

CENTRAL RAILWAY

WORK STUDY REPORT ON

“Review of REDUNDANT/NON OPERATIVE & OUTSOURCED POSTS IN MECHANICAL DEPARTMENT on bhusawal division.”



Work Study Cell,
Central Railway,
Bhusawal Division.

CENTRAL RAILWAY

WORK STUDY REPORT ON
“Review of REDUNDANT/NON OPERATIVE &
OUTSOURCED POSTS IN MECHANICAL DEPARTMENT
on Bhusawal division..”

Coordinating Officer

Mr.S.Laxminarayan, ,,DME,BSL

Coordinating Supervisors

All Depot In charges&CWI/HQ,BSL.

Inspector

V.S.Tayade,WSI,BSL

Work Study Cell,
Central Railway,
BhusawalDivision.

INDEX

Sr.No.	CONTENTS	Pg.No.
01	Synopsis	04
02	Acknowledgement, Authority and Terms of Reference & Methodology	05
03	Summary of Recommendations	06
04	Chapter No. 01 Introduction	07
05	Chapter No. 02 Existing Scenario	08
06	Chapter No. 03 Review of the Depots, Critical Analysis & Recommendation.	10
07	Chapter No. 04 Financial Implication	63

SYNOPSIS

01	Study Number	WSCR/MECH/BSL/1/18-19.
----	--------------	------------------------

02	Study Name	Review of Redundant/Non operative & outsourced posts in Mechanical Department on Bhusawal Division.
03	Approved by	AGM(C.R)
04	Department	Mechanical
05	Division	Bhusawal
06	Date of commencement	28/06/2018
07	Date of completion	26/12/2018
08	Date of Submission	27/12/2018
09	No. of Men Studied	1291
10	No. of Recommendations	03
11	No. of posts Proposed for Surrender	10
12	Annual MV Saving	Rs.10,448,328 /- Per annum.

ACKNOWLEDGEMENT

The work study team takes this opportunity to express heartily thanks to Mr.S.Laxminarayan,DME, BSL,CWI/HQ and all Depot In-charge, whose valuable

guidance provided a successful conclusion to this study and whose productive suggestions enhanced the enthusiasm of the team.

The work study team is also grateful to all the staff working at depot for furnishing necessary information and data required for conducting the study.

AUTHORITY & TERMS OF REFERENCE

With the approval of AGM(C.R), the work study on “Review of Redundant/Non operative & outsourced posts in Mechanical Department on Bhusawal Division.” has been included in the Annual Work Study Program for the year 2018-19 with study no: WSCR/MECH/BSL/1/18-19..

METHODOLOGY

- 1) Collection of data in detail.
- 2) Field observation and interaction with the staff.
- 3) Discussion with co-coordinating officers/supervisor.
- 4) Change in working pattern if any.
- 5) Working out financial implication involved in saving as a result of surplus employee.

.....

SUMMARY OF RECOMMENDATIONS

Sr.No.	RECOMMENDATIONS	Pg.No.
01	Surrender 02 posts (01 post of Jr. Clerk (NP) and	33

	01 post of Sr. Clerk (NP)) from the Sanction Strength of Diesel Loco Shed MZR.	
02	Surrender 04 posts (vacant) of Diesel Pump Driver-I from the Sanction strength of BSL division.	37
03	Surrender 04 posts (vacant) of Diesel Pump Driver khalasi from the Sanction strength of BSL division.	38

CHAPTER NO. 01 INTRODUCTION

1.1 INDIAN RAILWAYS is one of the most reliable means of transportation in the country. It is giving an excellent service of goods as well as passenger trains also it is the cheapest. It gives priority to safety, security and punctuality.

1.2 For a good service of the railways, many departments are giving their contribution in it. All are giving their best to achieve our goal of safety, security and punctuality. The quality and load of this transportation service is mainly on the wagons and the coaches of the Indian Railways.

1.3 The burden of transportation is on the wagons and coaches giving service round a clock. The repairs and maintenance of these load carrying wagons and coaches is done by the C&W staff (Carriage and wagon staff). The C&W staff is under the control of Mechanical Department of the Railways.

1.4 The C&W depots in the division/railway play a vital role in running of goods and passenger traffic to ensure safety in train operation. Intensive examination, schedule and unscheduled maintenance work as well as rolling in and rolling out is checked by the C&W staff at every important junction or inter- changing point to avoid detention, failure and accidents.

