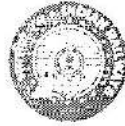


दक्षिण पूर्व मध्य रेलवे  
SOUTH EAST CENTRAL RAILWAY

कार्यालय  
वरिष्ठ उपमहाप्रबंधक, बिलासपुर



Office of the  
Sr. Dy. General Manager, Bilaspur.  
Tel.No. 64006(Rly), 07752-414229

पत्र सं. No. WS/DLS/MIB/NGP/ ९०५

दिनांक Dated: 01.10.2020

The Divisional Railway Manager,  
S.E.C. Railway,  
Nagpur.


**Sub: Work study on "Review of Work load vis -a- vis cadre strength of Diesel Loco Shed Motibagh under Mechanical Department in Nagpur Division."**

The work study of Diesel Loco Shed, Motibagh and DEMU shed, Gondia under Mechanical Department in Nagpur Division has been conducted to review the existing cadre strength vis-à-vis workload in view of closure of NG section, outsourcing of maintenance activities, existing yardstick, benchmarking and effective utilisation of manpower.

The study report contains recommendations for surrender of 36 identified surplus posts (32-Technician-III, 02-OS (vac) and 02 House Keeping Asst.) from DLS/MIB of Mechanical Department in Nagpur Division. Besides this, some suggestions are also made to improve the efficiency.

Therefore in view of above, it is requested that suitable instructions may be given to concerned officers for implementation of the work Study report and copy of surrender memorandum may be sent to this office so that progress of implementation of work study can be advised to Railway Board accordingly.

**This has the approval of SDGM.**

  
(S.N. Pattnaik) 1/10/2020

Asst. Work Study Officer  
For SR. DY. GENERAL MANAGER

Encl: 01 work study report.

Copy along with one copy of work study report is forwarded to:-

- 1) The Executive Director, E&R (ME), Railway Board for kind information.
- 2) Secretary/SECR for kind information of GM.
- 3) PCME/SECR/BSP for kind information and necessary action please.
- 4) Sr. DME (D)/NGP, Sr. DPO/NGP for kind information and necessary action.

# SOUTH EAST CENTRAL RAILWAY

## WORK STUDY CELL

Work study report on

**Review of Work load**  
**vis –a- vis cadre strength of**  
**DLS Motibag of**  
**Mechanical Department**  
**in Nagpur Division**

of S.E.C. RAILWAY



WORK STUDY CELL  
 S. E C. RAILWAY  
 BILASPUR

STUDY NO. SEC/02/2020-21

**WORK STUDY REPORT****ON**

**Review of Work load  
vis –a- vis cadre strength of  
DLS Motibag of  
Mechanical Department  
in Nagpur Division**

**OVER S.E.C. RAILWAY**

**GUIDED BY**  
SRI AMIT KUMAR SINGH  
**SR.DY. GENERAL MANAGER**

**LED BY**  
SRI S.N.PATTNAIK  
ASST. WORK STUDY OFFICER

**CONDUCTED BY**

SRI A. C. BEHERA

SRI A. HALDER

**CH. WORK STUDY INSPECTOR****WORK STUDY INSPECTOR**

**WORK STUDY CELL  
S. E. C. RAILWAY  
BILASPUR**

**STUDY No.  
SEC/ 02/2020-21**

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**SUMMARY OF RECOMMENDATION**

Rec. No.	Description	Para Reference
	<b><u>RECOMMENDATION:</u></b>	
1	Considering the existing work load, it is recommended that as per details given in Para 3.1 to 3.4.3 the requirement of total cadre under DLS/MIB comes to 374 against sanction of 410 staff. <b><i>Thus 36 identified surplus posts of [32-Technician-III, 02-OS(vac) and 02 House Keeping Asst.] should be surrendered from DLS/MIB of Mechanical Department in Nagpur Division.</i></b>	3.9.1
	<b><u>Suggestions:</u></b>	
2	It may be planned to bring structural changes at DLS/MIB so that it can be functioned for maintaining electric locomotives in addition with existing Diesel locomotive.	3.9.2
3	A training module for running and maintenance staff may be developed to provide training in Diesel as well as Electric Locomotives .	3.9.3
4	At DEMU Shed Gondia, 02 Nos. lines of 400 Mtrs Length completely Electrified with catwalk and covered shed is required for the schedule maintenance/stabling of MEMU/DEMU rakes.	3.9.4
5	The DEMU Shed Gondia may be rehabilitated into integrated Rolling Stock Coaching Depot to facilitate maintenance of MEMU/DEMU and Mainline coaches.	3.9.5
6	Proper multi skilling training may be provided to both Mechanical and Electrical staffs for integrated maintenance of MEMU/DEMU and Mainline coaches to achieve optimum efficiency.	3.9.6

**CHAPTER – I****INTRODUCTION**

- 1.0** The study of Diesel loco shed MIB of Nagpur Division has been undertaken to review the existing workload and assess the requirement of Staff as per Indian Railway Benchmarking of Mech. Department, existing yardstick and in view of closure/conversion of narrow gauge section.

Diesel loco shed Motibagh has combined cadre with DEMU shed Gondia. And at DEMU Shed Gondia both DEMU and MEMU units are done maintenance.

The following methodology has been adopted for conducting the study:

- (i) Collection of relevant field data.
- (ii) Examination of records.
- (iii) Direct observations at different stations/working points.
- (iv) Interaction with officers and staff.
- (v) Critical Analysis.

- 1.1** Diesel loco shed Motibagh has combined cadre with DEMU shed Gondia. DLS/ Motibagh is situated opposite to GSD(General Stores Depot) in Nagpur division of SEC Railway. The staff of Diesel loco shed Nagpur normally attend to the light schedule, heavy schedule and maintenance of NG Diesel locos and light schedule of BG loco.

Diesel loco shed MIB mainly constitutes of three section shown as under :-

<b>Mechanical</b>	<b>Electrical</b>	<b>Ancillary</b>
<ul style="list-style-type: none"> <li>• <b>Light Schedule</b> Trip-I Schedule. Trip-II Schedule. Monthly Schedule. Quarterly Schedule. Temporary repair gang</li> <li>• <b>Heavy Schedule</b> Yearly Schedule, Half Yearly Schedule, Two Yearly Schedule.</li> <li>• <b>Mechanical Bench</b> Cylinder Head Bench, Air-Compressor Bench, TSC Bench, Vacuum Exhauster Bench, FIP Bench, Radiator Bench, Air Brake Bench Governor Bench Lube oil, Water pump.</li> <li>• <b>Others</b> SMI (Shed Material Incharge) Miscellaneous gang.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Light Schedule</b> Trip-I Trip-II Monthly Sch. Quarterly Sch.</li> <li>• <b>Heavy Schedule</b> Half Yearly Sch., Yearly Sch., Two Yearly Sch.</li> <li>• <b>Electrical Bench</b> Starter Bench, Small Motor Bench, Battery Bench</li> </ul>	Welding, Operation of Crane, Turning of materials, Cleaning of loco & House keeping, Painting, Tool Room.

- 1.2** DEMU shed Gondia is located at Gondia Station where both DEMU and MEMU are done maintenance. It has also 03 main Section as follows:-

<b>Mechanical</b>	<b>Electrical</b>	<b>Ancillary</b>
<ul style="list-style-type: none"> <li>• <b>Light Schedule</b> <ol style="list-style-type: none"> <li>1. Trip-I</li> <li>2. Trip-II</li> <li>3. Monthly Schedule</li> <li>4. Quarterly Schedule</li> <li>5. Temporary maintenance</li> </ol> </li> <li>• <b>Heavy Schedule</b> <ol style="list-style-type: none"> <li>1. Half Yearly</li> <li>2. 2-Yearly (M24)</li> <li>3. 4-Yearly (M48)</li> <li>4. 6-Yearly(M72)</li> <li>5. D-check</li> <li>6. E-check</li> <li>7. IOH</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Light Schedule</b> <ol style="list-style-type: none"> <li>1. Trip-I</li> <li>2. Trip-II</li> <li>3. Monthly Schedule</li> <li>4. Quarterly Schedule</li> <li>5. Temporary maintenance</li> </ol> </li> <li>• <b>Heavy Schedule</b> <ol style="list-style-type: none"> <li>1. Half Yearly</li> <li>2. 2-Yearly (M24)</li> <li>3. 4-Yearly (M48)</li> <li>4. 6-Yearly(M72)</li> <li>5. D-check</li> <li>6. E-check</li> <li>7. IOH</li> <li>8. Battery Bench</li> </ol> </li> </ul>	<ol style="list-style-type: none"> <li>1. Store Keeping</li> <li>2. Welding</li> <li>3. Crane Operation</li> <li>4. Material turning,</li> <li>5. Loco cleaning and House Keeping</li> <li>6. Painting</li> <li>7. Tool Room</li> <li>8. Wheel turning.</li> </ol>
<b>1. Mechanical Bench</b> <ol style="list-style-type: none"> <li>1. Cyllinder Head</li> <li>2. Air- Compressor</li> <li>3. TMC</li> <li>4. Vacuum Exhauster</li> <li>5. FIP Bench</li> <li>6. Radiator Bench</li> <li>7. Air Brake Bench</li> <li>8. Governor Bench</li> <li>9. Grease, Oil, Water pump</li> </ol>	<b>2. Electrical Bench</b> <ol style="list-style-type: none"> <li>1. Starter Bench</li> <li>2. Small Motor Bench</li> </ol>	

**CHAPTER-II****2.0 OBSERVATION****2.1 Cadre strength of Group C and D Staff of DLS/MIB: -**

The existing cadre strength of Gr.C and Gr.D staff of Diesel Organisation of Mechanical department of Nagpur division is as under:

