

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/ROH Depot/BIA/

दिनांक Dated: 23.06.2021

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

Sub: Work study on "Review of existing cadre strength vis-a-vis workload of ROH Depot/PP Yard/Bhilai of Mechanical Department in Raipur Division."

- Ref.:** (i) This office letter No. WS/ ROH Depot/BIA/97, dated 01.02.2021.
(ii) Sr. DME (Co)/R' office letter No. Mech./Sr. DME(R)/Estb/02, Dated 12.02.2021.
(iii) This office letter No. WS/ ROH Depot/BIA/248, dated 24.03.2021.

The work study of ROH Depot/PP Yard/Bhilai of Mechanical Deptt. in Raipur Division has been conducted to review the existing cadre strength in view of existing work load, outsourcing activities (existing & proposed), technological upgradations and optimum utilisation of manpower. Draft study report vide letter under reference was sent to DRM/R to furnish the remarks. In response to this, remarks on the draft report from Sr. DME (Co)/R has been received and counter reply has been sent to Sr. DME (Co)/R vide letter under reference. Further, no reply pertaining to above Study report has been received so far. Hence, the draft study report is finalised.

The work study report contains recommendation for surrender of 30 surplus vacant posts of Technicians/Helper in Phase-I and 41 posts after outsourcing of proposed activities in phase-II from ROH Depot/BIA.

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)

Asst. Work Study Officer
For Sr. Deputy General Manager

Encl: 1 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 (Co)/R, Sr. DPO/R for kind information and necessary action.



SOUTH EAST CENTRAL RAILWAY

WORK STUDY CELL

Work study report on

REVIEW OF EXISTING CADRE STRENGTH VIS-À-VIS WORK LOAD
OF
ROH Depot /PP YARD/BHILAI OF MECHANICAL DEPTT.
RAIPUR DIVISION



OVER S.E.C. RAILWAY

WORK STUDY CELL
S. E C. RAILWAY
BILASPUR

STUDY NO.
SECR/03/2021-22

SOUTH EAST CENTRAL RAILWAY

WORK STUDY REPORT

ON

REVIEW OF EXISTING CADRE STRENGTH VIS-À-VIS WORK LOAD OF ROH Depot/ PP YARD/BIA OF MECHANICAL DEPTT. RAIPUR 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 V. K. SINHA
CH. WORK STUDY INSPECTOR**

**SRI S. K. MISHRA
WORK STUDY INSPECTOR**

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

**STUDY No.
SECR/03/2021-22**

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SUMMARY OF RECOMMENDATIONS & SUGGESTIONS

S#	Description	Para ref.
	On being summarized all the facts, relevant collected data, observations & critical analysis, the following recommendations and suggestions are made: Recommendations:	
1.	Considering the existing work load and as per details given in Para 3.1 & 3.2, total requirement of staff for ROH Depot/PP Yard/BIA comes to 777 against sanctioned of 807 posts. Thus, 30 vacant posts of Technician/Helper are found surplus and should be surrendered from ROH Depot/PP Yard/BIA of Mechanical Department.	3.6.1
2.	To bring savings in manpower costs and improving efficiency, it is recommended that some non-core activities of ROH Depot/PP Yard like Door closing activity of wagons, wheel movement of wagons, painting & stencilling of wagons, APD making and scrap collection/disposal activity should be outsourced. Therefore after outsourcing of these activities, 41 posts of Technician/Helper would be surplus and may be surrendered in Phase-II from ROH Depot/BIA. The live men (staff) can be redeployed at other units as per requirement.	3.6.2
	Suggestions:	
1.	Safety Equipment should be provided properly to staff working in the safety category.	3.6.3
2.	Artisan staff should follow safety rules during working and proper counseling should be provided to Artisan/Helper from time to time in this connection.	3.6.4

CHAPTER-I

1.0 INTRODUCTION:

It is well known that Indian Railway is the prime mode of transport in the country and it provides safe transport at a reasonable cost while at the same time maintains the financial viability of the system. Moreover, it carries a major part of freight passengers daily over the entire region of the country.

For safe & smooth operation of goods transportation over Indian Railway, all wagon stock are given Routine Over Hauling(ROH).

Due to modernization in every sphere of railway working, modern Wagons/Box are being introduced to increase productivity. In the series of modernization, many electronic, automatic equipment and Machinery & Plants have also been developed which resulted in improvement in quality and capacity of existing working and minimized time and manpower.

Keeping in view of the above, the Work-Study Team has undertaken the Study of ROH Depot/PP Yard/BIA intending to optimize the efficiency and to achieve the economy.

1.1 Terms of Reference:

The study of ROH Depot/PP Yard/ Bhilai of Mechanical Department in Raipur Division has been undertaken to review the requirement of staff in view of existing work load, outsourcing activities, technological upgradations and optimum utilization of manpower.

1.2 Methodology

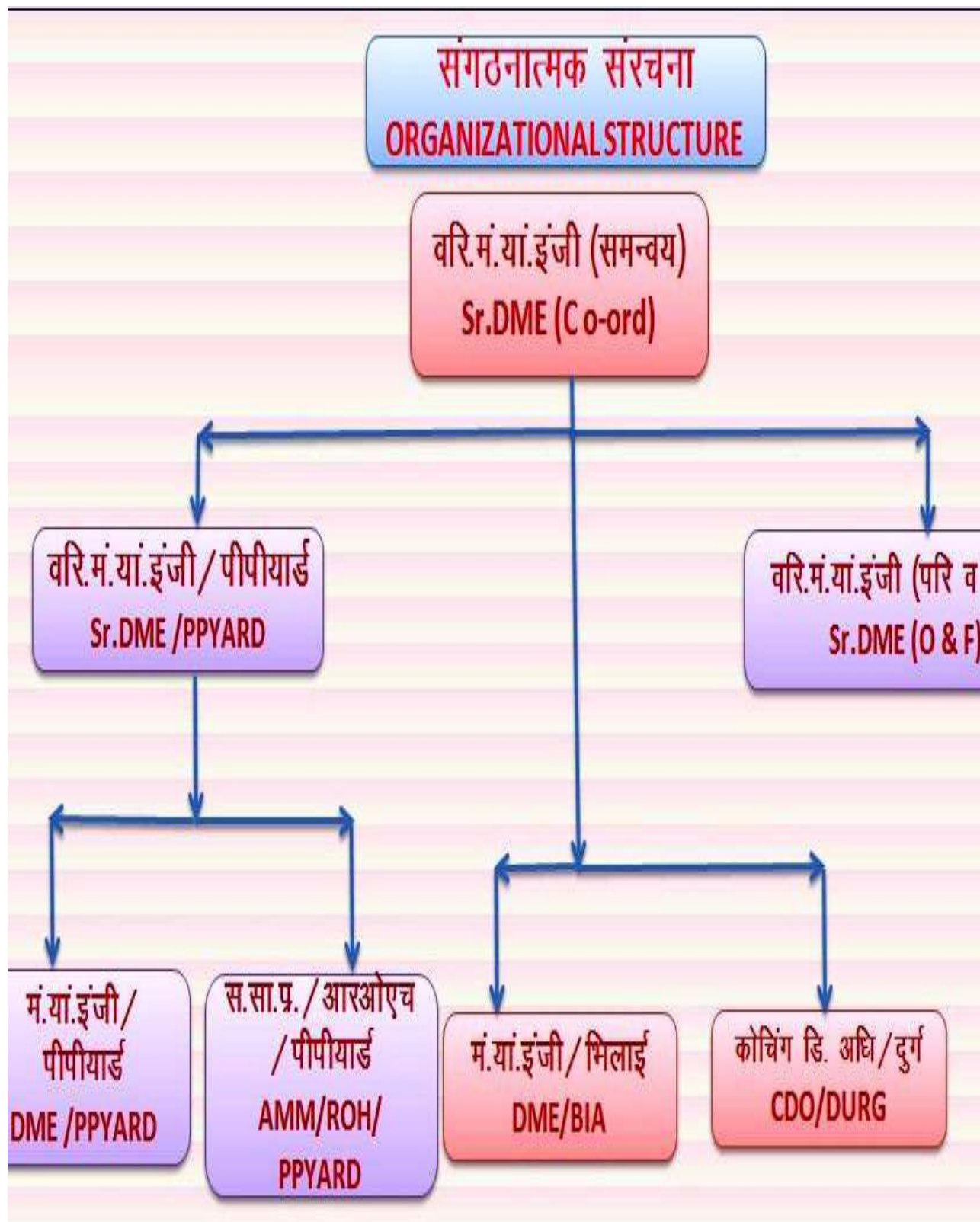
The following methodology has been adopted for conducting the study:

- (i) Collection of relevant data,
- (ii) Examination of records,
- (iii) Interaction with Supervisors and staff ,
- (v) Applying Outsourcing,
- (vi) Critical Analysis of the data collected and assessment of need-based manpower requirement.

1.3 Brief descriptions:

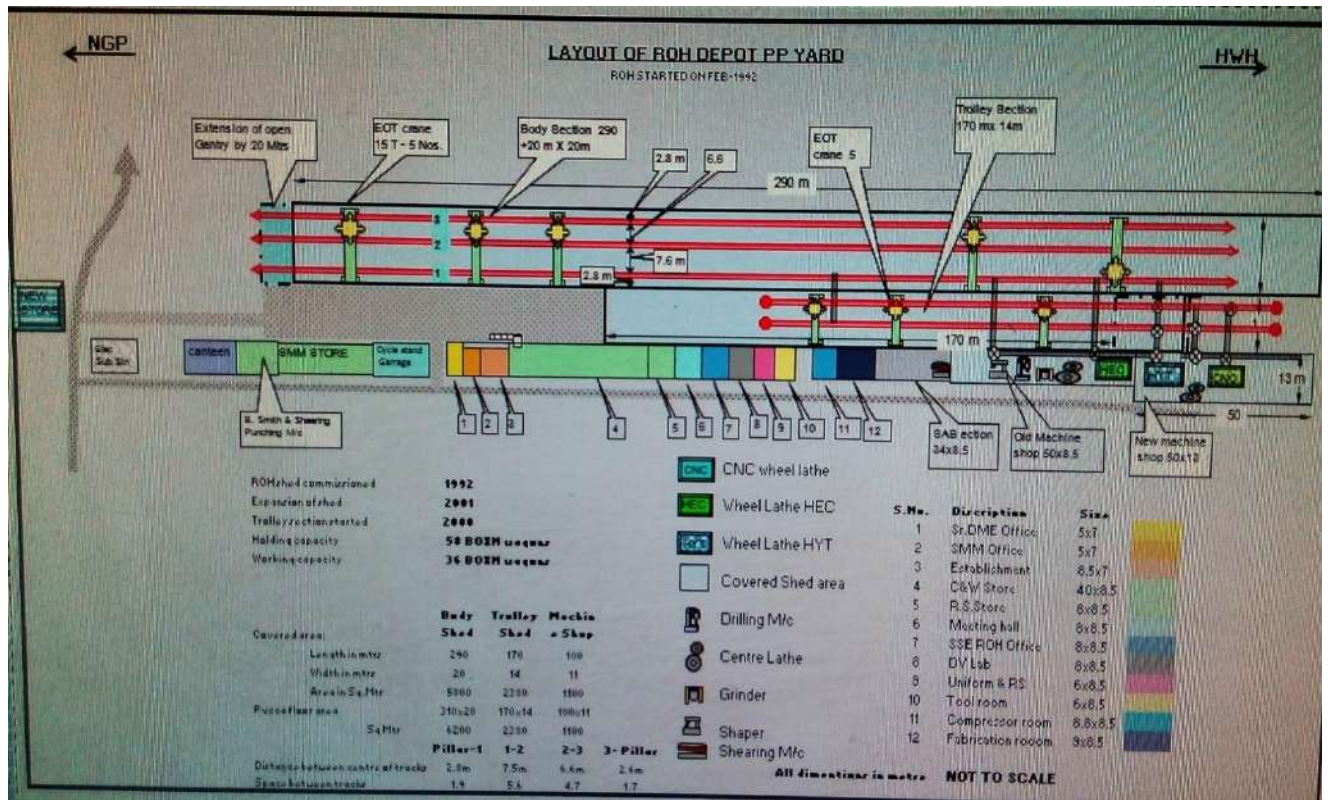
ROH Depot/PP Yard/Bhilai is a major Carriage & Wagon Depot of Raipur division and it is located at a distance of 02 Km. from Bhilai station towards Durg direction. PP Yard/Bhilai is mainly dealing with ROH, examination & sick repair of air brake stock including BOXN/BOXNHL/BOXNHL (MBS) wagons. Coal Empty Yard is attached with this depot to carry out PME, PEE and Continuity examination. ROH DEPOT PP Yard, Bhilai is headed by SR. DME/PP YARD/BIA assisted by DME/PP Yard/BIA along with subordinates SSE/JEs/Technicians /Helpers.