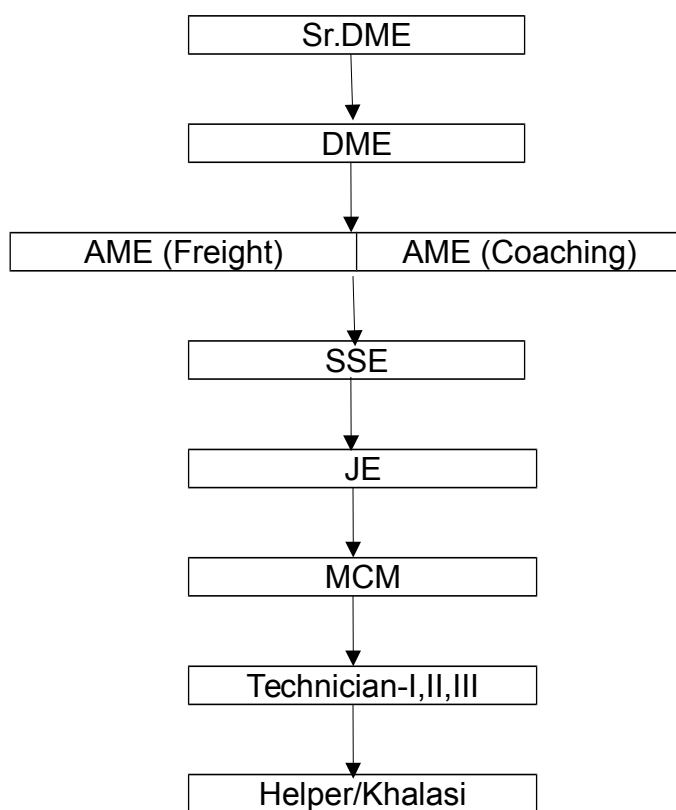
1.5 There are various important depots in Bhusawal Division. Keeping in view the importance of the C&W staff and depots, a work study is conducted for the right utilization of the man power for safe operation and helping in giving a good service to the nation.

CHAPTER NO. 02 EXISTING SCENARIO

2.1 Organization set up of the Mechanical department:-

Mechanical staff works under the control of Sr.DME, BSL. He is assisted by DME, ADME, and Supervisors for smooth functioning and effective control.

Structural Chart of Mechanical Department



2.2 Duty list/Responsibilities of the various categories in the Mechanical Department:

A) Responsibilities of Sr.SectionEngineer (SSE) /Depot In charge:

- i) Man power planning of the depot.
- ii) Material management.
- iii) Adjust duties, leave and rest of the sub-ordinate staff.
- iv) Official letter correspondence.
- v) Implementation of Policy and other important matters.
- vi) To take out the output from the staff.

- vii) To conduct super check of various sections.
- viii) To supervise various schedules as per norms.

B) Responsibilities of Section Incharge. It may be a SE (Section Engineer) or a JE (Junior Engineer):

- i) Man power planning of the section.
- ii) To take out the output from the sub-ordinate staff.
- iii) To guide and train the sub-ordinate staff for proper working as per standard norms.
- iv) To ensure qualitative output of the section.

C) Responsibilities of JE

- i) To carry out thorough examination of rolling stock/loco along with his gang as per the technical standards.
- ii) To carry out maintenance as per the standard norms.
- iii) To guide the staff to perform duties as the standard procedures.
- iv) To ensure all safety related items during examination and maintenance of rolling stock/loco. To take out the output from the sub-ordinate staff.
- v) To implement the instructions issued by higher authorities.

D) Responsibilities of Skilled staff including MCM, Technicians, Welders and Gr. D staff

- i) To carry out thorough examination and maintenance of rolling stock/loco as per the instructions of immediate supervisors.
- ii) To ensure safety during work for his own as well as railways assets.
- iii) To achieve various time bound goals decided by the higher authority.

CHAPTER NO.03 Review of the Depots, Critical Examination and Recommendations

3.1 Khandwa (KNW): WCR.C&W staff is employed here for 24 hours. This staff checks rolling in and rolling out

3.1.1 KNW Depot is an important interchanging point between CR and of the Goods train halting at KNW. In emergency the staff has also to go (to attend) in the adjacent division/railways. Jurisdiction of the SSE/ KNW is from KNW-BAU.