S. No.	Category	Level	DLS Motibagh						DEMU Shed Gondia		
			NG			BG			San	Act	Vac
			San	Act	Vac	San	Act	Vac			
SUPERVISORY STAFF											
1	SSE(D)/M	7	01	01	00	09	09	00	09	07	02
2	SSE(D)/E	7	00	00	00	03	02	01	04	02	02
3	JE(M)	6	01	01	00	03	03	00	07	03	04
4	JE (E)	6	00	00	00	02	02	00	03	03	00
5	Staff Instructor	7	01	00	01	01	01	00	00	00	00
Total			03	02	01	18	17	01	23	15	08
SUPERVISORY STAFF RUNNING											
1	Loco Inspector	7	00	00	00	01	01	00	00	00	00
Total			00	00	00	01	01	00	00	00	00
ARTISAN STAFF											
1	Sr. Tech(M)	6	03	03	00	16	18	-02	12	03	09
2	Sr. Tech(E)	6	01	01	00	04	04	00	05	01	04
3	Tech-I(M)	5	08	08	00	38	45	-07	18	06	12
4	Tech-I(E)	5	02	02	00	07	10	-03	10	05	05
5	Tech-II(M)	4	00	00	00	04	04	00	05	00	05
6	Tech-II(E)	4	00	00	00	02	04	-02	01	00	01
7	Tech-III(M)	3	09	08	01	36	36	00	45	45	00
8	Tech-III(E)	3	03	02	01	06	06	00	14	15	-01
Total			26	24	02	113	127	-14	110	75	35
ARTISAN Gr. D STAFF											
1	ALS(M)	1	02	01	01	08	19	-11	26	35	-09
2	ALS(E)	1	01	01	00	00	12	-12	17	20	-03
Total			03	02	01	08	31	-23	43	55	-12
ANCILIARY STAFF											
1	Sr. Tech(Anc)	6	01	00	01	05	05	00	01	00	01
2	Tech-I(Anc)	5	02	00	02	12	06	06	00	00	00
3	Tech-II(Anc)	4	00	00	00	02	00	02	00	00	00
4	Tech-III(Anc)	2	00	00	00	01	01	00	04	04	00
Total			03	00	03	20	12	08	05	04	01
LAB STAFF											
1	CMS	7	00	00	00	02	02	00	01	00	01
2	CMA	6	01	00	01	02	01	01	03	03	00
3	Lab Asst.	3	00	00	00	00	00	00	01	01	00
Total			01	00	01	04	03	01	05	04	01
OTHERS											
1	House keeping Asst.	1	00	00	00	02	02	00	00	00	00
Total			00	00	00	02	02	00	00	00	00
MINISTERIAL STAFF											
1	Ch. OS	7	00	00	00	03	03	00	03	00	03
2	OS	6	02	00	02	04	03	01	01	01	00
3	Sr. Clerk	5	00	00	00	01	01	00	01	00	01
4	Jr. Clerk	2	00	00	00	00	05	-05	01	03	-02



Total			02	00	02	08	12	-04	06	04	02
<b>MIS-MINISTERIAL STAFF</b>											
1	Sr. Steno	6	00	00	00	01	01	00	00	00	00
2	Hd. Typist	6	00	00	00	01	01	00	00	00	00
<b>Total</b>			<b>00</b>	<b>00</b>	<b>00</b>	<b>02</b>	<b>02</b>	<b>00</b>	<b>00</b>	<b>00</b>	<b>00</b>
<b>MIS-MINISTERIAL Gr. D STAFF</b>											
1	Sr. Peon	1	00	00	00	02	02	00	00	00	00
2	Peon	1	00	00	00	00	00	00	00	00	00
3	Spl. Messenger	1	00	00	00	01	01	00	00	00	00
4	TADK	1	00	00	00	01	00	01	00	00	00
<b>Total</b>			<b>00</b>	<b>00</b>	<b>00</b>	<b>04</b>	<b>03</b>	<b>01</b>	<b>00</b>	<b>00</b>	<b>00</b>
<b>Grand Total</b>			<b>38</b>	<b>28</b>	<b>10</b>	<b>180</b>	<b>210</b>	<b>-30</b>	<b>192</b>	<b>157</b>	<b>35</b>

## 2.2 OBSERVATION

**2.2.1** Workload of staff in various categories deployed at Diesel Loco Shed/Motibagh is as follows:-

### 1 SSE(D/M)

1. Job distribution to staff.
2. Timely planning of work, materials and manpower.
3. Material demand and issue from Stores both stock and non stock items for NG & BG Locos.
4. Supervision of all POH, Yearly, 2 Yearly of NG Locos.
5. Leave sanctioning of staff.
6. Attending the trouble shooting and guiding the loco pilots enroute as and when required.
7. Supervision of Heavy schedule and Light Schedule.
8. Supervision of work progress and quality of work.
9. Trouble shooting.
10. Issue duty passes inside division for staff on line duty.
11. Ensuring outgoing locos for bar line timely.
12. Maintenance of M&P and T&P items are being done properly.
13. Schedule maintenance of NG Locos i.e. Trip to POH & BG Locos i.e. Trip to M-48.
14. Report of APAR.
15. Preparation & Online submission of Non Stock Requisitions for Mechanical Items as per demand for maintenance of NG & BG ALCO locomotives.
16. Inspection of Stock & Non Stock items (Mechanical items).
17. Preparation & submission of forecast AAC of Stock items (B, C & D category items) to GSD/MIB/NGP and DLS/Raipur duly Vetted/Fund Certified by associate Finance for maintenance of NG & BG ALCO locomotives as per demand.
18. Monitoring of Stock & Non Stock items (Mechanical items) to ensure availability as per demand/requirement.
19. Various correspondences related to Stock & Non Stock material for maintenance of locomotives.
20. Preparation and online submission of Preliminary Work Programme in IRPSM related to DLS/MIB & DEMU Shed/Gondia.
21. Preparation and online submission of Work Programme in IRPSM related to DLS/MIB & DEMU Shed/Gondia.
22. Preparation and online submission of works related LAW BOOK & MWM proposal in IRPSM related to DLS/MIB & DEMU Shed/Gondia.

23. Preparation and submission of RSP and M&P proposal related to DLS/MIB & DEMU Shed/Gondia.

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24. Preparation and online submission of Non Stock Requisition as per sanctioned items.

25. Inspection of Non-Stock sanctioned items.

26. Monitoring of sanctioned works programme, RSP and M&P items to ensure availability as per demand/requirement.

Various correspondences related to works programme, LAW BOOK, MWP, RSP and M&P items.

## 2 SSE(D/E)

1. Job distribution to staff.

2. Supervising of Electrical Benches, i.e. Small motor bench, Instrument bench, Battery bench, ALCO component overhauling and test bench, Traction motor overhaul and speedometer test bench etc.

3. Material issue and demand from Stores. New material inspection and fitment.

4. Leave sanctioning of staff.

5. Report of APAR.

6. Timely planning of materials and man power, so that idle hours of locomotive reduced.

7. Checking of various electrical equipments during preventive maintenance (without noise, overheating and odour) i.e. equipments related to engine starting, generation of power, transmission and distribution of power, safety devices ensured for working satisfactory.

8. Attending the trouble shooting and guiding the loco pilots enroute as and when required.

9. Electrical equipments checked in Trip, M-2, M-4, M-12, M-24, M-36 schedules in which equipments working in engine starting, generation of power, transmission and distribution of power, safety devices ensured for working satisfactory.

10. Preparation & Online submission of Non Stock Requisitions for Electrical Items as per demand for maintenance of NG & BG ALCO locomotives.

11. Inspection of Stock & Non Stock items (Electrical items).

12. Preparation & submission of forecast AAC of Stock items (A, B, C & D category items) to GSD/MIB/NGP duly Vetted/Fund Certified by associate Finance for maintenance of NG & BG ALCO locomotives as per demand.

13. Preparation & submission of forecast AAC of Stock items (B, C & D category items) to DLS/Raipur duly Vetted/Fund Certified by associate Finance for maintenance of BG ALCO locomotives as per demand.

14. Monitoring of Stock & Non Stock items (Electrical items) to ensure availability as per demand/requirement.

15. Various correspondences related to Stock & Non Stock material for maintenance of locomotives.

## 3 JE(D/M)

1. Job distribution of staff.

2. Assist in all work of their Incharge.

3. Supervision of all their respective sections of NG, BG & DEMU.

4. Supervision of work progress and quality of work.

5. Planning of work, materials and manpower.

6. Trouble shooting of NG & BG Locos.

7. Preparation and online submission of Preliminary Work Programme in IRPSM related to DLS/MIB & DEMU Shed/Gondia.

8. Preparation and online submission of Work Programme in IRPSM related to

- DLS/MIB & DEMU Shed/Gondia.
9. Preparation and online submission of works related LAW BOOK & MWM proposal in IRPSM related to DLS/MIB & DEMU Shed/Gondia.
10. Preparation and submission of RSP and M&P proposal related to DLS/MIB & DEMU Shed/Gondia.
11. Preparation and online submission of Non Stock Requisition as per sanctioned items.
12. Inspection of Non-Stock sanctioned items.
13. Monitoring of sanctioned works programme, RSP and M&P items to ensure availability as per demand/requirement.
14. Various correspondences related to works programme, LAW BOOK, MWP, RSP and M&P items.

#### 4 JE(D/E)

1. Job distribution of staff.
2. Assist in all work of their Incharge.
3. Supervision of all their respective sections of NG, BG & DEMU.
4. Supervision of work progress and quality of work.
5. Planning of work, materials and manpower.
6. Trouble shooting of NG & BG Locos.

#### 5 CMS

1. Non Destructive testing of components used in Railways by Dye penetration test and Zyglo test.
2. Ultrasonic testing of Axels of NG & BG Locos for Half Yearly & Yearly schedule. Failure Analysis of components used in Railways.
3. Testing & analysis of diesel required for locos.
4. Analysis of spectrographic tests by spectrometer of both metal & lube oil of NG, BG & DEMU locomotives.
5. Testing & analysis of components used in locos from store materials.
6. Testing & evaluation of different type of lube oils like MG 606, 15W40 Oil, Hydraulic Oil, Compressor Oil etc.
7. Testing & evaluation of HSD Oil used in the Engine from Storage Tanks and Lorries.
8. Chemical analysis of various types of materials used in the Railways, like Ferrous & Non-Ferrous materials by Metal Spectrometer.
9. Analysis of Lubricating Oil by Oil Spectrometer.
10. Analysis of Various Rubber, Gasket, Coolants, Acid, Distilled Water, DM Water etc.
11. Maintenance of DM Water plant & Effluent Treatment plant situated in the premises of Diesel Loco Shed.
12. Maintaining Records, Files & Documents.

#### 6 CMA

1. Testing of Axle by UST.
2. Testing of Ferrous and Non-ferrous metal by Metal Spectrographic and Lubricating Oil by Oil Spectrographic.
3. Testing of Lube Oil, Fuel Oil, Coolant Water, Rubber, Gasket, and Store Material required for NG & BG Loco.
4. Testing of different types of Loco component by Dye penetration test, Zyglo test and Magnetic Particle test.

