2014 dated 09.12.2014 = 16 Nos.	2	Transistor Switch (SCS)	M/s GE, USA	16	0
8	19/0020/SR-150/3-2013 dated 26.10.2013 = 108 Nos.	2	Hose Line	M/s Bombardier	108	781,270

9	19/0012/SR-150/4-2015 dated 16.02.2015 = 40 Nos.	2	Oil level Gauge	M/s GTC, Lahore	11	209,070
10	19/0048/01-0/2-2013 dated 26.08.2013	2	Armature D-29	M/s OTCL	7	9,926,532
11	19/0081/SR-150/3-2014 dated 03.07.2014 = 120 Nos.	1	New Armature	M/s OTCL	6	23,388,756
12	19/0099/01-0/2-2012 dated 30.11.2012 = 36 Nos.	2	Rewinding Kit	M/s OTCL	36	15,972,425
13	19/0019/SR-150/3-2014 dated 11.02.2014 = 112 Nos. each	12	Coil Spring InnerCoil Spring Outer	M/s M.Q. Sons	112112	5,541,243
14	19/0011/SR-150/2-2013 dated 14.09.2013 = 144 Nos.	2	Power Pack Blade	M/s EMD, USA	96	48,075,038
15	19/0011/SR-150/2-2013 dated 14.09.2013 = 144 Nos.	1	Power Pack (Fork)	M/s EMD, USA	52	27,545,697
16	19/0011/SR-150/2-2013 dated 14.09.2013 = 160 Nos.	4	Line Assembly Fuel HP Tube	M/s EMD, USA	1	2,595
17	19/0014/SR-150/3-2013 dated 11.10.2013 = 20 Nos.	22	STA Contactor	M/s EMD, USA	1	130,336
18	19/0014/SR-150/3-2013 dated 11.10.2013 = 06 Nos.	29	LCR Load Control Rheostat	M/s EMD, USA	1	481,478
19	19/0014/SR-150/3-2013 dated 11.10.2013 = 60 Nos.	8	Magnetic Switch Assembly	M/s EMD, USA	1	209,546

20	19/0014/SR-150/3-2013 dated 11.10.2013	22	STA Contactor	M/s EMD, USA	1	130,336
21	19/0014/SR-150/3-2013 dated 11.10.2013 = 192 Nos.	9	Contact Assembly Flexible	M/s EMD, USA	4	10,756
22	19/0014/SR-150/3-2013 dated 11.10.2013 = 90 Nos.	26	Contact Assembly TCP Stationary	M/s EMD, USA	4	18,318
23	19/0014/SR-150/3-2013 dated 11.10.2013 = 90 Nos.	27	Contact Assembly Moveable	M/s EMD, USA	6	42,074
24	19/0016/SR-150/3-2014 dated 26.02.2014 = 16 Nos.	31	Flange Coupling	M/s EMD, USA	1	11,989
25	19/0016/SR-150/3-2014 dated 26.02.2014 = 15 Nos.	9	PCS (DMR)	M/s EMD, USA	15	328,557
26	19/0027/SR-150/3-2013 dated 27.11.2013 = 80 Nos.	5	Injector Assembly	M/s EMD, USA	3	154,947
27	19/0039/SR-150/2-2014 dated 31.03.2014 = 32 Nos.	2	Manifold Water L-Side	M/s EMD, USA	1	62,957
28	19/0039/SR-150/2-2014 dated 31.03.2014 = 16 Nos.	30	Housing Assy: W/Pump	M/s EMD, USA	1	30,713
29	19/0060/SR-150/3-2014 dated 14.05.2014 = 16 Nos.	16	Voltage Regulator	M/s EMD, USA	1	94,274
30	19/0089/01-0/2-2012 dated 28.12.2012 = 06 Nos.	18	Switch Pressure	M/s EMD, USA	6	163,899

31	19/0033/SR- 150/3-2014 dated 14.03.2014	3	Crank shaft	M/s EMD, USA	1	3,544,206
<b>Total</b>						<b>143,607,283</b> <b>143.607( m)</b>

**Annex-7****Statement showing non placement of warranty claims (Para 4.3.6)**

<b>S.No</b>	<b>Purchase Order No &amp; Date</b>	<b>Name of item</b>	<b>Amount (Rs)</b>
1	19/0033/SR-150/2-2013 Dated 26.12.2013	piston steel crown	9,571,826
2	19/0001/SR-150/2-2013 Dated 12.09.2013	piston steel crown	25,244,835
3	19/0013/SR-150/2-2013 Dated 28.01.2014	welded head cylinder head liner	62,669,056
4	19/0010/SR-150/2-2013 Dated 16.02.2013	welded head cylinder head liner	38,221,932
<b>Total</b>			<b>135,707,649</b> <b>135.708 (m)</b>