3.1.2 Scale check of KNW C&W Depot staff:

Sr.No	Category	Level	S/S	MOR	VAC.
01	SSE	ML-7 (GP-4600)	02	01	01
02	MCM	ML-6 (GP-4200)	04	04	--
03	Tech-I	ML-5(GP- 2800)	05	05	00
04	Tech-II	ML-4 (GP-2400)	01	02	+01
05	Tech-III	ML-2 (GP-1900)	02	02	--
06	Helper/Khalasi	ML-1(GP-1800)	04	04	--
		Total	18	18	00

3.1.3 Work load on KNW Depot:-

- The staff checks rolling in and rolling out of the Goods train halting at KNW.
- Axle Box Feeling (checking temperature of the axle box), inspection and maintenance.
- To attend goods/passenger trains as per the message/instructions by Dy.SS/KNW and CWC/BSL.
- Change wheel set of detached wagons.
- Certify wagons and make them air tight at Goods shed.
- In case of any emergency this staff has also to go in the adjacent division/railways.
- KNW depot does not issue any BPC for any train.
- The staff also maintains 02 Tower Wagons. One at KNW and another at BAU. For inspection of the tower wagon at BAU, 01 Supervisor and 02 Technician/Khalasi are sent once in a month.

Last 06 months record(June 2018 to Nov 2018)

Type	Flat tyre coach	Flat tyre goods	Brake power jam coach	Brake power jam goods	Brake block turn	Quick coupling Defective	BP/FP Turn	Air pressure leakage
Total attended	33	101	55	119	21	11	19	157

Type	Bio-toilet	Coach	BCN HL	Outer/inner	Others
------	------------	-------	--------	-------------	--------

	Choke-up	cleaning	Doors defective	coil spring	
Total attended	223	228	99	48	301

- Total Unusual Wagon attended on train cash in last 06 months =1395
- Total detached wagons in last 06 months =20
- Total axle box feelings in last 06 months =2037
- Sectional attend in last 06 months =12
- Payment of this staff is prepared by the clerk of LF(R)/KNW.
- Pass/PTO is also made by the same.

3.1.4 Existing Deployment of the staff:

The existing deployment of the staff at KNW shift wise is given below:

Morning Shift 08-16

Sr. No	Post	No. of staff
01	SSE- In charge	01
02	MCM	01
03	Tech-I	02
04	Tech-II	01
05	Tech-III	01
06	Helper	01
	Total	07

Evening Shift 16-24

Sr. No	Post	No. of staff
01	MCM	02
02	Tech-I	02
03	Tech-II	00
04	Tech-III	01
03	Helper	02
	Total	07

Night Shift 00-08

Sr. No	Post	No. of staff
01	MCM	01
02	Tech-I	01
03	Tech-II	01
04	Helper	01
	Total	04

Total staff 18 (including Supervisor).

3.1.5 Critical Analysis

Rolling in/out and axle box feeling work is a regular work of the C&W staff at the KNW depot, it is suggested to keep deployment of the staff in following manner only.

- I) 01 SSE as depot in-charge.
- II) 01 SSE For shift working and RG+LR for depot Incharge
- III) 04 technical staff per shift
Total 12 staff.
- IV) 04 staff for RG+LR.

Total requirement (SS) for the depot comes to 18.

Any non-operative post identified in the depot: Nil.

Any activity outsourced/outsourcing in the depot: Nil.

Future planning for any outsourcing: Nil.

3.1.6 Recommendation:

During work study of C&W staff in 2015-16, 02 posts of Helper/ khalasi were identified as surplus and surrendered. Hence, now there is no recommendation.

3.2 MANMAD (MMR C&W):

3.2.1 Manmad (MMR) is an important junction in BSL Division. Trains from SCR, PA division come to BSL division at MMR. Also a number of trains originate from MMR to other railways and divisions. C&W staff at MMR has to be very alert while taking trains in our division and also while dispatching trains to other railways.

3.2.2 Scale check of the C&W staff:

Sr.No	Category	Grade+GP	S/S	MOR	Vac.	Excess
01	SSE	9300-34800+4600	13	10	03	--
03	JE	9300-34800+4200	08	06	02	--
05	MCM(Technician)	9300-34800+4200	21	13	08	--
06	Tech-I	5200-20200+2800	42	29	13	--
07	Tech-II	5200-20200+2400	08	06	02	--
08	Tech-III	5200-20200+1900	12	17	00	+05
09	MCM(Welder)	9300-34800+4200	01	00	01	--
10	Welder-I	5200-20200+2800	01	01	--	--
11	Welder-III	5200-20200+2400	01	01	--	--
12	Helper	5200-20200+1800	61	41	20	--
	Total		168	124	49	+05