1. Demanding of HSD Oil Truck Tanker from M/s. IOCL, Khapri for fueling of HSD Oil in NG & BG Diesel Locos.
2. Decanting of HSD Oil in Storage Tank by proper measurement and testing of HSD Oil.
3. Timely maintenance of Flow Meters with due calibration and replacing of 10 micron filter and cleaning of 60 Mess filter.
4. Timely re-filling of Fire Extinguishers when due.
5. Night Footplate and Night Surprise Inspection along with Sr.DME(D)/MIB/NGP.
6. Maintaining Accountal records of HSD Oil and Lube Oil.
7. Timely Stock verification of HSD Oil.
8. Cleaning and Painting of Storage Tank when due.
9. Maintenance of 5 HP & 10 HP Electric Motor, Diesel Pump sets and HSD pipe lines with gate valves through IOCL contractor.

#### 8 Ch. OS

1. HSD Oil stock maintained, issue Loco wise & receive of HSD Oil.
2. Oil tanker decanting.
3. Maintained various registers & files.
4. Feeding of data in computer and after completion, monthly report being sent to Division A/C and HQ.
5. Prepared other compliance & statement i.e. SV Yly issue of Fuel and Lube Oil savings compare with last year.
6. Prepare muster roll working in Diesel Loco Shed/Motibagh.
7. Signed on Pass.
8. RTI reply.
9. CUG SIM related bill.
10. Tender related work.
11. RSP and M&P.

#### 9 OS

1. Making Pass and PTO.
2. Hindi library related work.
3. Receipt and Dispatch of letters.
4. Maintaining T&P items and Records.
5. Daily maintenance of schedule dairy position.
6. Posting of 10 days km of daily Passenger, Goods & Shunting.
7. Posting of NG, BG, DEMU and MEMU outage.
8. D&A cases.
9. Monthly MCDO.
10. Maintained stationary record.

#### 10 Sr.Clerk

1. Railway quarter allotment, exchange, merging & house rent allowance related correspondence & letters.
2. Promotion and Selection related correspondence & letters.
3. Appointment/Joining & regularization related correspondence & letters.
4. Civil defense related correspondence & letters.
5. Cadre related correspondence & letters.

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6. Transfer/Surrender of posts related correspondence & letters.
7. Sports related correspondence & letters.
8. Medical related correspondence & letters.
9. Prepare of office order.
10. SC & ST Association related correspondence & letters.
11. Territorial Army Camp related correspondence & letters.
12. International Women's Day related correspondence & letters.
13. Transfer related correspondence & letters.
14. Court case related correspondence & letters.
15. Act Apprentice related correspondence & letters.
16. D&A case related correspondence & letters.
17. NOC for higher education, purchase or sale of movable/immovable properties, appearing in exam, passport etc. related correspondence & letters.
18. Trade Test related correspondence & letters.
19. Retirement related correspondence & letters.
20. Training related correspondence & letters.
21. PNM related correspondence & letters.
22. SECROBCEA & SECRMC related correspondence & letters.
23. Miscellaneous correspondence with HQ.
24. Officer training related correspondence & letters.
25. Staff booking on national holiday related correspondence & letters.
26. Compliance of MP/MLA references related correspondence & letters.
27. Review of Services related correspondence & letters.
28. Hindi competition & award related correspondence & letters.
29. Grievances pertain to establishment section related correspondence & letters.
30. Canteen related correspondence & letters.
31. Work Study & Manpower Planning related correspondence & letters.
32. Miscellaneous correspondence & letters.

#### 11 Jr. Clerk

1. RTI related reply.
2. CUG Bill and correspondence.
3. T&P and M&P material entry in register and Bill/Challan sent to SMI Section.
4. Making Challan of material sent to Out Station Shed.
5. Issue Memos for repairing work in Shed.
6. Monthly report sent to HQ of Ferrous and Non Ferrous material.
7. Timely re-filling of Fire Extinguishers when due.
8. Timely re-filling of First Aid Box to Poly Clinic.
9. Issue Tools to Shed Staff.
10. Entry of Oxygen Gas, DA Gas, Organ Gas and Nitrogen Gas in Register.
11. Maintaining Daily Material Transaction Register (DMTR).
12. Materials issued by ticket (LM) for Imprest Store.
13. Materials received from GSD/MIB (Stock Items) by requisitions.
14. Maintaining Challan, PO Copy's and AM's.
15. Maintaining cash imprest items.
16. Stock and Non-Stock materials received from other sheds by Challan.

1. Promptly complying English & Hindi dictation/typing given by Sr.DME(D)/MIB/NGP.
2. Maintaining APARs.
3. Official Inspection of Sr.DME(D)/MIB/NGP.
4. Making Awards (Zonal/Divisional) letters to staff.
5. Confidential files/records and any work allotted by the officer.

### 13 Chief Typist

1. Feeding of data of CTR into computer programme "Fuel Management System" for obtaining Specific Fuel Consumption (SFC) for NG Diesel Locos running for NG Passenger Trains.
2. After completion of monthly feeding of data, Loco wise SFC is being prepared and being sent to SSE(D)/Incharge, DLS/MIB for taking corrective measures to bring down SFC in cases where it is high.
3. After feeding of monthly feeding of data, Loco Pilot wise excess/saving of HSD Oil consumption are being maintained in comparison to section Trip Ration allotted by HQ and a monthly statement is being prepared highlighting excess/saving of HSD Oil consumed by Loco Pilots and the same is being sent to Sr.DEE(OP)/NGP.
4. Typing work of letters, statements etc. in English & Hindi for Technical Assistant section of Sr.DME(D)/MIB/NGP office.
5. Typing work of D&A Inquiry proceedings with Inquiry Officer, if required.

## 2.2.2 Workload of several category of staff deployed at DEMU Shed/Gondia is as follows:-

### 1 SSE(D/M)

1. Planning Manpower and Material.
2. Leave & Establishment matter of all Mechanical supervisor and staff.
3. Coordination with CIL/Pune for D-Check and E-Check & other POH w/s.
4. Procurement, Planning & Transshipment of materials.
5. Shunting, Attaching/Detaching DEMU DPC/TC.
6. Placement of rake for schedule inspection.
7. Scrap and Scrap Yard maintenance.
8. DEMU Operation, Troubles, Record Keeping of schedule attended.
9. Job distribution of staff.
10. Report of APAR.
11. Look after D-Check activities.
12. Shunting and Placement of DEMU/MEMU rakes.
13. Routing schedule maintenance of DEMU rakes.
14. All work of ancillary.
15. All the staff amenities in rakes.

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1. Record keeping of IOH.
2. Planning Manpower and Material.
3. Report of APAR.
4. Major Schedule and Breakdown.
5. Leave & Establishment matter of all Electrical supervisor and staff.
6. Maintenance of DEMU/MEMU rakes, trouble shooting and failure analysis.

3 JE(D/M)

1. Look after maintenance & overhauling of all Pneumatic equipments of DEMU & MEMU.
2. Routing schedule maintenance of DEMU rakes.
3. CNC floor wheel lathe machine and IOH work.

4 JE(D/E)

1. Routine schedule maintenance of DEMU rakes.

5 CMA

1. Ultrasonic testing of axles of DPC & TCs of DEMUs.
2. Ultrasonic testing of axles of Power Coach & Trailer Coach of MEMUs.
3. Ultrasonic testing of Spare Axles.
4. UFD machine calibration.
5. Overall Documentation and monitoring activities of lab.
6. Dye penetration testing of DPC & TCs of DEMU.
7. DM Water Plant Regeneration.
8. HSD Oil analysis of RCD Storage Tank, Lorries & sample received from other sources.
9. Zyglo testing of DEMUs different components.
10. Dissolved gas analysis of MEMUs.
11. Electrical strength analysis of MEMUs.

6 Lab Assistant

1. Lube Oil testing of DPC and sending Lube Oil for Spectrographic analysis.
2. Coolant Water testing.
3. Compressor Oil testing of DEMUs & MEMUs.
4. DM Water Testing & Maintenance.
5. Preparation of Chemical reagents required for water testing.
6. Hydraulic Oil testing of DEMUs.

7 OS

1. Maintaining Stock and Non Stock Materials billing of stock and non-stock materials proposals for procurement of materials.
2. Billing of contracts of vehicle, cleaning, M&P material. Imprest item and there particulars.
3. Other correspondence of store section with tender section.

1. Maintaining establishment works, office T&P and other correspondence of SSE (General) and ADME/DEMU Shed/Gondia office.
2. Maintaining tools record.
3. Petty Repair Imprest and other correspondence of DEMU.

**2.3.0 Duty Rosters:-****2.3.1 Duty Rosters at DLS/MIB:-**

1. Office and Store: 9.00 Hrs-17.00 Hrs, Rest- Sunday
2. Light Schedule: Three shifts (00.00 -08.00Hrs, 08.00 -16.00 Hrs and 16.00-00.00 Hrs)
3. Heavy Schedule: Daily two shifts (07.30-17.00 Hrs incl. 1.30 Hrs Launch Break and 16.00-00.00 Hrs)
4. Maintenance Bench: (08.00 -12.00 Hrs and 13.00-17.00 Hrs)

**2.3.1.1 Distribution of staff in several Shops/Bench/sections at DLS/MIB:-**

S#	Shop/ Bench / Section	Total staff	Supervisor	Group C	Group D
01	Bogie	23	02	18	03
02	Electrical Bench	19	02	10	07
03	Electrical Heavy Schedule + Light Schedule	34	02	24	08
04	Mechanical Bench + Mechanical Heavy + Light Schedule	56	04	47	05
05	Air Break	40	02	36	02
06	Ancillary	24	01	14	09
07	Laboratory	05	03	00	02
08	SIMS Section	10	04	06	00
09	Ministerial Staff	12	00	12	00
10	Misc. Ministerial	07	00	02	05
11	Store	05	00	05	00
12	Other Supervisors	03	03	--	--
<b>Total</b>		<b>238</b>	<b>23</b>	<b>174</b>	<b>41</b>



### 2.3.2 Duty Rosters at DEMU Shed/Gondia:-

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1. Office and Store: 9.00 Hrs-17.00 Hrs, Rest- Sunday
2. Light Schedule: Three shifts (00.00 -08.00Hrs, 08.00 -16.00 Hrs and 16.00-00.00 Hrs)
3. Heavy Schedule: Daily two shifts (07.30-17.00 Hrs incl. 1.30 Hrs Launch Break and 16.00-00.00 Hrs), 6 days in a week.
4. Repair Bench: (08.00 -12.00 Hrs and 13.00-17.00 Hrs), 6 days in a week.