1.4 Administrative-Functional Chart of C&W Depots in Bhilai Area:



1.5.1

A. Layout of ROH Depot PP Yard, Bhilai



1.5.2

B. ROH DEPOT located at PP Yard /Bhilai



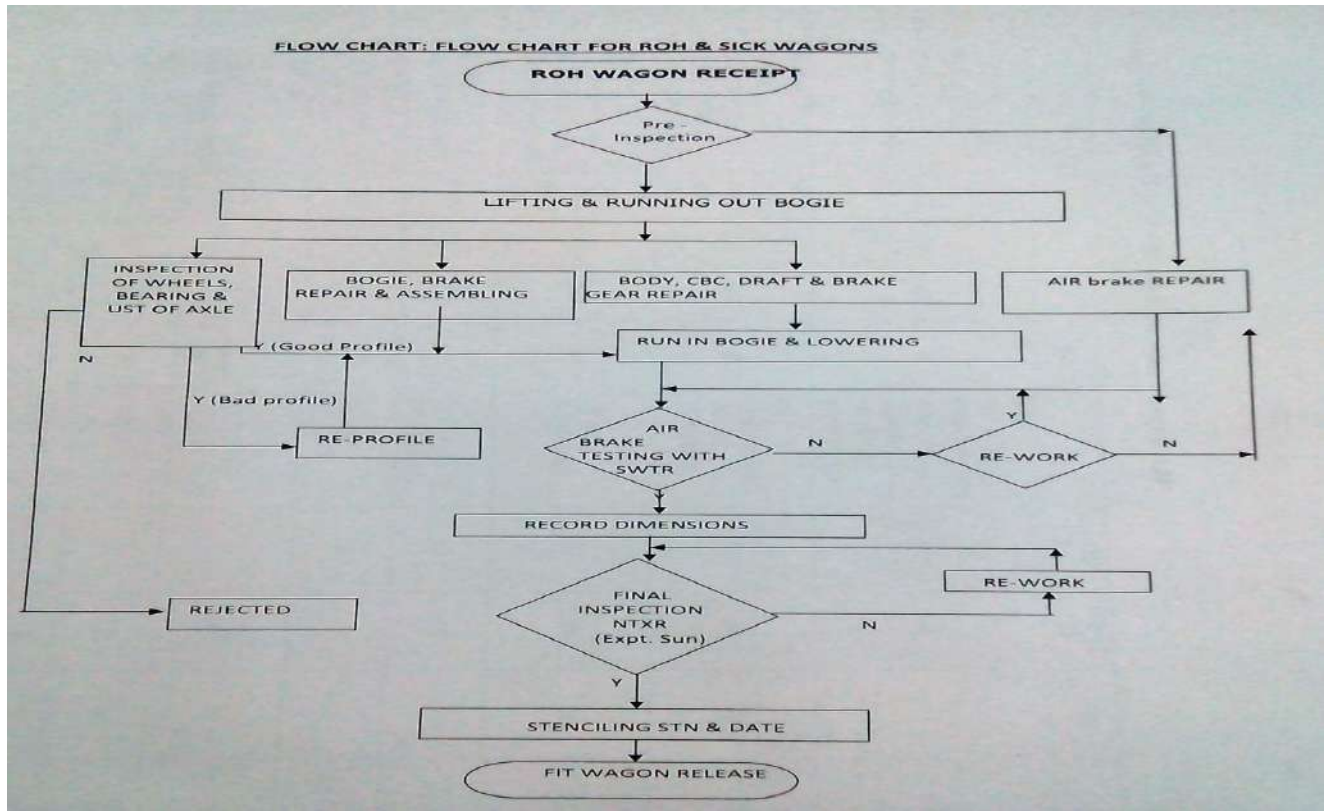
C. At a glance view of Coal Empty yard attached to ROH Depot/Bhilai

1.5.3

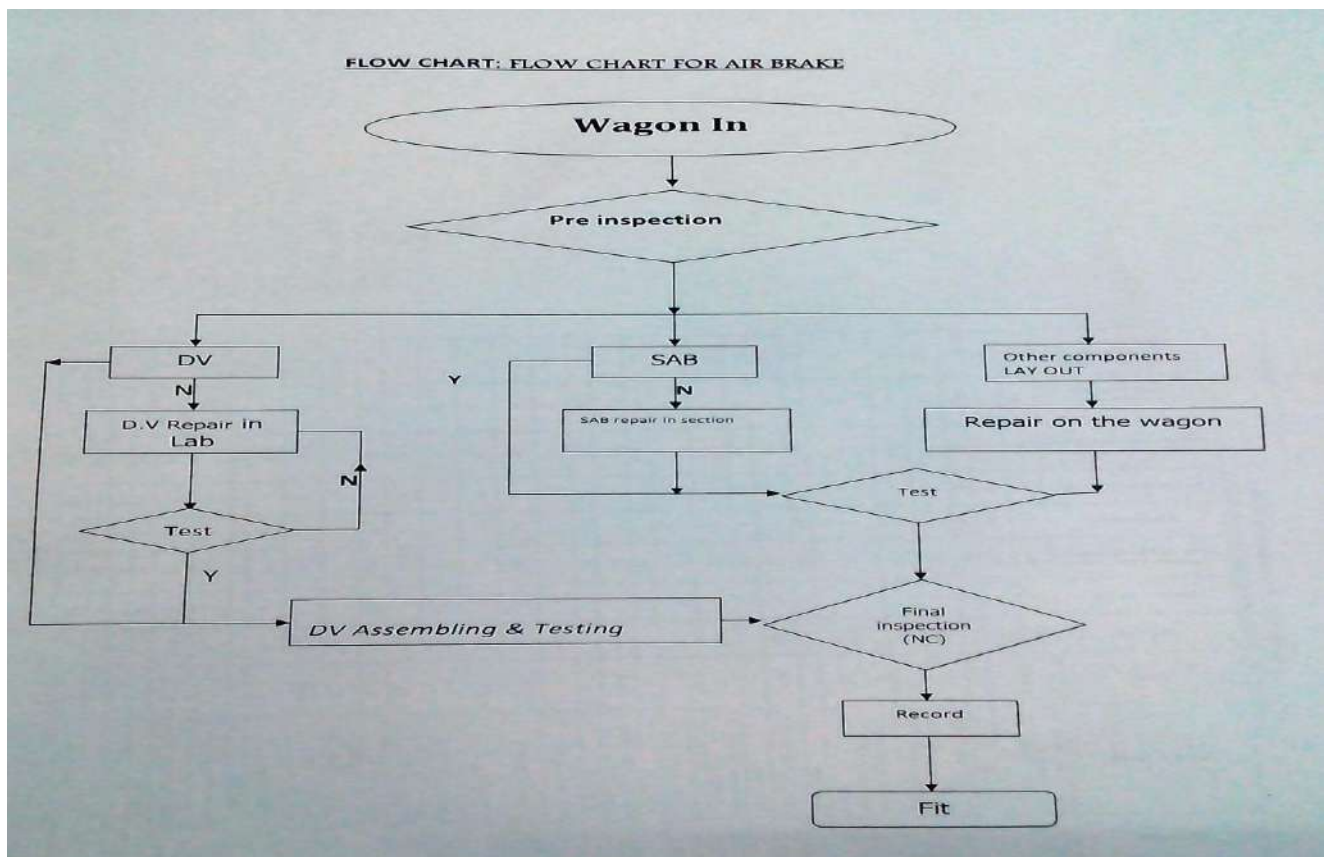


1.6 **Flow process chart of different activities being carried out in ROH DEPOT PP Yard, Bhilai :**