Ministerial Staff:

Sr.No	Category	Grade+GP	S/S	MOR	Vac.	Excess
01	Hd.Clerk/ OS(P)	4200	01	00	01	--
02	OS (NP)	4200	01	01	00	--
03	JR. Clerk (P)	1900	01	01	00	--
04	Sr.Clerk(NP)	2800	01	00	01	
			04	02	02	

3.2.3 Workload on MMR depot:

- 1) Maintenance of 04 Tower wagons i.e. Monthly schedule, half yearly and yearly schedule.
- 2) Primary maintenance of 12109/10 Panchvati Express, 12117/22102 Rajyarani express and 22101/12118 Godavari express which is being required to be carried out daily with the specified due schedules.
- 3) Other end maintenance of Ajanta Express(17063), PA-MMR pasanger(51401) and Marathwada Express(17687).
- 4) Primary maintenance of Millennium VPH special rakes with the issue of 10 days BPC as and when required. Maintenance of Yatra special/ program coaches/ VPH as and when required.
- 5) At PNV BPCL wagon gantry round O'clock shift duty for attention of minor leakages after product loading , commercial loading fitness/ certification of BTPN wagons.
- 6) The detached wagon at Nasik Eklahara siding requires prompts attention for rectifying the various defects.
- 7) Day to day maintenance of various equipments of "A" class ART with 140T diesel hydraulic crane & attending various schedules of 140t crane & ART assets.
- 8) Flying squad- attending unusuak in section such as hot axle, train parting, wheel changing etc.
- 9) Round o clock shift duty at passenger station MMR- Platform attention / enroute train passing, axle box feeling, power changing etc.

- 10) Material storage & accountal: day to day maintenance spares required for all above activity required to be collected from feeding depot i.e ROH depot BSL, Coaching complex BSL and in case of emergency other depot/ workshop of central railway.
- 11) EDP & Statically work: day to day correspondence & various requirements as well as collection & record keeping of various coaching activities, ART activities, PCDO etc.
- 12) Escorting staff- daily one staff is required to accompany train no 12110 up Ex MMR- NKRD to lock at MMR & open the NKRD quota at NKRD.
- 13) Offices, surrounding cleaning & pit line cleaning.

Non operative posts in the depot if any:
Nil.

Activites outsourced in the depot:

- I) Internal cleaning & watering, rake locking & unlocking of primary mainteneace rakes & other end maintenace train rake (under scope of contract train no. 12110, 12118 UP, 22102 UP, 17063DN is covered)
- II) Pest & Rodent control of tr. No 12110UP, 12118UP, 22102UP.
- III) "A" class ART MMR- Comprehensive Annual Maintenance contract of 140T cranes SLI/Safe load indicator.

Vacancies to be filled up immediately.

3.2.4 Existing Deployment of the staff:

- I) Sick Line Attention :
For sick line activities there are 12 technical staff deployed in General Shift.
And 02 Supervisors (01 main incharge and 01 sick line in charge)
- II) For Primary Maintenance of Rakes = 42 Staff.
It comprises of 38 staff + 04 Supervisors= 42 Staff.
There are two gangs each of 19 staff (19X02=38).
All maintenance work is mainly in night.
- III) Passenger Station Gang:
There are 04 gangs.
In a gang there is 07 staff. So 07x04=28 staff.+ 04 supervisors= 32 staff
01 Rest Giver gang gives 03 days rest at PNV, 03 days rest at Station and 01 day self rest.
- IV) At PNV:
There are also 03 gangs each of 07 staff. So 07x03=21 staff.
Also 03 supervisors 21+03 =24 staff.
- V) For ART:

10 staff for CORE Group + 02 Supervisor =15 staff.

Total 124 staff.