#### 2.3.2.1 Distribution of staff in several Shops/Bench/sections at DEMU Shed/Gondia:-

S#	Shop/ Bench / Section	Total staff	Supervisor	Group C	Group D
01	POH	31	03	18	10
02	Electrical Bench + Electrical light Schedule	50	07	17	26
03	Mechanical Heavy + Light Schedule	62	12	30	20
04	Air Break	17	06	08	03
05	Ancillary	09	02	06	01
06	Laboratory	05	03	02	00
07	Ministerial Staff	04	01	03	00
08	Stores + Tool Room	10	03	04	03
09	RCD Gondia	03	00	00	03
10	C&W 140 Tonne crane	01	00	01	00
	Total	192	37	89	66

#### 2.4.0 Existing Infrastructures available at DLS/MIB:-

##### 2.4.1 Narrow Gauge Activities at DLS/MIB :

- 65 x 9 Mtrs shed with 03 Ton EOT Crane facility, two Pit with both side catwalk.
- 71 x 9 Mtrs shed with 20/6 Ton EOT crane for heavy schedule & bogie maintenance.

##### 2.4.2 Broad Gauge Activities at DLS/MIB:

- BG line available only for single side connectivity.
- 71 x 9 Mtrs shed with 10/3 Ton EOT crane facility. Pit with both side catwalk & pit without catwalk.
- 43 x 18 Mtrs. New covered shed with 40/10 Ton EOT crane facilities, pit without catwalk for repair work of bogie.
- Overhauling activities of heavy components including bogie, traction motor, traction alternator.
- Maintenance of BG Diesel Locos (Trip to M24 schedule).
- Fueling facility of BG locos (RCD, 2 Tank each 70 KL capacity)
- Electrical and Mechanical component overhauling benches

EOT Crane (40/10 Ton, 20/6 Ton, 10/3 Ton, 03 Ton)	04 Nos.
Lathe Machine	04 Nos.
Drilling Machine	02 Nos.
Shaping Machine	01 No.
Stationary Air Compressor (Electric Driven)	03 Nos.
Battery Charging Plant	01 No.
Welding Plant	06 Nos.
Fork Lift Truck (03 Ton)	01 No.
DM Water Plant (1000 Ltrs)	01 No.
Synchronized lifting jack (consisting of 5 jacks)	03 Sets
High Pressure Hot water jet cleaning machine	02 Nos.
Cylinder Head Lapping Machine	01 No.
Computerised Fuel Injection Test Bench	01 No.
Dynamic Rotor Balancing Machine	02 Nos.

**2.4.4 Laboratory Facility at DLS/MIB**

One laboratory with full fledged chemical & metallurgical testing facilities.

- (i) Ultrasonic Flaw Detector Machine.
- (ii) Spectrometer for metal composition testing.
- (iii) Spectrometer for lube oil analysis.
- (iv) Effluent Treatment Plant of capacity 2500 Ltrs/day.
- (v) Crack detection (Zyglo) test machine
- (vi) Hardness tester
- (vii) Viscometer Bath for lube oil & HSD oil.
- (viii) Flash Point Apparatus
- (ix) Distillation Apparatus
- (x) Water Plant.

**2.5.0 Existing Infrastructures available at DEMU Shed/Gondia:-****2.5.1 (a) Non EOT Crane shed 72 Mtrs length, having 2 lines:**

- (i) Line No. 0 / Stabling line : 200 Mtrs. long without covered shed without catwalk of capacity 08 coaches, was sanctioned by RB vide PB item No. 471/2016-17 (work completed).
- (ii) Pit line No. 1:
  - 280 Mtrs long (72 Mtrs inside covered shed & 208 Mtrs outside the covered shed without crane facility. Capacity 12 coaches) with both side catwalk available.
  - Electrification in line no. 01 has been successfully carried out. Line was charged on date 02.03.2019.
  - The line has been extended for the placement of 12 coaches' rake.
  - Washing facility has also been developed in the same line. The washing facility started from 11.11.2019.
  - Water filling station for public uses (for toilets and wash basins) has also been developed in line no. 01.
  - Compressed Air pipe line is available.

- (iii) Pit line No. 2: 200 Mtrs long with one side catwalk (72 Mtrs inside the shed & 128 Mtrs outside the shed, without crane facility) for attending the schedule of DEMU Rake (capacity 8 coaches). Compressed Air pipe line connection available.

**(b) 25 Ton EOT crane facility over 75 Mtrs (existing 45 + 30 new) long shed having 2 lines:**

- (i) Line No. 3: 75 Mtrs long (50 Mtrs both side catwalk and 25 Mtrs pit without catwalk & jack point) for attending the Heavy schedule maintenance work and bogie work.
- (ii) Line No. 4: 75 Mtrs long for attending IOH schedules & out of course repairs under crane limit with underground pit of 35 mtrs. Compressed Air pipe line connection available.

**2.5.2 Laboratory Facility at DEMU Shed/Gondia:**

One laboratory with following testing facilities.

- (i) Ultrasonic Flaw Detector Machine.
- (ii) Hardness tester
- (iii) Viscometer Bath
- (iv) Flash point apparatus
- (v) Distillation apparatus
- (vi) Analytical balance
- (vii) Crack detection (Zyglo) test machine newly installed.

**2.5.3 Important M&P Available at DEMU Shed/Gondia:**

EOT Crane (25/05 Ton)	01 No.
Stationary Air Compressor (Electric Driven) 500 CFM	01 No.
Platform Truck (03 Ton)	02 Nos.
Battery Charging unit	02 Nos.
DC ARC Welding machine	03 Nos.
DC Electric Welding Generator	01 No.
Fork Lift Truck (03 Ton)	01 No.
DM Water Plant (1000 Ltrs)	01 No.
Synchronized lifting jack (consisting of 5 jacks) (35 Ton)	01 Set
High Pressure Hot water jet cleaning machine	01 No.
Diesel Generator Set (500 KVA)	01 No.
Hand Pallet Truck (2.5 tons)	02 Nos.
CNC Under Floor Wheel Lathe Machine (BG)	01 No.

- Required only one driver
- Consumption only 1.59 litres of fuel oil (HSD) per KM for 1400 HP DEMU.
- No need for reversal or engine/driving unit at the terminating station as it can be driven from either end.
- Very high acceleration due to equally distributed traction (through leading and trailing DPCs)
- Quick deceleration due to electro-pneumatic braking.
- Low maintenance cost.
- Better capacity for passenger (i.e. 96 seating & 70 standing in TC and 52 seating & 50 standing in DPC)
- Less braking distance
- No case of derailment of DEMU
- No case of axle breakage of DEMU
- No case of hot axle of DEMU.
- Recently 3 phase AC MEMU train service has been introduced in lieu of conventional coaches.

#### 2.6.1 Holding of NG Locos of DLS/MIB:-

S#	Type of Loco	Loco No.	Date of commission	S#	Type of Loco	Loco No.	Date of commission
1	ZDM 4A	227	16.12.1990	3	ZDM 4A	234	08.05.1991
2	ZDM 4A	230	08.05.1991	4	ZDM 4A	235	18.05.1991

#### 2.6.2 Holding of BG Locos of DLS/MIB:-

S#	Type of Loco	Loco No.	Date of commission	S#	Type of Loco	Loco No.	Date of commission
1	WDS6	36176	23.12.1990	10	WDS6	36201	16.07.1992
2	WDS6	36204	27.09.1992	11	WDS6	36207	27.09.1992
3	WDS6	36213	07.09.1993	12	WDS6	36545	23.04.2016
4	WDS6	36548	28.02.2018	13	WDG3	13130	24.10.2004
5	WDG3	13135	12.11.2004	14	WDG3	13143	09.12.2004
6	WDG3	13146	11.12.2004	15	WDG3	13151	03.01.2005
7	WDG3	13404	15.02.2008	16	WDG3	13565	18.08.2009
8	WDG3	13573	11.10.2009	17	WDG3	13575	11.10.2009
9	WDG3	13587	29.12.2009				

**2.7.1 Holding of DEMU DPC at DEMU Shed/Gondia:-**

S#	Type of DPC	DPC No.	Date of commission	S#	Type of DPC	DPC No.	Date of commission
1	1400 HHP	05901	05.09.2005	11	1400 HHP	05902	05.09.2005
2	1400 HHP	10903	31.03.2010	12	1400 HHP	10904	31.03.2010
3	1400 HHP	10905	06.05.2010	13	1400 HHP	10906	06.05.2010
4	1400 HHP	10907	19.06.2010	14	1400 HHP	11908	12.10.2011
5	1400 HHP	11909	12.10.2011	15	1400 HHP	15905	01.11.2015
6	1400 HHP	14946	07.07.2014	16	1600 HHP	18913	30.03.2018
7	1400 HHP	15902	14.07.2015	17	1600 HHP	18914	30.03.2018
8	1400 HHP	15906	01.11.2015	18	700 HP	01912	18.01.2001
9	1400 HHP	14945	07.07.2014	19	700 HP	01901	26.06.2009
10	1400 HHP	15901	14.07.2015				

**2.7.2 Holding of MEMU MC at DEMU Shed/Gondia:-**

S#	Type of MC	MC No.	Date of commission	S#	Type of MC	MC No.	Date of commission
1	3 Phase	18876	16.08.2019	7	3 Phase	18877	16.08.2019
2	3 Phase	188204	06.09.2019	8	3 Phase	188205	06.09.2019
3	3 Phase	19876	06.09.2019	9	3 Phase	19877	25.10.2019
4	3 Phase	19879	25.10.2019	10	3 Phase	19878	25.10.2019
5	3 Phase	199034	24.10.2019	11	3 Phase	199033	24.10.2019
6	3 Phase	18879	24.10.2019				

- Note :** - 1. Along with the above DPC & MC, 88 TC (Trailer Coach) are also maintained by DEMU Shed/Gondia.
2. Total 17 DEMU Unit (i.e. 01 Unit = 01 DPC+ 03 TC) & 02 Self Propelled Inspection Car is being maintained at DEMU Shed/Gondia.
3. Total 11 MEMU Unit (i.e. 01 Motor Coach + 03 Trailer Coach) is being maintained at DEMU Shed/Gondia.