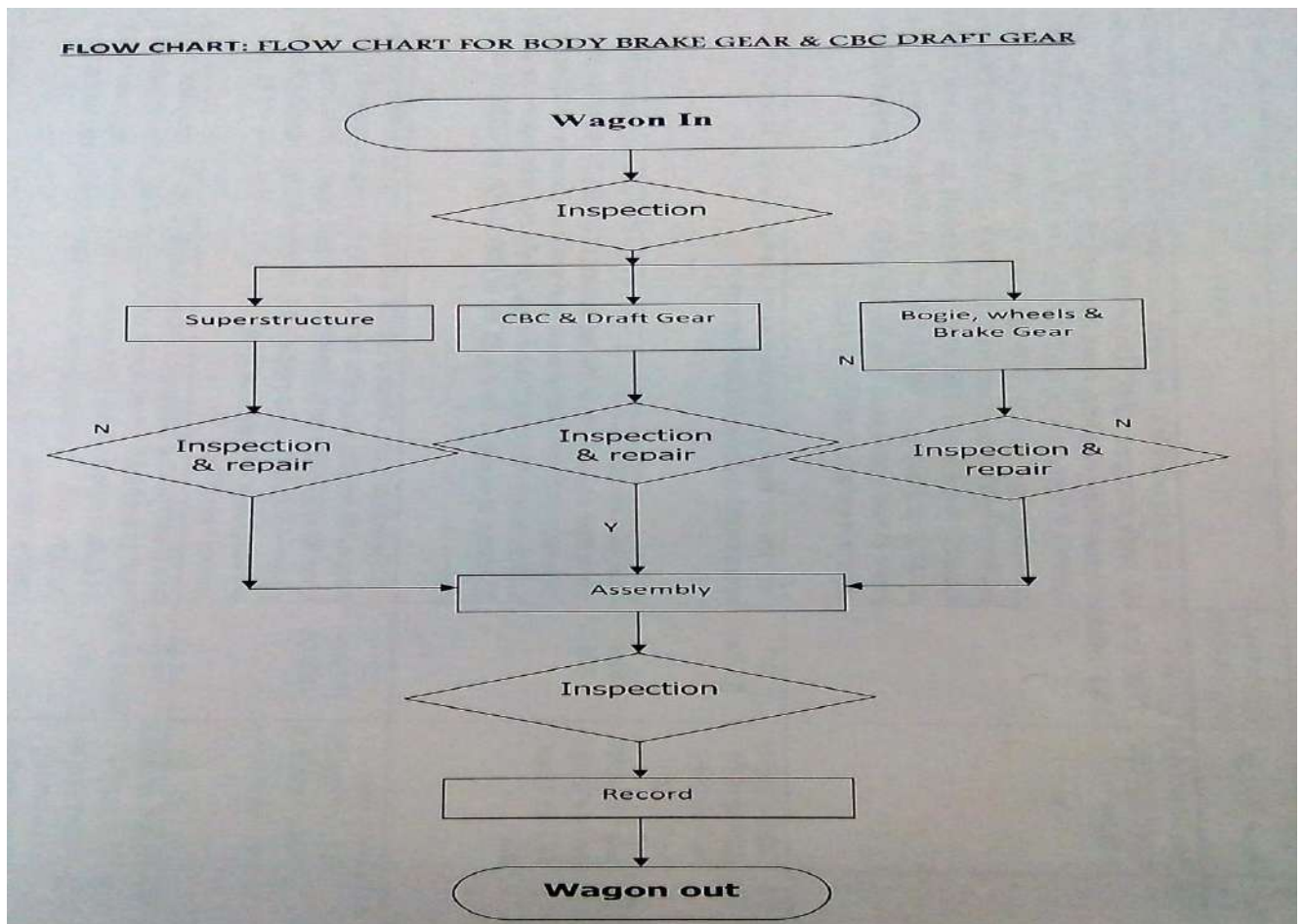
1.6.1



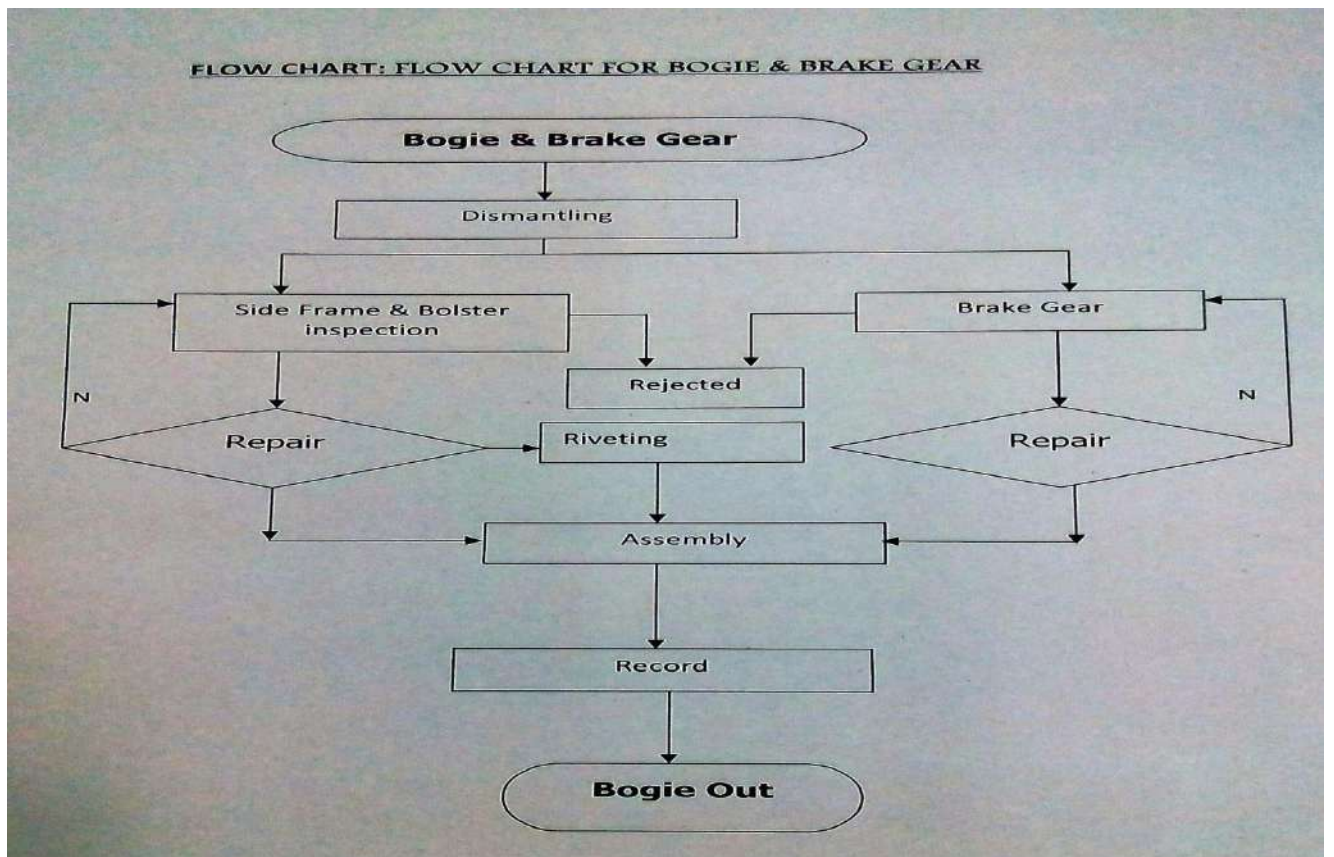
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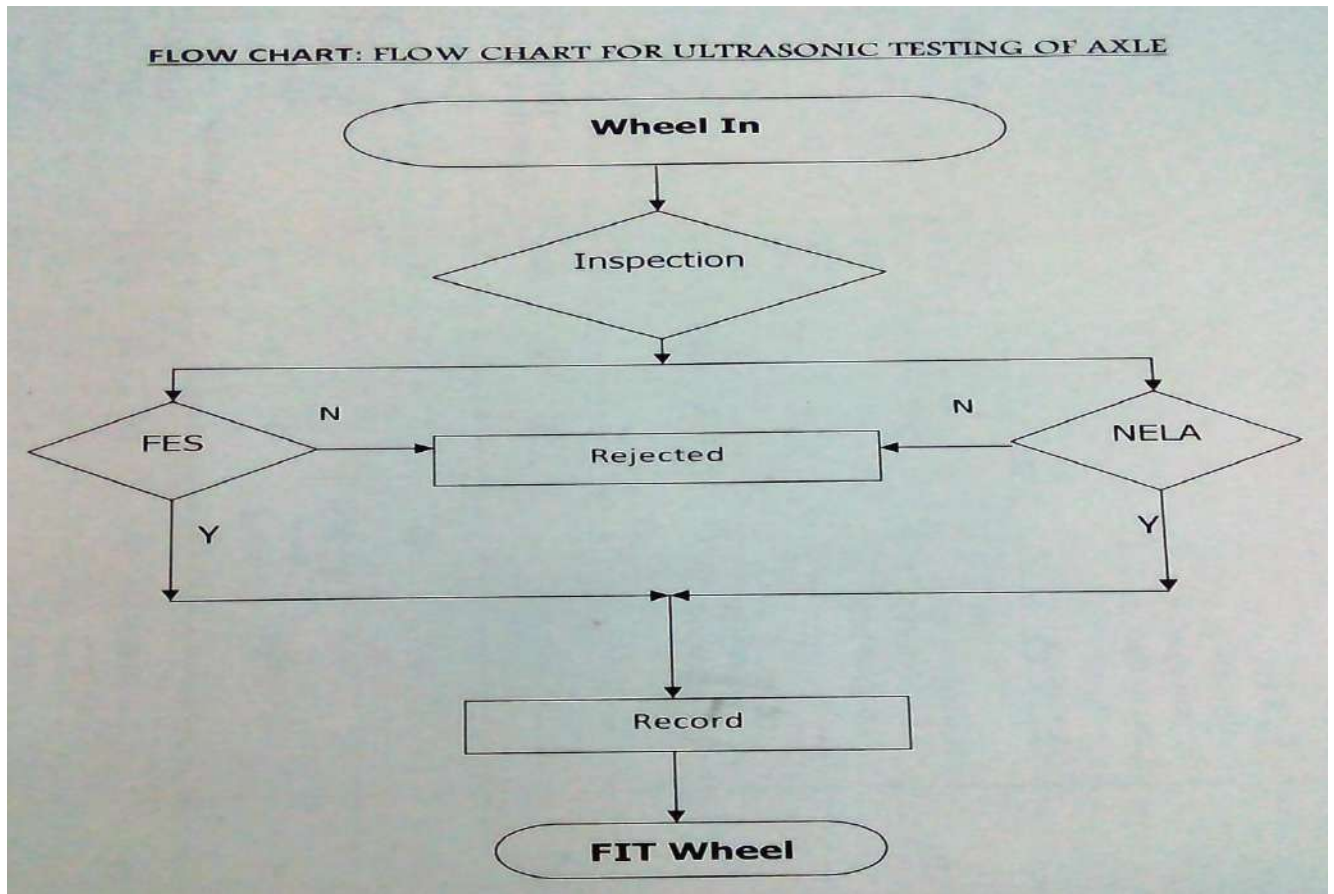
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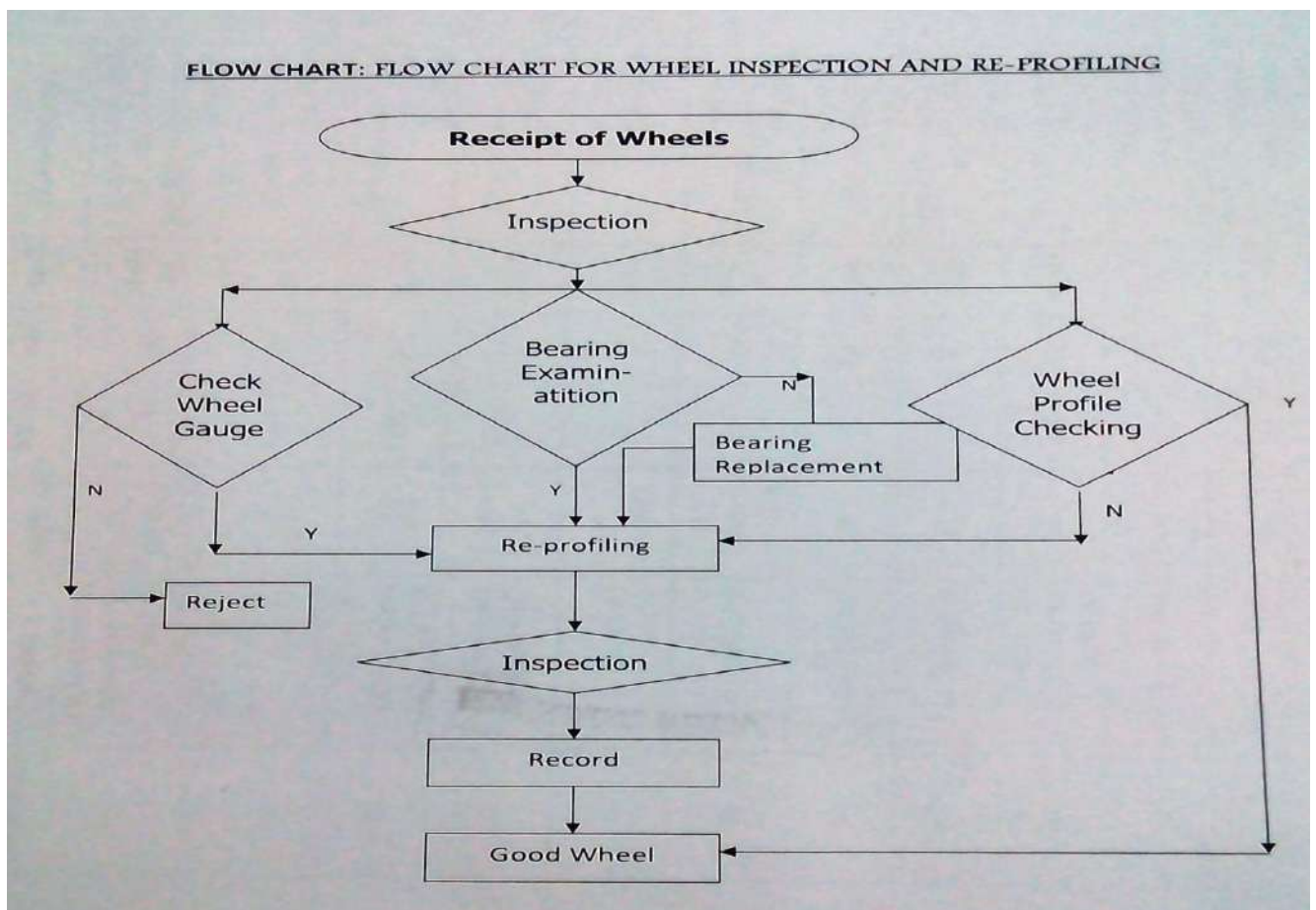
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1.6.5