3.2.5 Critical Analysis

As MMR depot has its own importance due to inter changing point for goods and passenger trains and various types of safety related works and the required Man Power is as follow:

	Train no.	Com p.	Freq.	TL coache s	Bench marking norms		MP R
Primary Maint.	12109/12110	21	Alternat e 3 days	21	Avg. Coach = 26	1.1 men/coac h	29
	22101/12118	17	Alternat e 3 days	17			
	Millennium/YatraSpl/Program med coach	22	As and when require d	22			
	Holding						
Sick line attention	Train no.	Com p.	TL Rake	TL Coache s	0.14 Men/coach		09
	12109/12110	21	01	21			
	12117/22102	17	01	17			
	22101/12118	17	01	17			
	ART	05	--	05			
	IRRIEN	01	--	01			
	Sparecoaches/millennium/VP and other Programmed coaches.	04	--	04			
	Tower wagons	04	--	04			
				69			
Cleaning & complete washing	Train no.	Com p.	Freq.	TL coache s/ day	Avg. Coach=18		12
	12109/12110	21	Daily	21	0.65Men/coach		
	12117/22102	17		17			
	22101/12118	17		17			
			Total	55			

Flying Squad	IGP-MMR-CSN Section-Every Thursday Flying Squad attends unfits wagons at MSPGCL siding NKRD, attends unusual in sections like hot axle, train parting, wheel changing, other repairs to wagons, coaches in section, attending FUR rake, wagons for certification, Examination and certification of departmental wagons as and when required by OPTG/ENGG. Deptt.	Need base	07
IOH Activities	MMR based coaches/ departmental coaches/vph are attended for IOH repairs at MMR as and when required.Total 14 coaches has been attended for IOH repairs on last 06 months.		16
“A” class ART with 140T crane	As per Khosala/Trivedi Committee Recommendations		13
PNV attention	Empty BTPN wagon rakes at PNV all siding is attended for commercial fitness in yard itself with isolation of OHE/Charging of OHE , line blocking followed by Comml. Loading fitness comprise if bottom discharge valve, providing of deficient fitting such as dummy flange, nut and bolt etc..As per the requirement of the Oil company the MS fit wagons are also certified in addition to regular fitness work. After product loading in the wagon gantry requires prompt attention for attending the leakages. Each rake consists of 50 wagons(Avg. rakes of BTPN wagons per month94-110 rakes). Identification of barrel leaky wagons and prompt issuing memo for product unloading to Oil company.	Need base	36
Statically work		08 Men for a depot of Holding 150 coaches or more	05
Pest control (out sourced)			00
Water disposal & pit line sweeping & drain cleaning			05
M&P work			03
EDP assets			01
Clerical staff (Personnel)			01
Security and locking of rakes			04
Ancillary work			03
Watering			--
Material storage &account		26 men for a depot having holding of	13

	150 coaches or more	
--	---------------------	--

Plat form attention/en route train passing, STR, turn round attention, Terminating/Originating, power changing, axle box feeling, attending public & crew complaint. Also attends through trains as well as coaches/wagons in yard for various defectsas per memo/message by on duty Dy.SS/CWC/BSL.	Terminating/ originating examination	Super fast/long distance	0.26 per coach	55 coaches	14
		Mail/express trains	0.23 per coach	41 coaches	10
		Pass. trains	0.18 per coach	14 coaches	01
	En route train passing (safe to run examination) Excluding CTS work	Super fast/long distance	0.26 per coach	169 coaches	44
		Mail/express trains	0.23 per coach	127 coaches	29
		Pass. trains	0.18 per coach	84 coaches	15
Total					272
LR+RG					79
Grand Total					349

Any non-operative post identified in the depot: Nil.

Any activity outsourced/outsourcing in the depot: Nil.

Future planning for any outsourcing: Nil.

3.2.6 Recommendation.

Considering the above various important examination and maintenance activities to be carried out in time bound manner to ensure safety in train operation, it is necessary to have adequate manpower in the depot. As such no more recommendation is presented.

3.3 CHALISGAON

3.3.1 Chalisgoan is an important depot between BSL and MMR. Staff at this depot attends all the C&W Control messages of the Goods as well as Passenger trains. Also these depots maintain the 04 coaches of 11058 and the Passenger Train CSN-DHI.

3.3.2 Scale check of the C&W staff:

Sr.No	Category	ML	S/S	MOR	Vac
01	SSE	07	02	00	02
02	JE	06	01	02	+01
03	Tech MCM	06	03	03	00
04	Tech-I	05	05	05	00