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### 2.8.1. Average Daily Availability of Loco vs Failure ( DLS/MIB and DEMU Shed /Gondia):-

Average daily loco availability							Reliability of Locos (Statistical Failure)			Punctuality lost		
	NG loco		BG loco		DEMU		NG loco	BG loco	DEMU	NG loco	BG loco	DEMU
MONTH	TARGET	ACTUAL	TARGET	ACTUAL	TARGET	ACTUAL						
Mar.19	10.70	11.84	10.12	12.77	14	16.03	0	0	0	0	0	1
Apr, 19	10.70	11.98	10.12	12.73	14	15.13	0	0	0	0	0	0
May, 19	10.70	12.17	10.12	10.87	14	16	0	0	0	0	0	0
Jun, 19	10.70	11.97	10.12	12.06	14	18.6	0	0	0	0	0	0
Jul, 19	10.70	12.16	10.12	11.58	14	17.54	0	0	4	0	0	7
Aug, 19	10.70	12.9	10.12	10.03	14	18.61	0	0	0	0	0	0
Sep, 19	10.70	12	10.12	12.6	14	15.9	2	0	1	0	0	1
Oct, 19	10.70	12.24	10.12	14.35	14	15.38	1	0	0	0	0	0
Nov, 19	10.70	12.01	10.12	14.01	14	15.2	0	0	0	0	0	0
Dec, 19	-	-	10.12	14.87	14	14.7	-	0	0	-	0	0
Jan, 20	-	-	10.12	14.25	14	14.48	-	0	0	-	0	0
Feb, 20	-	-	10.12	15.06	14	15.65	-	0	1	-	0	1

**2.8.2. Schedule maintenance of Loco/DPC/MC ( DLS/MIB and DEMU Shed /Gondia):-**

Major Schedules																								
MONTH	NG loco							BG loco						DEMU							MEMU			
	POH	2Yly	Yly	H/Yly	Qly	Mly	Trip	M-48	M-24	M-12	M-4	M-2	Trip	POH	IOH	H/Yly	Qly.	D-Check	E-Check	Monthly	Trip	IA	Trip	IC
Mar.19	0	0	0	0	2	7	10	0	1	2	1	1	6	6	3	11	7	0	0	38	157	0	0	0
Apr, 19	0	1	1	1	1	8	10	0	1	0	1	0	2	0	6	4	8	0	0	40	171	0	0	0
May, 19	0	3	0	1	1	6	9	0	1	1	3	1	5	5	5	7	8	0	0	46	173	12	12	0
Jun, 19	1	0	1	2	1	6	11	0	0	0	0	0	8	0	2	8	12	1	0	28	169	12	84	0
Jul, 19	1	0	0	1	1	7	10	1	0	0	2	0	3	4	3	4	8	1	2	52	160	12	84	0
Aug, 19	0	0	0	1	2	7	10	0	1	0	2	1	3	0	1	12	4	0	0	32	172	0	84	24
Sep, 19	0	0	0	1	2	4	9	0	0	0	1	0	2	6	3	8	12	0	0	32	176	0	84	0
Oct, 19	0	1	0	0	2	8	9	0	1	0	0	0	2	0	4	8	4	0	0	40	164	12	60	0
Nov, 19	0	1	0	0	1	2	9	0	1	1	1	0	5	0	2	4	20	0	0	36	172	0	12 8	0
Dec, 19	-	-	-	-	-	-	-	0	2	1	1	0	3	2	3	8	8	0	0	44	168	36	84	0
Jan, 20	-	-	-	-	-	-	-	0	1	3	2	0	4	0	3	12	4	0	0	48	156	12	84	0
Feb, 20	-	-	-	-	-	-	-	0	2	2	0	0	3	8	4	12	0	1	0	40	102	24	60	0

**2.8.3. MIB Base Main Line Goods loco (Diesel) Utilisation from the month of MAY-2019 to APRIL-2020**

Loco No	Month	May-19	June-19	July-19	Aug-19	sept-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20
<b>13135</b>	Effective Avg Loco	<b>0.238</b>	<b>0.934</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Non-Effective Avg Loco	<b>0.761</b>	<b>0.022</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>13146</b>	Effective Avg Loco	<b>0.419</b>	0.00	<b>0.055</b>	<b>0.331</b>	<b>0.864</b>	<b>1.00</b>	<b>0.95</b>	<b>0.185</b>	0.00	0.00	0.00	0.00
	Non-Effective Avg Loco	0.00	0.00	<b>0.473</b>	<b>0.668</b>	<b>0.045</b>	<b>0.0</b>	<b>0.011</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>13404</b>	Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Non-Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.096</b>	0.00	0.00	0.00	<b>0.100</b>
<b>13573</b>	Effective Avg Loco	<b>0.815</b>	<b>0.715</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.111</b>
	Non-Effective Avg Loco	<b>0.184</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.036</b>	<b>0.888</b>
<b>13587</b>	Effective Avg Loco	0.00	0.00	0.00	0.00	<b>0.112</b>	<b>0.103</b>	0.00	0.00	0.00	0.00	0.00	0.00
	Non-Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>13130</b>	Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Non-Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>13143</b>	Effective Avg Loco	<b>0.686</b>	0.00	<b>0.032</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Non-Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>13151</b>	Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.821</b>	<b>1.0</b>	<b>0.987</b>
	Non-Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.122</b>	0.00	<b>0.012</b>
<b>13565</b>	Effective Avg Loco	<b>0.017</b>	0.00	0.00	0.00	0.00	<b>0.055</b>	<b>0.266</b>	<b>0.887</b>	0.00	0.00	0.00	0.00
	Non-Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	<b>0.247</b>	<b>0.766</b>	<b>0.096</b>	0.00	0.00	0.00	0.00
<b>13575</b>	Effective Avg Loco	<b>0.967</b>	<b>0.987</b>	<b>1.0</b>	<b>1.0</b>	<b>0.977</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>0.954</b>	<b>0.080</b>	<b>1.0</b>	<b>0.987</b>
	Non-Effective Avg Loco	0.00	<b>0.012</b>	0.00	0.00	<b>0.022</b>	0.00	0.00	0.00	<b>0.045</b>	<b>0.919</b>	0.00	<b>0.012</b>



**2.8.4. MIB Base shunting loco(Diesel) Utilisation from the month of MAY-2019 to APRIL-2020**

Loco No	Month	May-19	June19	July-19	Aug-19	sept-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20
36176	Effective Avg Loco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Non-Effective Avg Loco	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36204	Effective Avg Loco	<b>0.968</b>	<b>0.605</b>	0.00	0.00	0.00	0.00	0.00	<b>0.645</b>	<b>0.923</b>	<b>0.660</b>	<b>0.638</b>	<b>1.000</b>
	Non-Effective Avg Loco	0.00	0.00	0.000	0.000	0.000	0.000	0.000	0.00	<b>0.076</b>	0.000	0.000	0.000
36213	Effective Avg Loco	0.000	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.396</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>0.733</b>
	Non-Effective Avg Loco	0.00	0.000	0.000	0.000	0.000	0.000	0.000	<b>0.023</b>	0.00	0.000	0.00	0.000
36548	Effective Avg Loco	0.000	0.00	0.00	0.00	0.00	0.00	<b>0.554</b>	<b>1.000</b>	<b>0.987</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
	Non-Effective Avg Loco	0.00	0.000	0.000	0.000	0.000	0.000	<b>0.279</b>	0.000	<b>0.012</b>	0.000	0.000	0.000
36201	Effective Avg Loco	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.569</b>	<b>0.931</b>	<b>1.000</b>	<b>1.000</b>
	Non-Effective Avg Loco	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	<b>0.144</b>	0.000	0.000	0.000
36207	Effective Avg Loco	<b>0.000</b>	<b>0.625</b>	<b>0.954</b>	<b>1.000</b>	<b>0.900</b>	<b>0.926</b>	<b>1.000</b>	<b>0.958</b>	<b>0.990</b>	<b>0.238</b>	<b>0.760</b>	<b>1.000</b>
	Non-Effective Avg Loco	0.00	<b>0.04</b>	<b>0.04</b>	0.00	0.00	<b>0.027</b>	0.000	<b>0.042</b>	0.00	0.000	<b>0.236</b>	<b>0.000</b>
36545	Effective Avg Loco	0.000	0.00	0.00	0.00	0.00	<b>0.197</b>	<b>0.555</b>	<b>0.452</b>	<b>0.689</b>	0.00	<b>0.420</b>	<b>1.000</b>
	Non-Effective Avg Loco	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.00	<b>0.074</b>	0.000	0.000	0.000

<b>Section</b>	<b>TKM</b>	<b>Remark</b>
Gondia(G)-Ballarsah(BPQ) S/L	249.5	Completed
Gondia(G)-Gwarighat(GRG) S/L	218.6	Balance:Nainpur(NIR)-Samnapur(SMC)=60.1TKM
Chhindwara(CWA)-KALUMNA(KAV) S/L	154.9	Balance: Bhialgondi(BMC)-Bhandarkund(BDKD)=15.9TKM
Mandla Fort(MFR)-Chhindwara(CWA) S/L	181.2	Balance:Mandla Fort(MFR)-Chiraidongri(CID) 23.5TKM & Chhindwara(CWA)-Nainpur(NIR) 138.9TKM
Tumsar Road(TMR)-Tirodi(TRDI) S/L	46.79	Balance
Balaghat(BTC)- Katangi(KGE) S/L	46.765	Balance
Wadsa-Gadchiroli	49	Land acquisition for new line under progress.
Nagpur(NGP)-Nagbhir(NAV)	109	Gauge conversion project U/P.

### 2.10.1 **Outsourcing of activities at DLS/MIB:-**

1. Annual Operation and Maintenance (AMC) Contract of Effluent Treatment Plant (ETP), Capacity 2500 Liters at Diesel Loco Shed/Motibagh, Nagpur.
2. Hiring of One no. of Multy utility Non AC road vehicle (Diesel Driven) for the use of Sr. DME/D/MIB, Nagpur, through Open Tender.
3. Comprehensive Annual Maintenance Contract of Computer Controlled Bench Top Rotating Disc Spectrometer for Oil Analysis and Metal Analysis.