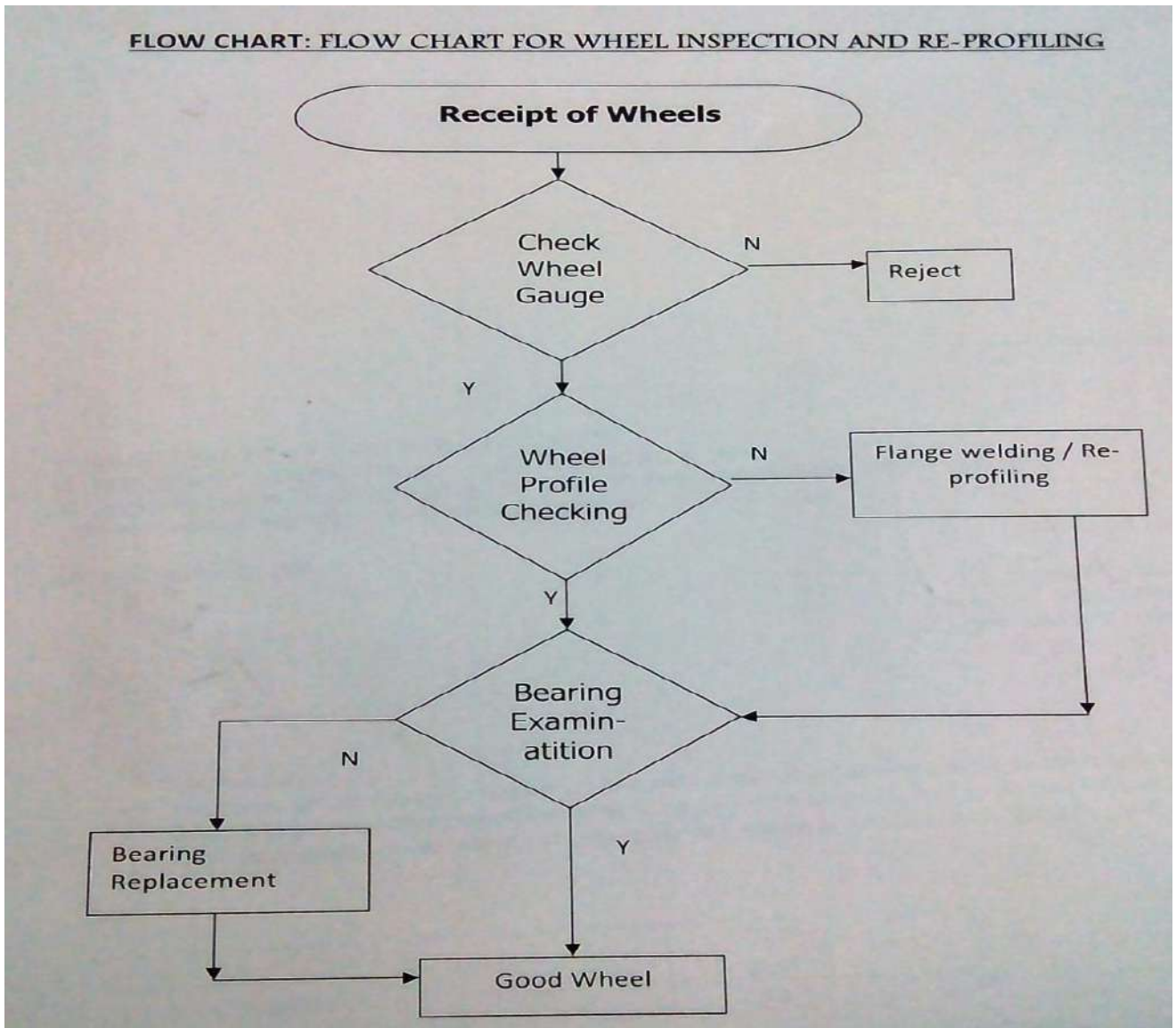


1.6.6



1.6.7

FLOW CHART: FLOW CHART FOR WHEEL INSPECTION AND RE-PROFILING



1.7 M&P POSITION AT ROH DEPOT PP YARD BHILAI AS ON 15/12/2020:

S#	DESCRIPTION OF M&P	LEDG.NO	Qty.
1	SAB TEST RACK (STONE INDIA)	M&P 1	1
2	FAX MACHUNE (HP)	M&P 2	1
3	CNC WHEEL LATHE (HYT)	M&P 3	1
4	RADIAL DRILLING MACHINE	M&P 4	1
5	WELDING PLANT (BERCO)	M&P 5	3
6	SPLIT AC	M&P 6	2
7	DESK TOP PC (KBS)	M&P 7	5
8	WELDING PLANT (TANEJA)	M&P 8	4
9	LASER PRINTER (HP)	M&P 9	3
10	ALL IN ONE DESKTOP PC (LENOVO)	M&P 11	2
11	LCD MULTI MEDIA PROJECTOR (EPSON)	M&P 12	1
12	AIR DRYER (SONITECH)	M&P 13	2
13	ALL IN ONE DESKTOP PC (LENOVO)	M&P 14	2
14	COMPRESSOR WITH MOTOR (RECD.ON CHALLAN)	M&P 15	3
15	WELDING PLANT (BERCO)	M&P 16	10
16	ALL IN ONE DESKTOP PC (LENOVO)	M&P 17	1
17	TABLET (SAMSUNG)	M&P 18	7
18	LAP TOP (ADME)	M&P 19	1
19	LAP TOP (Sr.DME SRI R V RANGA RAO)	M&P 20	1
20	FORK LIFTER TRUCK (ACE)	M&P 21	1
21	LAP TOP ASUS (Sr DME SRI SAMAR KAR)	M&P 22	1
22	ROTARY SCREW AIR COMPRESSOR (KES)300 CFM	M&P 23	1
23	ROTARY SCREW AIR COMPRESSOR (KES)500 CFM	M&P 24	1
24	PRINTER MULTIFUNCTIONAL (HP)	M&P 25	2
25	ALL IN ONE DESKTOP PC (LENOVO)	M&P 26	3
26	WELDING PLANT (TECH PRO)	M&P 27	13
27	ALL IN ONE DESKTOP PC (HP) 4 GB RAM	M&P 28	1
28	WELDING PLANT (TECH PRO)	M&P 29	5
29	WELDING PLANT (BERCO)	M&P 31	7
30	EOT CRANE (KRANE)	M&P 32	1
31	ALL IN ONE DESKTOP PC (HP)	M&P 33	1
32	BLOWER (HP)	M&P 40	1
33	BLACK SMITHI HEARTH	M&P 42	1
34	DOCUMENT BINDER	M&P 44	1
35	EOT CRANE 5 TON (REVA)	M&P 45	1
36	EOT CRANE 15 TON (GARLIC)	M&P 46	2
37	EOT CRANE 15 TON (REVA)	M&P 47	2
38	AVON PILLER JIB CRANE 3 TON	M&P 48	2
39	MONO RAIL JIB CRANE	M&P 50	1
40	HYDRAULIC PORTABLE FLOOR CRANE 1 TON	M&P 52	1
41	PROFILE CUTTING MACHINE	M&P 54	1
42	AIR DRYER	M&P 57	1
43	PADESTAL GRINDER MACHINE	M&P 68	1
44	GENERATOR PORTABLE (DIESEL)	M&P 72	1
45	HYDRAULIC PIPE BENDING MACHINE	M&P 74	1
46	HUDRAULIC PULLER	M&P 76	4
47	HYDRAULIC SCISSOR LADDER WITH PLATEFORM LIFT	M&P 80	1
48	HEC WHEEL LATHE	M&P 84	0
49	HYT WHEEL LATHE	M&P 86	0
50	MSP 455 XL CLASSIC 24 WIRE 136COLUM MATRIX PRINTER	M&P 87	2

51	LAMINATOR MACHINE	M&P	88	1
52	RO KO SHAPPING MACHINE	M&P	90	1
53	SHEARING MACHINE PEARSON HYDRAULIC GUILLOTINE	M&P	92	1
54	WATER PURIFIER MANUAL U V 250 LTR	M&P	93	3
55	RAKE TEST RIG (STONE INDIA LTD)	M&P	94	1
56	SELF CONTAINED DRINKING WATER COOLER	M&P	95	1
57	VOLTAGE STABLIZER (NEEL CONTROL BOMBAY)	M&P	98	1
58	VOLTAGE STABLIZER (DELTA)250 KVA	M&P	100	1
59	VACUM CLEANER	M&P	102	1
60	WATER PUMP MONO BLOCK 3 HP	M&P	136	2
61	PROFILE CUTTING MACHINE	M&P	138	1
62	EOT CRANE HB	M&P	140	1
63	ESSAB CUTTING MACHINE	M&P	144	2
64	BOMBAY LATHE	M&P	156	1
65	HACK SAW MACHINE	M&P	168	1
66	PHOTO COPY MACHINE (CANON)	M&P	174	1
67	DIGITAL CAMERA	M&P	178	1
68	PALLET TRUCK (GODREJ)	M&P	191	2
69	AIR COMPRESSOR ELGI	M&P	192	1
70	HAND BLOWER	M&P	197	1
71	WELDING PLANT (BERCO)	M&P	198	7
72	UPS 1 KVS	M&P	200	1
73	FABRICATED TROLLY GAS CYLEINDER TROLLY	M&P	206	11
74	ELECTRONIC WEIGHING MACHINE 150 KG CAPACITY	M&P	207	1
75	DIGITAL STILL CAMERA SONY	M&P	208	1
76	EOT CRANE (MEEKA) 5 TON	M&P	212	1
77	BATTERY OPERTATED PLATFORM TRUCK	M&P	214	1
78	AIR COMPRESSOR ELGI & GODREJ	M&P	216	2
79	WELDING PLANT AIR COOLED DIESEL DRIVEN (NAVKETAN)	M&P	219	2
80	FORK LIFTER TRUCK (GODREJ)	M&P	221	2
81	WELDING PLANT CO2	M&P	222	3
82	LOCK BOLT HYDROULIC POWER TOOL (AVDEL UK LTD)	M&P	228	1
83	SEMI ELECTRIC STACKER (GODREJ)	M&P	234	3
84	WELDING PLANT (DEYS)	M&P	236	9
85	BATTERY CHARGER 12 VOLT	M&P	240	1
86	AIR COMPRESSOR (KIRLOSKAR)	M&P	248	1
87	WELDING PLAND SINGLE PHASE (ESAB)	M&P	252	1
88	WHEEL LATHE CNC	M&P	253	1
89	AIR PLASMA CUTTING MACHINE KJELLBERG	M&P	254	3
90	HYDRAULIC POWER LOCK BOLT	M&P	256	1
91	TOOL KIT FOR FASTENING HUCK BOLTING GBP 303	M&P	257	1
92	COMBINED SHEARING PUNCHING CROPPING NOTCH.Mc	M&P	258	1
93	DESK TOP PC (KBS)	M&P	260	1
94	WELDING PLANT	M&P	266	2
95	AIR PLASMA CUTTING MACHINE KJELLBERG	M&P	268	3
96	EOT CRANE (AMT INTERNATIONAL) 15/5	M&P	270	1
97	BATTERY OPERTATED PLATFORM TRUCK	M&P	274	1
98	WELDING PLANT(BERCO)	M&P	276	1
99	WELDING PLANT (BERCO)	M&P	278	1
100	WELDING PLANT (DEYS)	M&P	280	1
101	WELDING PLANT (ADOR)	M&P	282	1
102	WELDING PLANT (INDUS)	M&P	284	1
103	DESKTOP COMPUTER WITH ACCESSARIES	M&P	286	1

104	DESKTOP COMPUTER WITH ACCESSARIES	M&P	288	1
105	DESKTOP COMPUTER WITH ACCESSARIES	M&P	290	1
106	DESKTOP COMPUTER WITH ACCESSARIES	M&P	292	1
107	ELECTRIC DRIVEN ROTARY SCREW TYPE AIR COMPRESSOR	M&P	296	1
108	FORK LIFTER TRUCKS (GODRAJ)	M&P	298	1
109	PORTABLE SINGLE OPERATED RECTIFIER (DC ARC)	M&P	300	5
110	SELF CONTAINED DRINKING WATER COOLER	M&P	301	2
111	DESKTOP COMPUTER HCL	M&P	302	1
112	DOUBLE COLUMN GUILLTOINE SHEARING MACHINE UNITED	M&P	304	1
113	BATTERY OPERTATED PLATFORM TRUCK	M&P	306	1
114	DESK TOP COJMPUTERS	M&P	308	1
115	DOT MATRIS PRINTER 455 TVS	M&P	310	2
116	DESK TOP COMPUTER (HP)	M&P	312	2
117	LASER PRINTER (HP)	M&P	314	1
118	WELDING PLANT DIESEL DRIVEN NAVKETAN	M&P	316	2
119	WELDING PLANT (BERCO)	M&P	322	6
120	WELDING PLANT (BERCO)	M&P	324	8
121	LOCK BOLT HYDROULIC POWER TOOL (AVDEL UK LTD)	M&P	326	3
122	CHAIN PULLY MANUALY OPERATED 3 TON CAP	M&P	328	1
123	BATTERY OPERTATED PLATFORM TRUCK	M&P	330	1
124	LASER JET PRINTER (HP)	M&P	332	1
125	NOSE ASSEMBLY SUITABLE FOR PLACING HUCK BOLT	M&P	333	1
126	NOSE ASSEMBLY SUITABLE FOR PLACING HUCK BOLT	M&P	334	2
127	LASER JET PRINTER (HP)	M&P	336	2
128	LASER JET PRINTER (HP)	M&P	338	1
129	LASER JET PRINTER (HP)	M&P	340	1

CHAPTER-II

2.0 OBSERVATIONS :

2.1 Staff Position: The cadre strength of ROH Depot/PP Yard/Bhilai based on data provided by the Sr. DPO Office/R & Sr. DME office/PP-Yd./BIA respectively and data collected during the course of Work Study is as under:

2.1.1 Consolidate Cadre strength of ROH Depot/PP Yard:

S#	Category	GP/Level	Sanction	Actual	Vacancy
1	Supervisor (JE/ SSE)	L-6 to L-8	47	47	00
2	Technician	L-2 to L-5	558	479	79
3	Helper	L-1	191	160	31
4	Ministerial	L-2 to L-7	11	11	00
Total			807	697	110

2.1.2 Category wise Cadre Strength of ROH Depot/PP Yard:

S#	Designation	P. B.	G.P./Level	Sanc.	Actual	Vac
Supervisor:						
1	SSE	9300-34800	4600/L-7	31	33	-02
2	SSE (EIWM)	9300-34800	4600/L-7	00	00	00
3	JE	9300-34800	4200/L-6	15	13	02
4	Staff Instructor	9300-34800	4200/L-6	00	00	00
5	Safety Counselor	9300-34800	4200/L-6	00	00	00
6	Lab. Supdt.	9300-34800	4200/L-6	01	01	00
Sub-Total				47	47	00
Artisan/ Technician :						
7	Sr. Tech. (Multi-Skilled)	9300-34800	4200/L-6	139	123	16
8	Tech. Gr.-I (Multi-Skilled)	5200-20200	2800/L-5	309	208	101
9	Tech. Gr.-II (Multi-Skilled)	5200-20200	2400/L-4	24	65	-41
10	Tech. Gr.-III (Multi-Skilled)	5200-20200	1900/L-2	84	83	01
11	Tech. Gr.-III (EIWM)	5200-20200	1900/L-2	02	00	02
Sub-Total				558	479	79
Gr.-'D' category :						
12	Helper/Peon	5200-20200	1800/L-1	191	160	26
Sub-Total				191	160	26
Ministerial Category :						
13	Ch. OS	9300-34800	4600/L-7	02	02	00
14	OS	9300-34800	4200/L-6	06	04	02
15	Sr. Clerk	9300-34800	2800/L-5	02	01	01
16	Jr. Clerk	5200-20200	1900/L-2	01	04	-03
Sub-Total				11	11	00
Grand Total				807	697	110

2.2 Working Hours of ROH/PP Yard: The Working Hours for the respective work at ROH/PP Yard / Bhilai are as under:-

S#	Shift	Timings	Location & Work	Frequency
1	P-1	22:00 - 06:00 Hrs	All Type Examination of Rakes/Trains	Monday to Sunday
2	P-2	06:00 - 14:00 Hrs.		
3	P-3	14:00 - 22:00 Hrs.		
4	General shift	08.00 - 17.00 Hrs.	Sick Line BIA (Sick repair of wagons)	