**Annex-8**

**Statement showing the loss due to non-turn out of two locomotives.  
(Para 4.4.1)**

<b>locomotives should have been turned out upto 30.06.2016</b>	<b>locomotives turned out</b>	<b>Difference</b>	<b>Earning per loco per year in million</b>	<b>Potential loss (Rs)</b>
150	148	2	67.676	135.352

## Statement showing the loss due to failure of 25 locomotives (Para 4.4.2)

Total Expenditure on Special Repair of 150 De Loco. (Rs)	No of Locomotive Repaired	Average Expenditure per Loco (Rs)	No of Locomotives held up	Loss (Rs)
5,681.679	150	37.877	25	946.925

**Cost of De Locos received in N.R after classified repair under SR-150 Project (Para 4.4.3)**

S.No.	Loco No	Class	B/Shed	T/Out date under SR-150	Received for N.R	Cause of Failure	T/Out	Total Expenditure (Rs)
1	2	3	4	5	6	7	8	09
1	8302	PHA-20	RWP	07.02.13	26.06.14	Main Bearing No. 02 & 05 Fused.	05.07.14	2,114,812
2	6014	AGE-30	LHR	25.03.15	22.02.17	L/Oil Leakage.	10.03.17	6,110,376
3	8071	HBU-20	KDA	13.03.15	05.01.17	Main Bearing No. 07 fused.	20.01.17	1,722,802
4	5208	RGE-24	ROH	28.01.16	17.11.16	Beem Plate and Buffer.	21.11.16	425,694
5	4804	GMU-15	ROH	31.01.16	21.12.16	T/Gen Field Coil Ground.	06.01.17	701,977
6	4925	GMCU-15	KDA	28.02.15	18.03.16	Camshaft Cap Key fused.	16.04.16	2,217,281
7	Spare parts procured under special repair of 150 DE locos were issued by WM/CDL Workshop Rawalpindi from 8.8.2016 to 15.04.2017							6,813,571
<b>Sub Total</b>								<b>20.107 ( m)</b>

8	4702	GMU-30	KC	13.06.13	Spare parts worth Rs 102.920 million received from January 2014 to October 2015 and subsequently issued to the locomotives.
9	4704	GMU-30	KC	01.08.13	
10	4705	GMU-30	KC	18.07.13	
11	4706	GMU-30	KC	06.06.13	

12	4707	GMU-30	KC	23.10.13	
13	4708	GMU-30	KC	28.10.13	
14	4709	GMU-30	KC	08.06.13	
15	4711	GMU-30	KC	06.06.13	
16	4712	GMU-30	KC	07.06.13	
17	4714	GMU-30	KC	18.05.13	
18	4719	GMU-30	KC	01.10.13	
19	4720	GMU-30	KC	02.08.13	
20	4721	GMU-30	KC	26.12.13	
21	4722	GMU-30	KC	23.09.13	
22	4729	GMU-30	KC	15.09.13	

23	4732	GMU-30	KC	01.11.13	
24	4734	GMU-30	KC	22.08.13	
25	4735	GMU-30	KC	08.05.13	
					<b>102.920 (m)</b>
<b>Grand Total</b>					<b>(20.107 m + 102.920 m)</b> <b>123.027 (m)</b>

**Annex-11****Statement showing loss of potential earning due non turn-out of 02 locomotives (Para 4.5.1)**

<b>DE locomotives should have been turned out upto 30.06.2015</b>	<b>locomotives turned out</b>	<b>Difference</b>	<b>earning per loco per year in million (Rs)</b>	<b>Potential loss (Rs)</b>
150	91	57	67.676	3,857.532

**Statement showing the detail of potential earning due putting locos on shunting service. (para 4.5.1)**

<b>S. No.</b>	<b>Locomotive Number</b>	<b>Date of Turn out</b>	<b>Average Earning of loco per year in million (Rs)</b>	<b>Average Earning per Loco per Day</b>	<b>Days involved</b>	<b>Potential Loss (Rs)</b>
1	8310	28.06.2014	67.676	0.185413699	1036	192.089
2	8323	17.06.2014	67.676	0.185413699	1047	194.128
<b>Total</b>						<b>386.217 (m)</b>

**Annex-12****Statement showing the detail of reliability/availability of Locomotives for the period from December 2016 to February 2017 (Para 4.7.1)**

<b>Period</b>	<b>No. of Locomotives</b>	<b>Remarks</b>
12/2016	114 out of 150 (76%)	Reliability of 63 while availability of 51 locomotives remained below the target fixed in PC-I
01/2017	101 out of 150 (67%)	Reliability of 42 while availability of 59 locomotives remained below the target fixed in PC-I
02/2017	84 out of 150 (56%)	Reliability of 25 while availability of 59 locomotives remained below the target fixed in PC-I

**Average =  $76+67+56 = 199/3 = 66\%$**