### 2.10.2 **Outsourcing of activities at DEMU Shed /Gondia:-**

1. Hiring of one Multi- utility Non AC road vehicle (Diesel Driven) for the use of ADME/DEMU Shed/Gondia.
2. Out-Sourcing for Non-Core activities and Premises Cleaning of DEMU-MEMU Shed/Gondia, through Open Tender for One year including Sunday.
3. Hiring of Private Road Transport for Transportation of Diesel Loco/DEMU Components from DLS-MIB and DEMU Shed/ Gondia to any point of India or vice-versa by road across various railway units.
4. AMC of 5/25 Ton EOT Crane No. 6/25/2011, Make: SMACO, Qty = 01 No. in DEMU Shed/Gondia.
5. D-check of DEMU engine as per ICF/RB guideline through authorized dealer of OEM.
6. E-check of DEMU engine as per ICF/RB guideline through authorized dealer of OEM.

**3.0 Critical Analysis:-**

The NG section in Nagpur Division is closed for movement of NG trains w.e.f. 25-11-2019 and thereafter the workload of NG DLS/MIB has been drastically reduced. At present only 04 NG locos are being utilised at Motibagh and Nainpur NG Rail Museum. However, 17 BG locos are being done maintenance at DLS/MIB. The DEMU shed Gondia has 18 DEMU units. And recently 11 nos MEMU MC maintenance work is added to workload of DEMU shed Gondia and further it will be increased more as emphasize is given to operation of maximum possible Electrical Loco. So it suggests deploying the surplus staff from DLS MIB to DEMU shed Gondia as per requirement.

The current IR average of MPR of Diesel Sheds (Having primarily Shunting, MG and NG Locos) is 5.35 Men per loco whereas that of DLS/MIB is 11.38. Similarly current IR average of MPR of DEMU Sheds is 3.64 Men per set whereas that of DEMU Shed/Gondia is 5.67. It indicates current MPR of both DLS MIB and DEMU shed Gondia are at higher side than that of current IR average MPR.

Recently Railway Board has decided for switch over from diesel to electric traction as electric traction has several advantages over diesel traction. Action in this regard is already initiated in Indian Railways.

- 3.1** DLS/MIB has the combined cadre with DEMU shed Gondia. The actual staff strength of DLS Motibagh is **395** as against the sanctioned strength of **410** along with vacancies of **15** as on 14.02.2020. The requirement of staff at DLS Motibagh has been assessed based on the present benchmarking, yardstick and outsourcing of activities.

The assessment of manpower for Diesel Organisation Nagpur is carried out in Two methods; (a) Applying Yardstick and (b) Current Benchmarking.

**Assessment-I (Requirement of Man Power w.r.t. yardstick)****3.2 Requirement of Man Power for NG loco maintenance at DLS/MIB:-**

02 nos. ZDM-4A NG locos are kept for Motibagh and 02 nos. ZDM-4A NG locos for Nainpur Narrow Gauge Rail museum at Nainpur. (Para 2.6.1).

As per Rly. Board's letter No.E(MPP)2016/1/59 dated 10.01.2017, all non-core activities which are not directly related with train operations and safety can be outsourced.

These 04 NG locos are superseded from main line service and hence it is not justified to keep manpower for maintenance of NG Locos as it is not economical at all. And as 04 NG locos are utilised at Rail Museum at Motibagh and Nainpur, all activities of Rail Museum should be outsourced as it is turn into completely non-core activity.

**For maintenance, trouble shootings and attending other failures of 04 NG loco which are kept at Rail Museum**, assistance may be taken from BG section of DLS Motibagh. Existing Supervisory and Ministerial staffs under NG section should be deployed as per need/requirement of the department.

**So total requirement of staff at NG section comes to zero(0) against total sanction of is 38.**

Hence total surplus found i.e  $38 - 0 = 38$ .

### 3.3.1 For Maintenance :

As per Manual maintenance of Diesel Locomotive Para 4.8.4.1, the yardstick for maintenance of ALCO Loco is 6.2 men/loco.

Document Title: MANUAL MAINTENANCE FOR DIESEL LOCOMOTIVES

**4.8.3.2 Codal life of Components:** Codal life of various components of diesel loco has been specified in para 219 of Indian Railway Finance Code Vol-I(advance correction slip no. 62 issued along with RB letter no. 2002/AC-II/1/10 dated 24.05.06 and advance correction slip no. 65 issued along with RB letter no. 2002/AC-II/1/10 dated 12.10.07). It should be duly taken into account while deciding rejection of respective component. However, even after revision vide advance correction slip no. 65, this list given in the finance code is not exhaustive and needs to be augmented to cover all major components of diesel loco, both Alco & HHP. Further, periodic revision of this list should be done.



**4.8.3.3 Must Change Items during POH:** RDSO vide its report no. MISC-254 has specified the items to be changed compulsorily in various schedules. It needs to be complied with strictly.

**4.8.3.4 Traceability of components:** Traceability of all components should be maintained. For ensuring this, all components should have etching/embossing of Manufacturer's initials/ Manufacturing details. Preferably, such marking should be done by using laser marked strip which can be fitted/pasted on to the component. Small components on which etching/embossing is not possible should be supplied in individual packing having the Manufacturer's initials/ Manufacturing details. High strength paper (laserable) duly marked by laser can also be used for this purpose. The details of the components shall be an input in computer software developed for failure analysis.

#### 4.8.4 Staff:

**4.8.4.1 Yard-stick:** Staff shall normally be provided in the Diesel Sheds as per yard stick given below:-

Staff Category/ Shed Category	Alco Loco			HHP Loco		
	Minor	Major	Mega	Minor	Major	Mega
Group C- Supervisors (Service Engineers)	0.80	0.80	0.80	0.70	0.70	0.70
Group C-Technicians	4.00	4.00	4.00	2.50	2.50	2.50
Group D	1.40	1.40	1.40	0.50	0.50	0.50
<b>Total</b>	<b>6.20</b>	<b>6.20</b>	<b>6.20</b>	<b>3.70</b>	<b>3.70</b>	<b>3.70</b>

**Note:** With the introduction of advanced technology in locos, requiring higher educational and intelligence level, job profiles of supervisors has been changed. Now, they have to work like a service engineer, who carries out maintenance and troubleshooting largely by himself. Hence, there is a need to change the designation of supervisor to service engineer, as is being done in private firms and western countries. Role of technicians will be limited to carrying out some hard work like removing assemblies, disassembly, assembly, etc. under the guidance of a service engineer. Therefore, the proportion of service engineers has been substantially increased and that of technicians decreased.

Nagpur Division is not cent percent electrified (Para 2.9.1) and in those section Diesel Locos are utilised (Para 2.8.3 & Para 2.8.4). At present 17 BG locomotives (WDG3-10, WDM2-03 and WDS6-07) are utilised in Nagpur Division and are maintained at DLS/MIB. (Para 2.6.2)

Hence manpower requirement for maintenance of BG loco at DLS/MIB as per yardstick for 17 diesel BG loco comes to=17 x 6.2 =105.4(Say 105).

**3.3.2 Laboratory:** Existing 03 staff (02 CMS, 01 CMA) against total sanction of 05 are deployed in Laboratory section for BG and NG locos. They deal with monitoring the Laboratory Work Pertaining to N.G., B.G, DEMU DPC. Quality Control and inspections of Store material, and spectrometer Analysis of metals, U.S.T. Of Axle oil Sample Analysis, H.S.D oil Analysis Zyglo D.P of Diesel Component, testing of C/Case Lube oil, Transformer oil, Compressor oil, H.S.D. oil etc.  
The Work study team found justified of total 05 CMS/CMA in Laboratory section.

**3.3.3 Ministerial:** Presently no ministerial staff is deployed for NG section against total sanction of 02 OS and moreover it will not be required further for this section.  
And hence Work Study team suggests for surrender of 02 vacant posts of OS from NG section of DLS/MIB.

Presently there are 12 Ministerial staffs (03 Ch. OS, 03 OS, 06 Sr./Jr. Clerk) and 02 miscellaneous Ministerial staff (01 Steno and 01 Typist) are deployed in Sr.DME office and BG section of DLS/MIB against total sanction of 08 Ministerial and 02 miscellaneous Ministerial. Ministerial staff deal with all official establishment matters related to staff, correspondence with Divisions/Workshops and HQs etc. *In view of existing workload 08 Ministerial and 02 miscellaneous Ministerial staff(Total 10) is justified.* Work Study team suggested redeploying the excess 02 ministerial staff at DEMU/MEMU shed Gondia or as per need of the department.

**3.3.4 Other Group D Activities:** Presently there are 03 Group D staff(02 Peon, 01 Spl, messenger) are deployed and 01 TADK post is presently vacant against total sanction of 04 in Sr.DME office. They are dealt with various Group D activities related to Sr. DME office. The Work Study team is found justified for deployment of 04 other Group D staff at Sr.DME office Motibagh.

**3.3.5 HouseKeeping Activities:** - 02 Housekeeping Asst. are deployed at DLS Motibagh for sanitation and other housekeeping activities.

Housekeeping activity is completely a non-core activity. As per Rly. Board's letter No.E(MPP)2016/1/59 dated 10.01.2017, non-core activities which are not directly related with train operations and safety can be outsourced.

Hence, Work Study team suggests for surrender of 02 posts of Housekeeping Assistants from Diesel organisation Nagpur after redeployment into a suitable category as per requirement.

**Therefore total requirement comes in DLS/MIB BG section comes to =105+05+10+04 = 124.**

**3.4.1 Requirement of Man Power for DEMU DPC maintenance at DEMU shed/Gondia:-**

At present 17 DEMU units and 02 self propelled inspection car along with 88 Trailer Coach are being maintained at DEMU Shed/Gondia. (Para 2.7.1)

02 self propelled inspection car is equivalent to 01 unit of DEMU.