2.3	Section/Shop-wise Deployment of Staff at ROH Depot/PP Yard:
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2.3.1	Present deployment of Group-C (Technician/Helper) Staff at ROH Depot/ BIA:
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S#	Section	Working Time/Shift	Deployment of Staff		
			Per day	RG+LR	Total
1	<u>Bogie Section:</u> Riveting, Spring Grouping, Local Manufacturing of APD, Gauging, Unit making etc.	Four Shifts (08:00-17:00, 6:00-14:00, 14:00-22:00 22:00-06:00)	70	18	88
2	<u>Body Section:</u> Dealing of ROH, Sick repairs, Panel repair, NPOH repairs-B & C Categories, Heavy repairs, Wheel Changing etc., General Housekeeping and development	Three Shifts (08:00-17:00, 6:00-14:00, 16:00-00:00)	162	47	209
3	<u>Wheel Section :</u> Wheel end Cap opening, Tightening, wheel turning, Guaging, wheel movement, CTRB checking & changing etc.	Three Shifts (6:00-14:00, 14:00-22:00 22:00-06:00)	32	08	40
4	<u>UTS :</u> Ultrasonic Testing, Assistance, Cleaning Punching M/C FLT's etc.	Three Shifts (6:00-14:00, 14:00-22:00 22:00-06:00)	05	01	06
5	Machine Operators of Machine Shop like Centre Lathe, Drill, Shearing Machine, Punching M/C, FLT's etc.	Two Shifts (08:00-17:00 & 16:00-24:00)	06	02	08
6	Millwright Section (M&P Repairs) :	Two Shifts (08:00-17:00 & 16:00-24:00)	11	03	14
7	Revenue & returnable Store (Material Collection and Transportation from store other depots, Wheel & Scrap loading and unloading, issues of materials, DA/Oxy. Gas Cyl., Handling etc.)	General Shift (08:00-17:00) 7-Days Week	14	04	18
8	Peon, Chowkidar, Computer, MCDOs, Office assistance, IMS, Warranty Claims, Planning etc.	General Shift (08:00-17:00) 7-Days Week	10	03	13
9	Re-engineering, Reclamation of Door, Door mediator, Brake beam, Hand Brake Wheel & Salvage of serviceable Items from Scrap.	General Shift (08:00-17:00) 7-Days Week	07	02	09
10	Sports/Outstation Duty (1/2=3)		00	00	03
11	Airbrake including SAB & DV Sections, Testing and repair of wagons & Airbrake Items	Two Shifts (08:00-17:00 & 16:00-24:00)	33	09	42
Total					450

2.3.2 Present deployment of Group-C (except Supervisor) & Gr.-'D' Staff at Yard:

S#	Section	Deployment of Staff			
		Per Shift	Per Day	RG+LR	Total
1	Examination of Rakes Empty Yard in 03 Shifts	Three Shifts with 2 Gangs in each Shift (06:00-14:00, 14:00-22:00, 22:00-06:00)	71	28	135
2	Examination of Rakes in three Shifts with 01 Gang in each Shift at FM Yard	Three Shifts with 1 Gang in each Shift (06:00-14:00, 14:00-22:00, 22:00-06:00) in 22:00-06:00 only 3-Days working.	36		
3	Brake Power issue and Air pressure continuity at Coal Empty yard & FM Yard	Three Shifts with 1 Gang in each Shift (06:00-14:00 & 14:00-22:00) in 22:00-06:00 only 03 days working.	16	07	32
4	Incoming Train examination at Coal Load Yard including Rolling in , Axle Box filling , Air Hose Uncoupling and realizing etc.	Three Shifts with 1 Gang in each Shift (06:00-14:00 & 14:00-22:00) in 22:00-06:00 only 03 days working.	09		
5	Miscellaneous including Tool Room, Housekeeping, Scrap collection and disposal, Material Transportation from Store etc.	In all Shift at Tool Room & other activities are being carried out in day shift only.	5	2	7
6	Ancillary Like SPA, TA, Recorder, Painter etc.	In each Shift (06:00-14:00, 14:00-22:00, 22:00-06:00)	12	3	15
Total					189

2.3.3 Present deployment of Supervisor Staff at ROH Depot:

Activities details				Actual deployment
Section	S#	Descriptions	Shift	
		General In charge		01
A. Sick Line	1	Sick Line In charge for Co-ordination of all activities of Sick Line	P-2	01
	2	ROH including W/C, T/C, Under gear repairs 01 each in Shifts.	P-3	01
			P-2	01
	3	Sick repair including Panel work, welding and other repairs one in each Shifts	P-3	01
			P-2	01
	4	NPOH B & C Category Heavy repair in day Shift	P-2	01
	5	Panel repair in 2 shifts	P-2	01
			P-3	00
B. Bogie Section	6	Air Brake including SWT and other repairs, SAB Sections, DV Section one in each Shifts.	P-2	01
			P-3	00
	7	Housekeeping, scrap disposal, local manufacturing etc.		00
	8	Testing of CBC coupler, Knuckle and AMM's supplied item as TI.		00
C. Machine shop		Bogie Section In charge		01
		Bogie repairs one in each Shift (3 shifts)		02
	1	In charge of Machine Shop operation, Bearing Section, Wheel management Section		01
	2	M & P Maintenance		01
	3	Operation of wheel lathe, Bearing Section, Wheel		00

		Section, Gauging & inspection of Wheels		
D. UST Section	1	Lab superintendent		01
	2	UST operations		03
E.		Store management and material and chasing of NS requisitions, RS Section		02
F.	1	Integrated Management System		00
G.	1	Tender, Contract Billing, Planning, Computer Section, Technical Warranty claims		02
H.		Training Centre		00
I. Yard	1	In charge of yard including Empty and Load Yard		01
	2	3 Gangs in each Shift x3 shifts at Empty Yard		09
	3	In charge of FM Yard		01
	4	1 Gang in each shift x 3 shift in Load Yard		03
	5	1 supervisor in each Shift in Load Yard		00
Total				36
RG				06
LR				05
Misc./ Trainee reserve				00
Total				47

2.3.4 Present deployment of Ministerial Staff (Group-C & Gr.-'D') at ROH Depot, BIA:

S#	Section /Activities	Desgn.	No. of Staff
1	Office In-charge including Establishment Section, D&A, Receipt and Dispatch etc.	Ch. OS	01
2	Establishment Section for Supervisors, Technicians, Helpers, Clerks for preparing Muster Roll, TA, NDA, leave posting, staff dealing etc.	Ch. OS, OS	02
3	Maintenance of Returnable Store of CS items, Machinery items, TP items, Dead Stock Items, Stationary Items, History Sheets, and Uniform Items.	Jr. Clerks	02
4	Entire Stores Section for Stock Items, non Stock items, Local made/released item, Accountal of Bogies and Wheels etc. Mix scrap disposal. Daily Issues, deposits, Challans, R-notes, Adj.- Memos etc.	OS, Sr. Clerk, Jr. Clerk.	03
5	Pass Section, Quarter allotments etc.	OS	01
6	Cash imprest of Sr. DME and SSE Yard, Steel turning boring disposal approximate 350 MT.	OS	01
7	Dealing of Industrial Gases Oxygen, DA and CO2 Gases	OS	01
Total			11

2.4 Workload:
Outturn Position of Wagon ROH & Sick Repair at ROH Depot/Bhilai during last 02 years (2019 & 2020):

Month	No. of Wagon ROH		Sick Repair of wagons	
	2019	2020 (upto October)	2019	2020 (upto October)
January	745	800	398	426
February	683	752	348	418
March	724	605	364	498
April	719	239	388	541
May	747	574	395	444
June	723	769	363	396
July	738	798	419	432
August	772	794	370	440
September	747	750	377	436
October	783	810	378	430
November	753		397	
December	802		426	
Total	8936	6891	4623	4025
Avg. / Month	745	689	385	335
Avg. / day	25	23	13	11

2.5 Outturn Position of NPOH Sick Repair at ROH Depot/Bhilai during last 02 years (2019 & 2020):

Month	Sick Repair of wagons (NPOH) 2019		Sick Repair of wagons (NPOH) 2020	
	NPOH-B category	NPOH-C category	NPOH-B category	NPOH-C category
January	116	95	120	92
February	96	80	119	91
March	87	70	99	79
April	105	79	119	44
May	114	75	105	62
June	90	82	123	76
July	102	89	129	107
August	85	82	111	95
September	101	85	132	131
October	94	78	134	133
November	125	108	0	0
December	120	73	0	0
Total	1235	996	1191	910
Avg. / Month	103	83	100	76
Avg. / day	04	03	04	03

2.6 Out turn Position of Yard Performance (Train Examination) of PP Yard/BIA during last 02 years (2019& 2020):

Month	2019				2020 (upto October)			
	CC Rake	PEE Rake	Rev Rake	Continuity	CC Rake	PEE Rake	Rev Rake	Continuity
January	132	172	46	74	94	175	105	81
February	127	143	64	70	85	184	102	66
March	128	155	57	94	93	182	134	70
April	122	158	63	81	87	120	137	43
May	119	186	58	85	119	76	110	39
June	112	181	48	86	122	76	67	86
July	112	176	53	82	129	83	33	54
August	105	171	26	101	133	66	29	95
September	87	147	25	114	121	91	37	62
October	96	186	42	88	116	136	61	53
November	104	179	66	74				
December	88	212	66	57				
Total	1332	2066	614	1006	1099	1189	815	649
Grand Total	5018				3752			
Avg. / Month	418				375			
Avg. Trains Examination Per Day	14				12.5			

2.7 Position of Outsourcing Activities:

S#	Name of Work	Date of commence	Date of completion	Contract Value (Rs.)
1	Retro-Fitment of Twin Pipe Brake system on 1500 BOXNHL Wagon.	03-06-2016	31-10-2020	258.44 Lakhs
2	Retro-Fitment of Twin Pipe Air Brake System on 10000 Wagons through open Tender.	18-02-2019	17-08-2021	2,444.80 Lakhs
3	Comprehensive of CNC surface Wheel Lathe Machine (SWL-64) at SSE/PP Yard/BIA through OEM for a period of five years.	20-10-2019	19-10-2024	198.66 Lakhs
4	Comprehensive Annual Maintenance Contract of CNC surface Wheel Lathe Machine (SWL-111) under SSE/C&W/PP Yard BIA.	10-02-2017	09-02-2022	99.64 Lakhs
5	Hiring of one 12T Truck for Transportation of Railway Materials for maintaining of Rolling Stock for ROH Depot, PP Yard /Bhilai for a period of Three years.	15-07-20	14-07-23	26.17 Lakhs
6	Outsourcing of Non-core Activities at ROH Depot /Bhilai for a period of 02 Years	03.11.18	02-11-20	89.60 Lakhs
7	Outsourcing of welding repair activities in ROH Section of ROH Depot/PP Yd/BIA for Two Years	03-04-19	02-04-21	144.83 Lakhs

8	Hiring of 01 number Non-AC Road Vehicle for Official use of Sr. DME/PP Yard/BIA for a period of two years.	11-05-20	10-05-22	7.28 Lakhs
9	Un-loadable repair of C- Category at PP Yard, Bhilai by cutting & welding in running length of Wagon Super structure components.	21-01-20	20-01-22	34.50 Lakhs
10	Comprehensive AMC of 02 nos. Electric Driven Rotary Screw Air Compressor Model LS20-125 HH AC SILL for 03 Years for PP yard Bhilai through OEM/ authorized Dealer.	25-09-19	24-09-22	25.34 Lakhs
11	Hiring of Two Nos. of Diesel operated 3T Fork Lifter along with Operators at ROH Depot, PP Yard, Bhilai for a period of 02 Years through open Tender basis	01-06-20	31-05-22	25.34 Lakhs
12	Hiring of Truck for Transportation of wheel sets for CTRB repair from ROH Depot PP Yard/ Bhilai to WRS/Raipur and Vice-Versa by Road Transport for a period of 02 years.	07-07-20	31.05-22	86.01 Lakhs
13	Hiring of 04 nos. Battery operated Platform Truck (BOPT) four wheeler 2T Capacity for Coal Empty Yard/Bhilai for a period of 03 years.	27-07-20	26-07-23	44.21 Lakhs
14	CAMC (Comprehensive Annual Maintenance Contract) of 09 nos. EOT Cranes of Mechanical (C&W) of Raipur Division through open Tender for a period of Two Years.	18.08.20	17-08-22	94.87 Lakhs
15	On Train repair of unloadable Wagons in Coal Empty & FM Yard at PP Yard Bhilai for a period of 02 Years.	23-04-18	31-07-20	57.50 Lakhs

CHAPTER-III

3.0 CRITICAL ANALYSIS & RECOMMENDATIONS:

The actual staff strength of ROH Depot/PP Yard/Bhilai is 697 against the sanctioned strength of 807 as on 01.11.2020 and 110 posts are lying vacant. The requirement of staff has been assessed based on the present workload, outsourcing activities (existing & proposed), Multi-skilling concept and discussions held with Supervisors.

It is evident that Capital & labour are the basic factor of an organization and thereof human resource is one of the most indispensable assets of the organization. Continuous updating & designing of job descriptions, reduction of number of Categories for job enrichment through Multi-skilling, training and responsibilities are need of the time. Therefore, rightsizing of Manpower substantially optimizes a system to work with high economy and with more productivity.

In view of above, it is need of the hour that human resources should be utilised effectively to cater the existing work load and it is the prime responsibility of the Management to do so, especially for an organization like Indian Railway which employs more than any other organization under single Management.

3.1. Section-wise assessment of Requirement of staff strength at ROH Depot/PP Yard/Bhilai:

ROH DEPOT/PP Yard, Bhilai mainly deals with Routine Overhauling (ROH) & Sick Repairs of Wagon including examination/maintenance of Air Brake stock of BOXN/BOXNHL/BOXNHL (MBS) wagons to provide trouble-free maintenance service for freight stock originating from Raipur division/SEC Railway along with continual effort to achieve full customer satisfaction. The ROH depot and sick line attached to PP Yard along with Coal Empty Yard which carries out PME, PEE and Continuity examination.