So total DEMU unit comes to= 17+01=18



84618(5)/2020/O/o. SDGM/HQ/SECR

**Government of India**  
**Ministry of Railways**  
**(Railway Board)**

No.98/M(L)/466/35

New Delhi dated 17.02.2010

**The General Managers,**  
**All Indian Railways.**

**Sub:- Manpower Planning norms for DMUs.**

It has been decided by Board that the following yardstick of manpower requirement for maintenance of DMUs on Zonal Railways may be adopted:-

**Fixed Staff requirement**

Shed holding	Fixed staff requirement
10-50 DMU	60
51-100 DMU	73

**Variable staff requirement for 700 HP 3 car DMU set.**

Shed holding	Variable staff yardstick
1-50 DMU	5.0
51-100 DMU	4.5*

**Variable staff requirement for 1400 HP 4 car DMU set.**

Shed holding	Variable staff yardstick
1-50 DMU	6.0
51-100 DMU	5.4*

(\* to be applied for DMU sets in excess of 50. One DMU set for 700 HP consists of 3 coach units and for 1400 HP it consists of 4 coach units.)

Standard guidelines for staff requirement of different categories are at annexure-I & II. The above guidelines are indicative and the exact grade wise requirement for each category should be finalized by the Zonal Railway

**Note:**

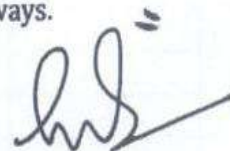
- (i) Daily cleaning/washing/BPC and platform attention will be done by C&W organization and staff from DMU shed will not be deputed for this purpose. However, if staff of DMU shed are required for this purpose, then additional staff @

84618(5)/2020/O/o. SDGM/HQ/SECR

1.0 per DMU set will be provided over and above the yardstick of para 2.1 & 2.2, else the activity is to be out sourced.

- (ii) Shunters will be provided by the Division as per requirement.
- (iii) The above yardsticks do not include any staff requirement for Laboratory, Training School, Canteen, Security/Watch & ward activities or Civil Engg./Elect. Engg. requirement for maintenance of the shed or requirement for Stores Department.
- (iv) Officers may be sanctioned as per EMU Car Shed norms.
- (v) It has further been assumed that D&E checks of the engine will be done by outside agency. The overhaul and repair of TM and alternator would be done by DMW/Patiala or by the workshops or outsourced.
- (vi) For a maintenance facility with less than 10 DMU sets, the fixed staff requirement will be calculated by the respective Zonal Railways considering the local conditions which will be a fraction of fixed staff requirement as indicated in annexure-I.

This issues with the concurrence of Finance Dte. of Ministry of Railways.



(S.M. Sharma)  
Dir. Mech.Engg. (Traction)  
Railway Board.

- Copy to: 1. CMEs/All Indian Railways.  
2. CPOs/All Indian Railways  
3. FA&CAOs, All Indian Railways.



(S.M. Sharma)  
Dir. Mech.Engg. (Traction)  
Railway Board.

98/M(L)/466/35

New Delhi dated 17.02.2010

Copy to: Dy. Comptroller & Auditor General of India (Railways).  
Room No.224, Railway Bhavan, New Delhi (with 40 copies).



For Financial Commissioner/Railways

Copy to : F(E) Spl./Railway Board.





## 1. Fixed staff requirement for DMU car shed

Shed holding	10 to 50		Remarks	51 to 100		
Ministerial						
Steno	1			2		
Sr.DME (O) Clerks	2			3		
Stores Clerks	1			2		
Tool Room Clerk	1			1		
Time-Keeper	1			2		
Fuel Clerk	2			3		
Total Clerks	8			13		
Running Staff						
Loco Inspectors	2			3		
Technical Staff			Upto 50 DEMU sets		51-100 DEMU Sets	
	Sup.	Gr.C	Gr.D	Sup.	Gr.C	Gr.D
TSPs/Outstation attention	2	8	0	2	10	0
Stores chasing	1	2	6	1	3	6
Fuelling Point	0	1	2	1	1	2
Housekeeping*	0	2	5	0	2	5
Control Room	0	3	0	0	3	0
Millwright/M&P/Modification	1	2	2	1	3	3
CTA, Design, Drawing, Quality.	2	0	0	2	0	0
Total	6	18	15	7	22	16
RG		3	2.5		3.7	2.7
Total+RG		21.0	17.5		25.7	18.7
LR		2.6	2.2		3.2	2.3
Total	6	24	20	7	29	21
Grand Total	60			73		
*	Housekeeping includes Scrap collection/Disposal, Shed/Office cleaning, Effluent Treatment Plant.					



## Variable staff requirement for DMU car shed

Requirement of Variable staff For 30 sets of 700HP 3 car DMUs				
	Sup.	Gr.C	Gr.D	
<b>Diesel Electricians</b>				
Trip Schedules (3/day)	3	9	6	
Monthly Sch. (1/day)	1	5	2	
<b>Heavy Schedules/Spl. Repair</b>				
<b>Mechanical Sections</b>				
Heat Exchanger/FIP	1	2	1	
Expressor		3	1	
Power Pack/Cyl. Head	1	3	1	
SPM & Gauges		2	1	
Air Brakes	1	3	1	
<b>Electrical Sections</b>				
Rotating Machines	1	3	1	
Control Gear/Test Room		2	1	
Battery	1	2	1	
Governor		2	1	
Load Box	1	1	0	
<b>Coaching</b>				
Trip Schedules (3/day)	2	6	4	
Monthly Sch. (1/day)	1	4	2	
Quarterly Sch. (0.33/day)		2	1	
<b>Total</b>	<b>13</b>	<b>49</b>	<b>24</b>	
RG	2.2	8.2	4.0	
<b>Total+RG</b>	<b>15.2</b>	<b>57.2</b>	<b>28.0</b>	
LR	1.9	7.1	3.5	
<b>Net Total</b>	<b>17</b>	<b>64</b>	<b>32</b>	
Coaching IOH (0.16/day)		5	2	IOH only 6 days/week
Coach sickline/heavy Rep.	1	4	2	Sickline only 6 days/week
<b>TOTAL - Direct</b>	<b>18</b>	<b>73</b>	<b>36</b>	
<b>ANCILLARY</b>				Including LR/RG
Painters-Gr C		3		
Carpenters Gr C		4		
Welders-Gr.C		3		
Machinists-Gr C		3		
Road Vehicle Drivers		4		
Trimmers		3		
Pointsmen		3		
<b>Total Ancillary</b>		<b>23</b>		
<b>GRAND TOTAL</b>		<b>150</b>		
<b>Manpower Ratio</b>		<b>5.0</b>		
<b>Ratio for 1400 hp 4 car</b>		<b>6.0</b>		

From above yardstick, manpower requirement in DEMU Shed for maintenance is 06 staff/unit of DEMU unit plus 60 fixed staff.

Hence manpower requirement for maintenance of 18 set DEMU =  $18 \times 6 + 60$  fixed staff =  $108 + 60 = 168$ .

The yardstick for maintenance of MEMU MC is as under Para 1.3 :-

Government of India  
Ministry of Railways  
Railway Board

No. 2001/Elect(G)/138/3

New Delhi, dt. 16.3.06

The General Managers  
All Indian Railways.

**Sub: Manpower planning-norms.**

Norms of the staff in various maintenance activities has been engaging the attention of the Board for quite sometime now. It has been decided that the following norms, should be adopted for the maintenance of electrical assets:

**1.1 ELECTRIC LOCOS:**

- |      |   |                      |
|------|---|----------------------|
| I)   | Locos with Hitachi Traction Motors (freight)                          | : 5.5 staff per loco |
| II)  | All other locos including coaching locos with Hitachi traction motors | : 6.5 staff per loco |
| III) | AC-DC locos and DC locos  | : 7.0 staff per loco |

**1.2 TRACTION DISTRIBUTION:**

- |      |   |                      |
|------|---|----------------------|
| I)   | AC OHE excluding suburban divisions                                     | : 0.45 staff per TKM |
| II)  | AC OHE for suburban divisions i.e. Sealdah Howrah, Delhi & Chennai etc. | : 0.7 staff per TKM  |
| III) | DC OHE (CR & WR)  | : 1.74 staff per TKM |

There may, however, be minor variations from division to division depending on the special circumstances such as the maintenance of 220/132/110/66 KV transmission lines and grid sub stations being done by the Railways, preponderance of the corrosive atmosphere, coastal areas etc. for which additional requirement over and above what is mentioned above may be duly considered. This may be considered by the General Manager in consultation with Finance depending upon the merits of the case.

**1.3 EMUs/MEMUs (MAINTENANCE SHEDS/DÉPOTS):**

- |     |  |                      |
|-----|--|----------------------|
| I)  | Per equated unit of EMU (1MC +2TCs)    | : 7.0 staff per unit |
| II) | Per equated unit of MEMU (1MC + 3 TCs) | : 7.0 staff per unit |

The above is only for the day-to-day maintenance of the EMUs/MEMUs stock. Additional staff, as justified, may be provided wherever POH of the stock is also being carried out in the maintenance sheds.



31-11-06

At present 11 MEMU units are being maintained at DEMU Shed/Gondia. (Para 2.7.2). Manpower requirement for maintenance of each MEMU unit is 07 staff/unit. Hence manpower requirement for maintenance of 11 MEMU unit =  $11 \times 7 = 77$ .

**3.4.3 Laboratory:** Existing 04 staff (03 CMA and 01 Lab.Asst.) against total sanction of 05 CMS/CMA/Lab.Asst. are deployed in Laboratory section for DEMU and MEMU. They deal with monitoring the Laboratory Work Pertaining to DEMU and MEMU viz., Quality Central and inspections of Store material, and spectrometer Analysis of metals, U.S.T. Of Axle oil Sample Analysis, H.S.D oil Analysis Zyslo D.P of Diesel Component, testing of C/Case Lube oil, Transformer oil, Compressor oil, H.S.D. oil etc.

The Work study team found justified of total 05 CMS/CMA/LA in Laboratory section. Therefore total requirement comes in DEMU and MEMU Shed/Gondia comes to =168+77+5 = 250.

Hence Requirement of Manpower for DLS/MIB and DEMU shed Gondia is

Shed	Purpose	Manpower Required
DLS/MIB	NG loco maintenance	00
	BG loco maintenance	124
DEMU shed/Gondia	DEMU/MEMU maintenance	250
Total Requirement of Manpower		<b>374</b>

Total sanction of DLS/MIB including DEMU Shed Gondia is 410.

Total Requirement of Manpower at DLS/MIB is =374.

**Hence, total posts found surplus =410 - 374 = 36 posts which are to be surrendered from DLS/Motibagh under Mechanical department of Nagpur Division.**

## **Assessment-II**

### **3.5.0 Requirement of Man Power w.r.t current IR average Benchmarking:-**

**3.5.1 DLS/MIB NG section:-** Total requirement of staff at NG section is 00 against total sanction of is 38 (Ref. Para 3. 2)

**3.5.2 DLS/MIB BG section:-** The current IR average of MPR of Diesel Sheds (Having primarily Shunting, MG and NG Locos) is 5.35 Men per loco whereas that of DLS/MIB is 11.38. Hence manpower requirement as per current Benchmark for 17 diesel BG loco comes to =17 x 5.35 =90.95 (Say 91).

The requirement of staff for laboratory, Ministerial works and other Group D activities is assessed as 05, 10 and 04 respectively. (Para-3.3.2 ,3.3.3 and 3.3.4)

Hence Total staff requirement at DLS BG loco shed MIB comes to =91+05+10+4 =110.

**3.5.3 DEMU Shed/Gondia:** Current IR average of MPR of DEMU Sheds is 3.64 Men per unit whereas that of DEMU Shed/Gondia is 5.67. Hence manpower requirement as per current Benchmark for 18 set of DEMU comes to = 18 x 3.64 = 65.52 (Say 66)  
Fixed staff requirement for DEMU shed for <30 unit = 60.

**3.5.4 MEMU Shed/Gondia:** Current IR average of MPR of MEMU is 3.04 Men per set. Hence manpower requirement as per current Benchmark for 11 unit of MEMU comes to = 11 x 3.04 = 33.44 (Say 34)

Therefore total requirement comes in DLS MIB(NG/BG), DEMU and MEMU Shed/Gondia comes to =00+110+66+ 60 fixed staff+34= 270.

Hence, total posts found surplus =410 -270 = 140 posts which are to be surrendered from DLS/Motibagh under Mechanical department of Nagpur Division.

**3.6 Summary of Sanction, Present & Proposed staff at DLS/MIB NG Section :-**

S#	Post	San	Act	Proposed	Surplus
1	SSE(D)/M	01	01	00	01
2	JE(M)	01	01	00	01
3	Staff Instructor	01	00	00	01
4	Sr. Tech(M)	03	03	00	03
5	Sr. Tech(E)	01	01	00	01
6	Tech-I(M)	08	08	00	08
7	Tech-I(E)	02	02	00	02
8	Tech-III(M)	09	08	00	09
9	Tech-III(E)	03	02	00	03
10	ALS(M)	02	01	00	02
11	ALS(E)	01	01	00	01
12	Sr. Tech(Anc)	01	00	00	01
13	Tech-I(Anc)	02	00	00	02
14	CMA	01	00	00	01
15	OS	02	00	00	02
<b>GRAND TOTAL</b>		<b>38</b>	<b>28</b>	<b>00</b>	<b>38</b>

**3.7 Summary of Sanction, Present & Proposed staff at DLS/MIB BG Section :-**

S#	Post	San	Act	Proposed	Surplus
1	SSE(D)/M	09	09	07	02
2	SSE(D)/E	03	02	03	00
3	JE(M)	03	03	03	00
4	JE (E)	02	02	02	00
5	Staff Instructor	01	01	01	00
6	Loco Inspector	01	01	01	00
7	Sr. Tech(M)	16	18	16	00
8	Sr. Tech(E)	04	04	04	00
9	Tech-I(M)	38	45	18	20
10	Tech-I(E)	07	10	04	03
11	Tech-II(M)	04	04	04	00
12	Tech-II(E)	02	04	02	00
13	Tech-III(M)	36	36	11	25
14	Tech-III(E)	06	06	01	05
15	ALS(M)	08	19	10	-02
16	ALS(E)	00	12	9	-09
17	Sr. Tech(Anc)	05	05	03	02
18	Tech-I(Anc)	12	06	03	09
19	Tech-II(Anc)	02	00	02	00
20	Tech-III(Anc)	01	01	01	00

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21	CMS	02	02	02	00
22	CMA	02	01	03	-01
23	House keeping Asst.	02	02	00	02
24	Ch. OS	03	03	03	00
25	OS	04	03	04	00
26	Sr. Clerk	01	01	01	00
27	Jr. Clerk	00	05	00	00
28	Sr. Steno	01	01	01	00
29	Hd. Typist	01	01	01	00
30	Sr. Peon	02	02	02	00
31	Spl. Messenger	01	01	01	00
32	TADK	01	00	01	00
<b>GRAND TOTAL</b>		<b>180</b>	<b>210</b>	<b>124</b>	<b>56</b>

### 3.8 Summary of Sanction, Present & Proposed staff at DEMU Shed Gondia :-

S#	Post	San	Act	Proposed	Surplus
1	SSE(D)/M	09	07	12	-03
2	SSE(D)/E	04	02	04	00
3	JE(M)	07	03	08	-01
4	JE (E)	03	03	03	00
5	Staff Instructor	00	00	01	-01
5	Sr. Tech(M)	12	03	15	-03
6	Sr. Tech(E)	05	01	06	-01
7	Tech-I(M)	18	06	46	-28
8	Tech-I(E)	10	05	15	-05
9	Tech-II(M)	05	00	05	00
10	Tech-II(E)	01	00	01	00
11	Tech-III(M)	45	45	46	-01
12	Tech-III(E)	14	15	14	00
13	ALS(M)	26	35	26	00
14	ALS(E)	17	20	17	00
15	Sr. Tech(Anc)	01	00	04	-03
16	Tech-I(Anc)	00	00	11	-11
17	Tech-II(Anc)	00	00	01	-01
18	Tech-III(Anc)	04	04	04	00
19	CMS	01	00	01	00
20	CMA	03	03	03	00
21	Lab Asst.	01	01	01	00

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22	Ch. OS	03	00	03	00
23	Ch. OS	01	01	01	00
24	Sr. Clerk	01	00	01	00
25	Jr. Clerk	01	03	01	00
<b>GRAND TOTAL</b>		<b>192</b>	<b>157</b>	<b>250</b>	<b>-58</b>

### 3.9 Summary of Cumm. Surplus Staff from DLS/MIB & DEMU Shed/G :-

S#	Post	MIB NG Surplus	MIB BG Surplus	DEMU Shed/G Surplus	Total Surplus
1	SSE(D)/M	01	02	-03	00
2	SSE(D)/E	00	00	00	00
3	JE(M)	01	00	-01	00
4	JE (E)	00	00	00	00
5	Staff Instructor	01	00	-01	00
6	Loco Inspector	00	00	00	00
7	Sr. Tech(M)	03	00	-03	00
8	Sr. Tech(E)	01	00	-01	00
9	Tech-I(M)	08	20	-28	00
10	Tech-I(E)	02	03	-05	00
11	Tech-II(M)	00	00	00	00
12	Tech-II(E)	00	00	00	00
13	Tech-III(M)	09	25	-01	33
14	Tech-III(E)	03	05	00	08
15	ALS(M)	02	-02	00	00
16	ALS(E)	01	-09	00	-08
17	Sr. Tech(Anc)	01	02	-03	00
18	Tech-I(Anc)	02	09	-11	00
19	Tech-II(Anc)	00	00	-01	-01
20	Tech-III(Anc)	00	00	00	00
21	CMS	00	00	00	00
22	CMA	01	-01	00	00
23	House keeping Asst.	00	02	00	02
24	Ch. OS	00	00	00	00
25	OS	02	00	00	02
26	Sr. Clerk	00	00	00	00
27	Jr. Clerk	00	00	00	00
28	Sr. Steno	00	00	00	00
29	Hd. Typist	00	00	00	00

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30	Sr. Peon	00	00	00	00
31	Spl. Messenger	00	00	00	00
32	TADK	00	00	00	00
<b>GRAND TOTAL</b>		<b>38</b>	<b>56</b>	<b>-58</b>	<b>36</b>

So Total surplus Posts from DLS/MIB & DEMU Shed Gondia = 38 + 56 + (-58) = 36 posts [32-Technician-III, 02-OS(vac) and 02 House Keeping Asst.] as found surplus from DLS/MIB should be surrendered.

### 3.10 Recommendation and Suggestions:-

#### 3.10.1 Recommendation :

Considering the existing work load, it is recommended that as per details given in Para 3.1 to 3.4.3 the requirement of total cadre under DLS/MIB comes to 374 against sanction of 410 staff.

***Thus 36 identified surplus posts of [32-Technician-III, 02-OS(vac) and 02 House Keeping Asst.] should be surrendered from DLS/MIB of Mechanical Department in Nagpur Division.***

#### Suggestions:

- 3.10.2** It may be planned to bring structural changes at DLS/MIB so that it can be functioned for maintaining electric locomotives in addition with existing Diesel locomotive.
- 3.10.3** A training module for running and maintenance staff may be developed to provide training in Diesel as well as Electric Locomotives .
- 3.10.4** At DEMU Shed Gondia, 02 Nos. lines of 400 Mtrs Length completely Electrified with catwalk and covered shed is required for the schedule maintenance/stabling of MEMU/DEMU rakes.
- 3.10.5** The DEMU Shed Gondia may be rehabilitated into integrated Rolling Stock Coaching Depot to facilitate maintenance of MEMU/DEMU and Mainline coaches.
- 3.10.6** Proper multi skilling training may be provided to both Mechanical and Electrical staffs for integrated maintenance of MEMU/DEMU and Mainline coaches to achieve optimum efficiency.

**CHAPTER-IV****4.0 FINANCIAL EVALUATION & RESULTS:-****Savings due to surrender of 36 identified surplus posts :-**

Designation	Pay Scale	Level	No. of Post to be surrendered	Mean pay	Cost per Month per staff (Mean Basic pay+ D.A. @ 17%)	Total cost per month (in Rs.)	Total cost per year (in Rs.)
OS	35400-112400	L-6	02	73900	86463	172926	<b>2075112</b>
Technician-III	19900-63200	L-2	32	41550	48614	1555648	<b>18667776</b>
Group D/House Keeping Asst.	18000-56900	L-1	02	37450	43817	87634	<b>1051608</b>
<b>Total</b>			<b>36</b>				<b>21794496</b>

Hence, total recurring savings to the tune of Rs. 217,94,496 say **Rs.218 Lakhs** can be achieved by implementing the due to surrender of **36 surplus** posts (32-Technician-III, 02-OS (vac) and 02 House Keeping Asst.) from DLS/Motibagh under Mechanical department of Nagpur division and surrender Memorandum may be issued by Sr. DPO/NGP/SECR accordingly.

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