The Section/shop-wise requirement of Staff strength is worked out as under:

3.1.1 BOGIE SECTION:

At present 92 staff (SSE/JE-04, Tech./Helper-88) are working in Bogie section to carry out various activities related with maintenance of Bogie parts of the Wagon i.e. Bogie overhauling, trolley repair, riveting, spring grouping, Bogie gauging, unit combination, APD making, material supply, record keeping and other misc. work. The staff are deployed in 03 shifts as per work load. An average of 24 wagons Bogie per day is attended for overhauling. Based on existing workload and discussion with Supervisor, the requirement of staff is assessed as under:

Shift	Existing deployment of avg. no. of staff for Bogie overhauling		Proposed deployment of staff for Bogie overhauling	
	Sup.	Technician/Helper	Sup.	Technician/Helper
Shift-I	01	20	01	24
Shift-II	01	37	01	41
shift-III	01	20	01	24
In-charge	00	00	00	00
Total	03	77	03	89
RG/LR	01	11	01	21
Total	04	88	04	110

Considering the various steps of repairing Bogie's components, it proposed that 22 staff are proposed additionally for smooth working of Bogie section and meet the target.

Thus, need based requirement of staff for Bogie Section comes to 114 Staff (SSE/JE-04, Tech./Helper-110) against present deployment of 92.

3.1.2

ROH Section/Sick Line (Body Section):

Presently 220 Staff (SSE/JE-11, Tech./Helper-209) are working in this section to carry out Routine overhauling & sick repair activities of wagons in Day & Night Shifts. ROH activities are mainly performed on Sick Lines with the help of group of Staff assigned for various activities which include examination of Wagons to detect defects, uncoupling of Brake Gear of ROH Wagon, placement of Wagons on Tussles, replacement of Bogie & Wheels, repairing of body, replacement of Brake Gear, replacement of CBC & draw Gear, all necessary repairing work is done, coupling of Brake Gear and finally SWTR (Single Wagon Test Rig) is done. An average of 24 wagons per day is attended for ROH and avg. 15 sick wagons per day are repaired. The staff are deployed Gang-wise in 03 shifts as per work load. Based on existing workload and discussion with Supervisor, the activity-wise requirement of staff is assessed as under:

Activity	Existing deployment of avg. no. of staff for Wagon ROH/sick repair		Proposed deployment of staff for ROH/sick repair	
	Sup.	Technician/Helper	Sup.	Technician/Helper
Day shift:				
ROH Gang (04 Gang)	01	08x04=32	01	08x04=32
Sick repair Gang (01 Gang)	01	08x1=08	01	08x1=08
Wheel change (02 Gang)	01	09x2=18	01	09x2=18
Knuckle replacement (01 Gang)		04x01=04		04x01=04
Load Empty Gang (01 Gang)		02x1=02		02x1=02
Riveting Gang (01 Gang)		05x1=05		05x1=05
Body bulged Gang (01 Gang)		04x01=04		04x01=04
Painting Gang (01 Gang)		04x01=04		04x01=04
Local manufacturing Gang (01 gang)		05x1=05		05x1=05
Heavy repair work (01 gang)	01	07x1=07	01	07x1=07
Body panel repair gang (07 Gang)	01	03x7=21	01	03x7=21
Repairing of Solebar, Crossbar, Body pillars, Head stock, welding etc. (06 Gang)		02x06=12		02x06=12
Smithy Gang (01 Gang)		03x1=03		03x1=03

Record keeping & maintenance of various registers		06		06
Night shift:				
ROH Gang (04 Gang)	01	03x04=12	01	05x04=20
Wheel changing Gang (01 Gang)		09x1=09		09x1=09
Riveting Gang (01 Gang)		04x1=04		04x1=04
Door changing		05x2=10		05x2=10
Sick repair Gang (01 Gang)	01	06x1=06	01	06x1=06
In-charge	01	00	01	00
Total	08	172	08	180
RG/LR	03	37	03	43
Total	11	209	11	223

Considering the various steps of Routine overhauling and sick repair of wagons, a Special Gang of 14 Staff is proposed additionally which may be utilized as per requirement and achieve the target.

Thus, need based requirement of staff for ROH Section/Sick Line comes to 234 Staff (SSE/JE-11, Tech./Helper-223) against present deployment of 220.

Work Study Team suggests considering non-core activity that Painting & stenciling activity of wagons should be outsourced which will be monetary beneficial vis-à-vis present system.

3.1.3 Wheel Section/UST/Machine Shop:

Presently 62 Staff (SSE/JE-08, Tech./Helper-54) are working in this section to carry out the maintenance work related to Wheel, US testing & Machine Shop. An average of 130 Wheels per day are repaired. The staff are deployed in 03 shifts as per work load. Based on existing workload and discussion with Supervisor, the activity-wise requirement of staff is assessed as under:

Activity	Existing deployment of avg. no. of staff for Bogie overhauling		Proposed deployment of staff for Bogie overhauling	
	Sup.	Technician/Helper	Sup.	Technician/Helper
Wheel movement work (03 shifts)	-	05x03=15	-	05x03=15
Wheel Lathe Machine (03 shifts)		03x3=09		03x3=09
Centre Lathe Machine (01 shift)		01x1=01		01x1=01
Drilling work (01 shift)		01x1=01		01x1=01
Sheet cutting work (02 shift)		01x2=02		01x2=02

Axle & Cap opening & tightening work (03 shifts)		02x3=06		02x3=06
US testing work (03 shifts)		03x3=09		03x3=09
CTRB changing work (01 shift)		04x1=04		04x1=04
Record keeping & Data feeding		02		02
In-charge	01		01	00
P-1	01		01	
P-2	02		02	
P-3	02		02	
Total	06	49	06	49
RG/LR	02	05	02	11
Total	08	54	08	60

Thus, need based requirement of staff for Wheel Section/UST/Machine Shop comes to 68 Staff (SSE/JE-08, Tech./Helper-60) against present deployment of 62.

Considering non-core activity, Work Study Team suggests that Wheel movement work can be outsourced which will be monetary beneficial vis-à-vis present system.

3.1.4 Millwright Section (M&P Repairs):

At present 15 staff (SSE-01, Technician/Helper-14) are working in Mill Wright section. Staff of this section deals with repairing & maintenance of machine & plants/ EOT cranes/Road crane/Truck, Breakdown attending etc. The staff are deployed in 02 shifts as per work load. About 120 M&P items are repaired and maintained.

Considering existing workload, present deployment of 15 staff in Millwright section is sufficient and justified.

3.1.5 AIR-BRAKE:

At present, 43 Staff [01-JE, 42-Tech/Helpr.] are working to carry out the repairing & replacement work of components of air Brake system of Wagons in different Shift (P1,P2 & P3). Based on existing workload and discussion with Supervisor, the activity-wise requirement of staff is assessed as under:

S#	Work Description	Distribution of Staff	Shift wise Staff	
			P1/P2	P3
1	Supervising & Monitoring work	01 JE	01	00
2	Testing ROH or Sick Wagon and after testing all the repairs like Train Pipe change, DV change , Branch pipe and other Air Brake equipments change or repairs	Examination Gang (02 in P1/P2 shift & 01 n P3 Shift @ 5 staff)	10	05
3	After repairing & coupled Wagons, Single Wagon Test Carried out.	02 Staff @ Shift	02	02
4	DV repairing & overhauling and testing in Test Bench which consists of Dismantling & assembling kind of working.	04 Staff @ day Shift	04	00
5	Brake Cylinder overhauling of ROH wagons & repairing.	02 Staff @ day Shift	02	00
6	Changing defective & leakage angle cock & Air house and its APDs	02 Staff @ day Shift	02	00
7	Repairing and overhauling of defective angle cock and isolating cock.	02 Staff @ day Shift	02	00
8	100% over hauling of all the ROH Wagons and Clean AR chambers	03 Staff @ day Shift	03	00
9	Repairing & Overhauling (SAB)	03 Staff @ day Shift	03	00
10	Documentation of all the relevant records & data.	02 Staff @ day Shift	02	00
11	Welding of all the APDs , Safety Brackets and Air – Brake pipe Nozzels	01 Staff @ day Shift	02	00
12	To operate Compressor	01 Staff @ day Shift	01	00
13	MBS Brake Cylinder Overhauling, AR Chamber Strap making and other Air Brake related work	02 Staff @ day Shift	02	00
Sub Total			36	7
Total			43	

In addition to above, BMBC Overhauling & BMBC Census + Fitting Breather Plug works have been newly added to this Section and 3 to 4 Staff are needed to deal these work and the required staff are managed by Staff pulling approach from the group of Staff who are already been engaged in other assigned activities. At the same time, it is also observed that the overall Outturn has also been increased causing difficult to manage the requirement of manpower.

Keeping the above facts in view, Study Team assessed that 04 more Staff (Technicians/Helpers) should be deployed to cope up the work load smoothly and some of the activities such as Welding & cleaning work can be outsourced which are being carried out in Air Brake Shop.

Thus, it is proposed that total 47 Staff [01-JE, 46-Tec./Helper] should be deployed instead of present deployment of 43 Staff to carry out all the activities related to this Section smoothly.

3.1.6 **RETURN STOCK Section:**

At present, 09 Staff [01-SSE+04 / Helpers. + 04 Clerical staff] are deployed to deal with Accountal and disposal of Scrap materials. Besides that, these staff are also involved in preparation of NSR & M&P spares, contractual File of Outsourced Canteen management, purchase & maintenance of local purchase & maintenance of Dead Stock of ROH Depot. Details of works/activities being dealt by this Section are as under :

S#	Category	No. of Staff	Work description
1	SSE	01	Works as overall in charge of this Section and deals with monitoring of arising & disposal of STB Scrap, preparation of NSR, M&P spares & work order, calibration of gauges of PP-Yard, innovation & technical renovation at PP Yard, reclamation of over consumed un-serviceable items, maintaining of Assets Register, Contractual File of Outsourcing management Staff canteen, condemnation of over aged M & P/unserviceable T&P/Furniture items, procurement of new M&P/T&P/Furniture, maintenance of Water filters/Coolers/Purifiers and also deals with Staff welfare activities along with any other work assigned by Sr. DME, DME & SSE(G) of ROH Depot PP Yard/BIA.
2	Jr. Clerk	01	Deals with Accountal of T&P/M&P items and their issue & condemnation, preparation of yearly demand of Oxygen/D&A/CO2/MCG, making process of for all types bill for M&P/T&P and Work Order, preparation of challan for STB Scrab and Accountal disposal of the same, Accountal of all materials under contract work, disposal of the same, Accountal of all materials under contract work, disposal of unserviceable T&P/M&P items through advice Note and other miscellaneous work as & when assigned.
		01	Deals with Cash Imprest of Sr. DME & SSE/PP Yard/BIA, Budgeting, submission & chasing of both imprest, preparation of yearly forecast demand of Stationary Imperest material & its Accountal, Accountal, purchase & maintaining all local purchase of Stationary materials for the Depot, Accountal , Accountal, collection & distribution of privilege material of officers, supervisors & n staff which are stocked at GSD/R, maintenance of Dead Stock materials under ROH Depot , maintenance & Accountal of renovated Canteen materials , disposal of unserviceable stock items through Advice Note, performing work as coordinator of Canteen committee, looking after the operation Library and other miscellaneous work as & when assigned.
		01	Deployed for Accountal and maintenance of Stock materials under RS Section, preparation of Stock requisition of Stock items, Accountal & maintenance of CS/LPCS/Clothing /M&P items, maintenance of non Stock purchase items, disposal of unserviceable Stock items through Advice note.
3	Technicians	01	Deals with distribution of Oxygen & DA Gas cylinder, maintaining of their distribution account , preparation of received & return challan from Store department 7 other miscellaneous work.
		01	Deals with distribution of Safety materials under RS Section, maintaining of their distribution account, assists in distribution of materials under RS Section
		01	Deals with distribution of CS/LPCS and parts of M&P items , maintaining of their distribution account & assists Clerical staff
		01	Deals with distribution of Oxygen & DA Gas cylinder, maintaining of their distribution account, preparation of return & received challans/Stock requisition of both Gases, Data entry work in c computer and related correspondence work.

	01	Deals with distribution of Oxygen & DA Gas cylinder, provides assistance to his Senior staff and carry out Data entry work in computer.
Total	09	

Thus, keeping the smooth working in view, it is proposed that total 10 staff [01-SSE+04 Clerical staff + 05 Tech./Helpers] should be deployed instead of existing deployment of 09 Staff in RS Section.

3.1.7 PP Yard (Train Examination):

At present 207 staff (SSE/JE-17, Technician/Helper-189, Ministerial-01) are working in PP Yard for examination of Freight trains. There are 03 yards under PP yard namely Coal Empty yard, Freight Maintenance yard & Load yard. An average of 13 incoming Empty BOXN/BOXNHL Rakes/trains are examined in CE yard & FM yard per day and an average of 08 incoming Load Rakes/trains are examined in Load yard per day. Normally Time allowed for examination of Empty rake / Revalidation of rake is 3.00 Hrs and Continuity test of train is 1.00 Hrs. Out of 207 staff, 01 SSE is working as In-charge/ Yard, 93 staff are deployed in Coal Empty yard, 42 staff deployed in Freight Maintenance yard, 13 staff deployed in Load yard, 04 staff in Tool Room, 02 staff in Painting Batch, 11 staff in Air Brake Testing Batch, 05 staff in Material handling Batch, 04 staff in SPA Batch, 10 staff in Yard office and 24 staff utilised as Special Gang.

The requirement of staff for Coal Empty yard, FM Yard, Load yard & Yard office is assessed as under:

(A) Coal Empty (CE) Yard:

At present 93 staff are deployed in Coal Empty yard. Staff of this section deals with examination of Empty BOXN/BOXNHL trains and sick wagon repair. There are 8 Lines in Coal Empty yard. Out of 8 Lines L-1 to 6 are utilised for examination of empty rakes received from Main Line, BSPC & NSPCL and Siding line -1 & 2 utilised for keeping of sick wagons & Fit wagons. The staff are deployed in 03 shifts (02 Gangs in each shift) as per work load.

Shift	Existing distribution of avg. no. of staff for examination of rakes/trains			Proposed distribution of staff for examination of rakes/trains		
	Sup.	Technician	Helper	Sup.	Technician	Helper
Shift-I (Two Gangs)	01x2=02	06x2=12	06x2=12	01x2=02	07x2=14	06x2=12
Shift-II (Two Gangs)	01x2=02	06x2=12	06x2=12	01x2=02	07x2=14	06x2=12
Shift-III (Two Gangs)	01x2=02	06x2=12	06x2=12	01x2=02	07x2=14	06x2=12
In-charge/ CE Yard	01	00	00	01	00	00
Total	07	36	36	07	42	36
RG+LR	02	06	06	02	13	11
Total	09	42	42	09	55	47

Thus, the requirement of staff for examination of rakes in Coal Empty Yard comes to 111 (09 Supervisor + 55 Technician + 47 Helper) against existing deployment of 93 staff. Hence, 18 more staff are proposed.

Work Study Team suggests considering non-core activity that Door closing activity of wagons in PP Yard/BIA should be outsourced which will be monetary beneficial vis-à-vis present system.

During discussions held with Supervisors/staff, it is revealed that Door closing activity of wagons had been outsourced for 03 months (i.e. September'2016-December'2016) in PP Yard on experimental basis which was successful. But presently this activity is done by C&W staff in yard and average 04 staff per shift are being utilised for Door closing of wagons. Thus 16 staff (4x3 shifts+4 RG/LR =16 Technician/Helper) would be surplus after outsourcing of Door closing activity of wagons which can be utilised for examination of trains or routine overhauling work as per requirement.

(B) Freight Maintenance (FM) Yard:

At present 42 staff are deployed in FM yard. Staff of this section deals with examination of Empty BOXN/BOXNHL trains and sick wagon repair. There are 3 Lines in FM yard. FM Line-1 to 3 are utilised for examination of empty rakes received from Main Line, BSPCL & NSPCL. Presently staff are deployed in 02 shifts (01 Gang in 6-14 Hrs. shift & 01 Gang in 14-22 Hrs. shift) in FM yard and Rest is provided on Saturday & Sunday respectively.

Shift	Existing distribution of avg. no. of staff for examination of rakes/trains			Proposed distribution of staff for examination of rakes/trains		
	Sup.	Technician	Helper	Sup.	Technician	Helper
Shift-I	01	06	06	01	06	06
Shift-II	01	06	06	01	06	06
shift-III	01	06	06	01	06	06
In-charge/ FM Yard	01	00	00	01	00	00
Total	04	18	18	04	18	18
RG+LR	-	01	01	01	05	05
Total	04	19	19	05	23	23

Thus, the requirement of staff for examination of rakes in FM Yard comes to 51 (05 Supervisor + 23 Technician + 23 Helper) against existing deployment of 42 staff. Hence, 09 more staff are proposed.

(C) Load Yard:

At present 13 staff are deployed in Load yard. Staff of this section deals with Rolling-in examination, Axle Box filling, Releasing, uncouple of pipes of incoming load rakes/trains for BSPCL. There are 7 Lines in Load yard. Presently staff are deployed in 03 shifts in Load yard.

Shift	Existing distribution of avg. no. of staff for examination of rakes/trains			Proposed distribution of staff for examination of rakes/trains		
	Sup.	Technician	Helper	Sup.	Technician	Helper
Shift-I	-	02	01	-	02	01
Shift-II	-	02	01	-	02	01
shift-III	-	02	01	-	02	01
In-charge/ Load Yard	01	00	00	01	00	-
Total	01	06	03	01	06	03
RG+LR	00	02	01	00	02	01
Total	01	08	04	01	08	04

Thus, the requirement of staff for examination of rakes in Load Yard comes to 13 (02 Supervisor + 12 Technician)/Helper) against existing deployment of 13 staff.

(D) Air Brake Testing section:

At present 11 staff (Tech.) are deputed for Air brake testing of wagons, repairs of brake cylinder, angle cock, coupling and maintenance of records. The deployment of staff for Air Brake testing is 03 staff x 03 shift = 09 + 02 RG/LR = 11.

Considering the existing workload, existing deployment of 11 staff are sufficient.

(E) Tool Room:

At present 04 staff (Technician) are working in Tool Room. Staff of this section deals with receipt & issue of tools & equipments to staff. The deployment of staff for Tools Store is 01 staff x 03 shift = 03 + 01 RG/LR = 04.

Considering the existing workload, existing deployment of 04 staff are sufficient.

(F) Painting Batch:

At present 02 staff (01 Technician, 01 Helper) are deputed in General shift for painting & stenciling work on wagons. On assessing the requirement for the above purpose, existing 02 staff are sufficient and justified.

Considering non-core activity, Work study team proposed that painting & stenciling work on wagons should be outsourced which will be monetary beneficial vis-à-vis present system. Thus, 02 staff found surplus after outsourcing of Painting work can be utilised in yard for examination of trains.

(G) SPA Batch:

At present 04 staff (Technician) are deputed for testing of Air Compressor machines. The deployment of staff for SPA Batch is 01 staff x 03 shift = 03 + 01 RG/LR = 04.

Considering the existing workload, existing deployment of 04 staff are sufficient and justified.

(H) Material Handling Batch:

At present 05 staff are deputed for collection of material from Stores and distribute in Yard, scrap collection/disposal, petty repairs of wagons in yard etc. testing of Air

Compressor machines.

Considering the existing workload, existing deployment of 05 staff are sufficient and justified.

(I) Coal Empty Yard Office:

At present 10 staff (07 Technician, 01 Ministerial, 02 Helper) are deputed in Coal Empty Yard Office. Out of 10, 04 Technician (1x3 shift + 01 RG/LR) are utilised as Telephone Attendant for liaison with Optg. Staff & C&W control, 04 staff (1x3 shift + 01 RG/LR) utilised for Night figure preparation and 02 staff utilised for Record maintenance, Data entry, MCDO preparation etc.

Considering the existing workload, existing deployment of 10 staff are sufficient and justified.

(J) Special Gang:

At present 24 staff (Technician/Helper) are deputed for EOT attend in Trains & other work as per requirement as Special Gang. The deployment of staff in Special Gang is 06 staff x 03 shift = 18 + 06 RG/LR = 24.

Considering the existing workload, existing deployment of 24 staff are sufficient for Special Gang.

Therefore, Total staff requirement for PP Yard (Train Examination) comes to 236 (Supervisors /Tech./Helper) against present deployment of 207. Thus, 29 more staff are proposed for smooth working of Yard and meet the target.

3.1.8 SSE (G) OFFICE (ESTABLISHMENT SECTION):

SSE (G) Office is functioning as administrative office for all the Sections of ROH Depot to deal with respective Establishment matters, Pass/PTO matters, Leave Accounts, Imprest items, Medical & Quarter matters, necessary correspondence work etc

Presently, 10 Staff [01-SSE (Overall in charge), 02-Ch. OS, 01-OS, Tech./Helper-06] are working and deal with the matter related to Establishment, D&A, Bills, PASS/PTO, Quarters, Medical, Transfer Posting and RTI along with necessary Correspondence work 05 Peons along with 03 Helpers are utilized various work such as File movement, cleaning of Office rooms, attending Senior staff, Office material handling etc. Details of works/activities being dealt by this Section are as under:

S#	Staff Designation	No. of Staff	Work Description
1	SSE (G)	01	Posted as overall in charge of all the sections existing under SSE (G) Office and deals with supervisory & monitoring of entire activities being carried out under the various sections. In addition to this, SSE (G) maintains the Establishment work; perform inspection work, deals with correspondence work and co-ordinates with all the Sections of PP Yard BIA/other Offices/Units & Organizations as & when required.
2	Ch. OS (Estb.)	01	I. Dealing of D&A Cases of ROH Depot/PP-Yd/BIA(SF-11, SF-5, Warning Letter, Recorded warning & other D&A matters). II. Compliance of Union matters. III. Incoming & Out going Dak distribution & noting work IV. Maintenance of Postal Imprest. V. CUG matter.

			VI. Landline Telephone Bills collection and disposal. VII. Compliance of RTI matter related to Establishment section. VIII. Deals with matters related with E-office work. IX. Signing authority of Pass/PTO etc. X. Maintaining of 95 nos. Files related to ROH and other matters of this Depot XI. Chasing and maintenance of all Officer in Inspection Note. XII. Maintaining COVID-19 Patient record of this Depot XIII. Compliance of Establishment Section policy matters. XIV. Other work assigned by Sr. DME, ADME & SSE (G), PP-Yd/BIA.
3	Ch. OS (Estb.)	01	I. Preparation of Muster Roll and maintains records related to Muster Rolls. II. Generating NDA & NHA Statement of every month. III. Deals with matters related to RMC Sick/PMC Sick and IOD Statement. IV. Dealing Transfer Cases (Own request & Mutual Transfer). V. Dealing of TA Journal Voucher of Staff every month. VI. Maintaining Staff Training records. VII. Deals with Trade Test & Promotion matters of Staff. VIII. Preparation of of APAR and maintaining record of Form-16 of concerned Staff. IX. Maintains Leave Account of Staff. X. Dealing matters pertaining to Railway Quarters (Occupation & Vacation records). XI. Dealing of immovable property transaction Cases. XII. Maintaining NOC Registers
4	OS (Estb.)	01	I. Preparation of Muster Roll and maintains records related to Muster Rolls (250 Staff). II. Generating NDA & NHA Statement of every month. III. Deals with matters related to RMC Sick/PMC Sick and IOD Statement. IV. Dealing Transfer Cases (Own request & Mutual Transfer). V. Dealing of TA Journal Voucher of Staff every month. VI. Maintaining Staff Training records. VII. Deals with Trade Test & Promotion matters of Staff. VIII. Preparation of of APAR and maintaining record of Form-16 of concerned Staff. IX. Maintains Leave Account of Staff. X. Maintaining punishment record regarding misutilization of Pass/PTO XI. Maintaining Compensation ground joining and retirement File XII. Preparation of Online PASS/PTO in HRMS Site for all Staff. XIII. Dealing UMID Registration & Record File.
5	Tech/ Helpr./ Peon	06	Assists to the above mentioned Senior Staff in their Routine work. However, it is important to mention that that 02 Technicians have been recruited under sports Quota and most of the time they are kept on sparing to attend Sport activities. 03 Staff of Helper Category are working to carry out various activities related to Office work & they are also utilized in other Section as and when required .
Total		10	

Based on critical observations of above mentioned activities, it is observed that major part

of the work load is repetitive type of work and Clerical in nature and is dealt through computerized infrastructure along with newly introduced e-Office working Software. The Ministerial Staff are assisted by 06 Tech./Helpers. in order to comply their designated work. Taking in to consideration of above facts & the existing workload in view, the present deployment of 10 staff is considered as sufficient to meet the requirement. However, it is relevant to mention that out 06 Technicians 02 staff have been deployed under Sports Quota and they are mostly kept on sparing for attending sports activities.

Thus, it is proposed that the existing deployment of 10 Staff [01-SSE + 03- Ministerial+ 0 Tech./Helpers] is justified to meet the need base requirement of man power for Establishment Section.

3.1.9 | Re-engineering Section :

At present, 09 Staff (Tech./Helper) are deployed to deal with various work such as reclamation of wagon Doors, Door mediator, Brake Beam Hand Brake Wheel & Salvage items from Scrap. This section is supervised by SSE(G).

Based on critical observations of the activities being dealt by this Section, it is assessed that these kind of works require continuous involvement of requisite manpower as the safety measures (in terms of Brake Beam/Hand Brake) are required to maintain properly.

Thus, it is assessed that the present deployment of 09 Staff [Technicians/Helpers] is justified to meet the need base requirement of man power for this Section.

3.1.10 | PLANNING SECTION :

At present, 04 (02-SSE & 02-Techs.)Staff are deployed to deal with various work such as Tender cases, M&P proposals, preparation of RSP, warranty claims, CBC& Knuckle Inspection, MCDO preparation etc. Details of works/activities being dealt by this Section are as under:

S#	Staff designation	No. of Staff	Work description
1	SSE	01	Deployed as In charge of this Section and deals Tender Cases, preparation of M&P Proposal, preparation of RSP and work Proposal. Provide Technical assistance to Sr. DME/PP/Yard/BIA and conducts compliance of all inspection notes.
		01	Deals with Tender related Cases. Warranty Claim raising and Accountal. Preparation of Bills of Contract Work, New CBC& Knuckle Inspection, Printing proposal registers and from MCDO preparation.
2	Technician	02	Working to provide assistance in compliance of Tender Process, M&P Proposal, Warranty Claims, Bill Preparation, preparation & submission of documents, Chasing & collection of Files from Div/HQ Office, verification, encashment & deposit of EMD, PG at Banks, Div. Cashier, div. finance. Inspection of Knuckles/CBC record maintenance & documentation for new supply, Segregation/Inspection of warranty claimed knuckle /CBC items.
Total		04	

As described above, the two supervisors (SSEs) have to different categories of work and the two technicians are engaged in miscellaneous activities along with providing assistance to their supervisors. During the course of Study, it is observed that there is requirement of 02 more Staff (Technician) to carry out the activities related to Technical Assistance needs to be provided to Senior

Officers/Supervisors as & when required as the new Innovations along with making of Model/Designs & Demo presentations are also carried out by the Planning Section and also to deal the matters related with Warranty Claims as the Amount of Warranty Claims is usually raised 1 to 1.5 Crores which is very high.

In view of above and based on Critical Observations, Work Study Team proposes that 02 more Staff (Technicians) should be deployed to cope up the Work load and to maintain the smooth functioning of this Section.

Thus, need based requirement of staff for Planning section comes to 06 Staff [02-SSE + 04 Technicians/Helper].

3.1.11 **STORE SECTION:**

At present, 22 Staff (01-SSE, 01-OS, 02-Clerk, 18-Tech./Helpr.) are working to carry out the activities related to collection & distribution of materials, preparing requisitions for Stock/Non-Stock items, Scrap booking & disposal, R/R Note, issue Note, Challan acknowledgement, and material handling etc. Details of works/activities being dealt by this Section are as under :

S#	Category	No. of Staff	Work description
1	SSE	01	Works as overall in charge of this Section and deals with various work such as making co-ordination with AMM/Store, arrangement /Chasing/Collection and other Zonal Railways, Monitoring of daily Scrap collection & disposal to GSD/R, initiation of Stocking proposals, non-Stock requisitions, correspondence work regarding availability of Materials, dealing with Challans, Stock requisitions and monitoring of Material Truck movement .
2	Ministerial Staff	01	Deals with maintenance of Records & registers related to Scrap booking & disposal, CTRB (NW & O/H) & disposal, Stock/DV & disposal, Trolley (Bogie) received & disposal, material Challan, adjustment Memo along with verification of incoming A.M.S, warranty claim, R-Note Book, RMC & credit Note for R/R, non Stock Bills & disposal & care file, Store Staff attendance, verified issue note & challan acknowledgment and other miscellaneous correspondence work.
		02	<ul style="list-style-type: none"> ◆ Maintains Stock/Non-Stock Materials which includes Stock Materials Register of 109 items, Non-Stock Materials Register of 118 items +05 summary Register, Cotton duster Register, private welding electrode issue register, HSD oil issue register, Material in coming register & Abstract Register. ◆ Deployed for maintaining of issue, Accountal of 125 Stock items and daily issue and Accountal of Non Stock.
3	Technician/ Helpr.	18	<ul style="list-style-type: none"> ◆ Deals with maintenance of 8 Non-Stock Items in absence of OS/Clerk ◆ Deals with receipt, issue & Accountal of locally manufacturer items. ◆ Utilized in Carpentry work. ◆ Utilized for issuing materials to Shop Floor Staff.
			Helpers are Utilized for routine work of Loading/Unloading &

			disposal of Scrap by Truck, deployed as LR/RG for collection of Materials <i>However, during the study it came into observation that out of 18 Staff (Tech./ Helpers), 07-08 Staff are most commonly utilized in various Sections also as per requirement to attend emergency or additional work. Avg. 03 staff belonging to Sports quota are remained under sparing.</i>
	Total	22	

Based on critical observations, it is assessed that the present deployment of above mentioned 15 staff is sufficient to the Routine work of Store Section but during the course of Study it came into observations that a new software Module namely UDM (User Depot Module) has been introduced wherein the relevant previous hard Documents/Data pertaining to Store Section needs to be converted in Soft Copy and all the up-coming Datas entry work related to Store's Activities have to be carried out in UDM Software application.

Considering the volume of work and Technical aspects of the UDM Software, it is observed that deployment of 22 Staff is sufficient to meet the requirement. Moreover, requisite Training/learning may also be imparted to existing Ministerial Staff so that they can be able to perform the UDM work smoothly & properly.

Thus, it is assessed that the existing deployment of 22 Staff [01-SSE, 01-OS, 02-Clerk, 18-Tech./Helpr] are sufficient to cope the present workload of Store Section. Keeping the optimum utilization of man power in view, it is suggested that the out of 22 staff, 6-7 Tech./Helper may be deployed in other sections as per requirement.

3.1.12 **Computer Section:**

At present, 04 Technicians/Helper are deployed in this section for Data entry, preparation of daily positions & Typing work in Computers.

Keeping the Multi-Skilling activities in view, the deployment of 04 Technicians are sufficient to manage the work load of this Section.

3.2	Summary of Section-wise Existing & Proposed deployment of Staff for ROH Depot/ PP Yard/Bhilai (Based on Existing workload):						
S#	Name of Section	Present deployment of Staff			Proposed deployment of staff		
		Supervisor	Tech./ Helper	Ministerial	Supervisor	Tech./ Helper	Ministerial
1	Bogie Section	04	88	00	04	110	00
2	ROH Section /Sick Line	11	209	00	11	223	00
3	Wheel Section/ UST/Machine Shop	08	54	00	08	60	00
4	Millwright Section (M&P)	01	14	00	01	14	00
5	Air-Brake Testing Section	01	42	00	01	46	00
6	Return Stock Section	01	04	04	01	05	04
7	PP-Yard (Coal Empty Yd., Load Yd. & FM Yd. for Train Examination)	17	189	01	17	220	01
8	SSE (G) Office (Establishment Sec.)	01	06	03	01	06	03
9.	Reengineering Section	00	09	00	00	09	00
10	Planning Section	02	02	00	02	04	00
11	Store Section	01	18	03	01	18	03
12.	Computer Section	00	04	00	00	04	00
Sub-Total		47	639	11	47	719	11
Total		697			777		

Thus, total 777 staff are proposed which is 80 more Staff than the existing deployment of 697 staff for various Sections to cope up the Work load smoothly and meet the target for ROH Depot/PP Yard/Bhilai.

3.3

Critical Observations to Outsourcing activities:

Relevance of Outsourcing in present Time:

In present scenario Outsourcing of activities belongs to non-core activities & non-safety category has become inevitable in terms of achieving the goal of high economy and less operating ratio.

Outsourcing gives the Management flexibility in managing manpower and helps in cost-saving and also provides an option to pick the best Service agency along with the capable human resources to meet the requirement.

Advantages of Outsourcing:

Outsourcing can be undertaken to varying degrees, ranging from total outsourcing to selective outsourcing as per requirement, suitability and feasibility. In contrast, selective outsourcing may target a single, time-consuming task within a department, such as non-core activities & non-safety work that can be handled more efficiently by an outside specialist.

Taking the above things in account, some of the remarkable advantages of Outsourcing are as under:

- (i) **Cost Savings-** There can be significant cost savings when an activity is outsourced. Employee compensation costs, office space expenses and other costs associated with providing a work space or manufacturing setup are eliminated and free up resources for other purposes.
- (ii) **Focus on Core Activities-** Outsourcing allows organization to focus on their expertise on core activities. When organizations go outside their expertise, they may not be as knowledgeable as required about the work and this could potentially take away from their main focus.
- (iii) **Improved Quality-** Improved quality can be achieved through outsourcing with more expertise and more specialized processes.
- (iv) **Higher Satisfaction level-** The advantage of having a contractual work is that they are bound to certain levels of service and quality.
- (v) **Operational Efficiency-** Outsourcing gives an organization the ability to perform the work with specialized systems and specialization provides more efficiency that allows for a quicker turnaround time and higher levels of quality.

Therefore keeping the above facts in view, Work Study team has proposed some non-core activities of ROH Depot to be outsourced. Summary of critical observations in terms of proposed activities for outsourcing is as under:

S#	Name of Proposed activities for outsourcing	No. of Staff presently involved & would be available after outsourcing work.	Remarks
1.	Door Closing Work of Wagons in Yard.	16	During discussion with Supervisors, it is revealed that this activity was outsourced for some months in the year 2016 but presently it is carried out through departmental staff. Considering it as non-core activity, Work study Team proposes that Door Closing activity of Wagons should be outsourced to achieve

			economy. As a result of which, existing utilization of 16 staff would be surplus.
2.	Wheel movement work in Machine Shop	12	As this work is done manually by simply pushing the wheel from one place to another for a very short distance which doesn't require any special skill/Training/Learning. Hence, this activity can be outsourced.
3.	Painting & Stencilling work of Wagons	06	Considering it as non-core activity, Painting & Stencilling work of Wagons should be outsourced to achieve economy.
4.	Scrap Collection/ Disposal work in Sick Lines	04	Considering it as non-core activity, this activity can be outsourced along with existing Cleaning work.
5.	APD (Anti Pilferage Device) making work	03	Earlier this activity was outsourced but presently it is done by departmental Staff. Therefore, considering it as a non-core activity it can be outsourced with ensuring proper supply of APD in required quantity.
Total		41	

On the basis of above mentioned proposed activities for outsourcing, it is concluded that 41 staff would be surplus after implementation of outsourcing and these staff can be utilised for core activities of the Depot as per requirement and achieve the target. Thus, 41 post of Technician/Helper are found surplus.

3.4 Conclusion:

Based on existing workload and proposed outsourcing activities (As per Para 3.1, 3.2& 3.3), Summary of requirement of staff for ROH Depot/PP Yard is as under:

Sanctioned strength = 807

On Roll strength = 697

Staff requirement for ROH Depot/PP Yd. = 736 (777-41).

Thus, Identified Surplus Post = 807 – 736 = 71.

3.5 Summary of Sanction, Present & Proposed staff strength at ROH Depot/PP Yard/BIA,

S#	Designation	Sanction strength	Actual strength	Proposed Strength	No. of identified Surplus post to be surrendered
1.	SSE/JE	47	47	47	00
2.	Technician	558	479	507	51
3.	Helper	191	160	171	20
4.	Ministerial	11	11	11	00
TOTAL		807	697	736	71

3.6 RECOMMENDATIONS & SUGGESTIONS:

On the basis of collected data, observations and critical analysis, following recommendations and suggestions are made:

Recommendations:

- 3.6.1** Considering the existing work load and as per details given in Para 3.1 & 3.2, total requirement of staff for ROH Depot/PP Yard/BIA comes to 777 against sanctioned of 807 posts. Thus, 30 vacant posts of Technician/Helper are found surplus and should be surrendered from ROH Depot/PP Yard/BIA of Mechanical Department.
- 3.6.2** To bring savings in manpower costs and improving efficiency, it is recommended that some non-core activities of ROH Depot/PP Yard like Door closing activity of wagons, wheel movement of wagons, painting & stencilling of wagons, APD making and scrap collection/disposal activity should be outsourced.
Therefore after outsourcing of these activities, 41 posts of Technician/Helper would be surplus and may be surrendered in Phase-II from ROH Depot/BIA. The live men (staff) can be redeployed at other units as per requirement.

Suggestions:

- 3..6.3** Safety Equipments should be provided properly to staff working in safety category.
- 3.6.4** Artisan staff should follow safety rules during working and proper counseling should be provided to Artisan/Helper from time to time in this connection.

CHAPTER-IV

4.0 FINANCIAL EVALUATION & RESULTS:-

Phase-I: Savings due to surrender of 30 surplus vacant posts (Based on Existing Workload)-

Design.	Level (7 th CPC)	G.P. (6 th CPC)	Pay Structure (7 th CPC)	No. of Post to be surrendered	Mean pay of the level	Cost per Month per staff (Mean Basic pay+ D.A. @ 17%)	Total cost per month (in Rs.)	Total cost per year (in Rs.)
Tech-I	Level-5	2800	29200- 92300	20	60750	71080	1421600	17059200
Helper	Level-1	1800	18000- 56900	10	37450	43820	438200	5258400
TOTAL				30				22317600

Thus, recurring savings to the tune of Rs. **2,23,17,600** say Rs. 223 lakh Per annum can be achieved due to surrender of 30 surplus vacant posts of Technician/Helper from ROH Depot/PP Yard/BIA of Mechanical Department in Raipur Div. and surrender memorandum to be issued by Sr. DPO/R/SECR.

Phase-II: Savings due to surrender of 41 surplus posts after outsourcing-

Design.	Level (7 th CPC)	G.P. (6 th CPC)	Pay Structure (7 th CPC)	No. of Post to be surrendered	Mean pay of the level	Cost per Month per staff (Mean Basic pay+ D.A. @ 17%)	Total cost per month (in Rs.)	Total cost per year (in Rs.)
Tech-I	Level-5	2800	29200- 92300	31	60750	71080	2203480	26441760
Helper	Level-1	1800	18000- 56900	10	37450	43820	438200	5258400
TOTAL				41				31700160

Thus, recurring savings to the tune of Rs. **3,17,00,160** say Rs. 317 lakh Per annum can be achieved due to surrender of 41 surplus vacant posts of Technician/Helper from ROH Depot/PP Yard/BIA of Mechanical Department in Raipur Div. and surrender memorandum to be issued by Sr. DPO/R/SECR.

-X-X--X-X-