05	Tech-II	04	01	00	01
06	Tech-III	02	02	03	+01
07	Helper/Khalasi	01	05	05	00
08	Safaiwala	01	02	02	00
	Total		21	20	01

3.3.3 Work load/various types of maintenances carried out by CSN Depot:

Sr.No.	Type of Maintenance	Frequency
01	Primary maintenance of CSN DHI CSN Pass rake	Weekly
02	Trip schedule attention of CSN-DHI-CSN Pass rake	Daily
03	Attend the Detaching/ Attaching of Sectional Coaches of CSMT-DHI-CSMT & PA-DHI-PA Give continuity certificate at the time of every attaching	Daily 04+02=06 coaches detaching/attaching Tr. No 11057/58, 11039/40,51111/51118, 51113/51116 (daily 04 time attaching & 04 time detaching is done)
04	OEM (Sectional coaches)	Daily
05	Ri-Ro visually inspection & axle box filling of train	Daily
06	Attend en route failure of Mail/Exp/Pass and goods trains at CSN & failure is also carried out in scetion	Daily/ as per message of CWC/BSL, Dy.SS CSN.
07	According to the memo of SSE/FBWP/CSN, certification of securing arrangement of EUR Rake	As and when required average 06 rakes in a month.
08	A Schedule	Monthly
09	B Schedule	Tri monthly
10	Tower Wagon of PC and CSN	Monthly, Six monthly and yearly
11	Do the service or revocation of Twitter, passenger complaint	Daily/ as per message of CWC/BSL, Dy.SS CSN.(on an average 08 msgs in a month)
12	Safety survey, amenity survey, OBHS survey	As and when required
13	Accompany to ODC trains	As and when required
14	Maintenance of M&Ps	As and when required
15	On line deputation of staff for Material collection and stationery.	Twice in a month
16	House Keeping	Daily
17	Documentation	Daily

3.3.4 Existing deployment of the staff

- i) Total staff is divided into 04 gangs.
- ii) 03 proper gangs in each shift and 01 gang as a Rest Giver Gang.
- iii) Each gang comprises of 03-04 staff, depending on the physical availability of the staff ($04 \times 04 = 16$ staff).
- iv) On Wednesday, Thursday and Friday Staff is more as on these days there are both Proper Gang and the Rest Giver Gang.
- v) On these days when man power is more, hence extra work is taken by the staff like Material collection from other depots, Housekeeping, cleaning of the Pit Line, any pending sectional unusual etc.

3.3.5 Critical Analysis

Considering the entire work load on the CSN depot Man Power Requirement is given as follows:

Activity	Category	Benchmarking Men/Coach/Day	Work load Per day	Man power requirement	Remarks
Primary Maintenance	Passenger Trains	0.75	6×0.75	4.5	Primary Maintenance weekly
Sick line attention & including Sch. & IOH	0.14 per coach holding	0.14	0.2×0.14	0.028	Schedule primary coaches total 06 coaches ($0.14/6 = 0.2$)
Turn round attention (Other end attention of RBPC Trains)	Mail/Express trains	0.23	6×0.23	1.38	CSTM-DHI-CSTM Daily 04 coaches.
Terminating/ Originating examination	Passenger trains	0.18	44×0.18	7.92	Pass. Train consists of 06 coaches daily 04 trips ($6 \times 4 = 24$)
En route train passing Safe to run examination excluding CTS work	Mail/Express trains	0.23	18×0.23	4.14	Daily 16 mail express trains having halt at CSN.
	Passenger trains	0.18	4×0.18	0.72	Daily 03 pass. Trains having halt at CSN
Cleaning & complete washing		0.65	6×0.65	3.9	Daily 06

					coaches.
Only interior dry cleaning	0.4	6x0.04	2.4		CSTM-DHI- CSTM Daily 04 coaches. Train no. 11057/11058
Watering		02	06	02	CSTM-DHI- CSTM Daily 04 coaches. Train no. 11057/11058
Verification of EUR rake, maintenance of tower wagons	Departmental goods rakes & wagons	8 man hrs	2	04	As per FBWP memo certification is done
Material storage		01	01	01	
Statistical work		01	01	01	
M&P, hydrants maint. & other pipe line maintenance		01	01	01	
Total				33.98	
Add LR+RG for sick line staff				5	
Man power requirement				38.98=39	

Total staff required = 39 Tech + 04 Supervisor=43 staff.

Note: This Man power requirement is done as per RB.L.No.2000/M/(C)1143/5 dated 24/12/2001.

Non operative posts in the depot:Nil.

Activities outsourced in the depot:

At present no activity is outsourced in the depot.

Future planning for outsourcing and suggestions:

Entire maintenance of housekeeping of the sick/pit line, dry sweeping, cleaning of pass and sectional coaches.

3.3.6 Recommendation.

Considering the above important examination and maintenance activities to be carried out to ensure safety in train operation, it is necessary to have adequate manpower in the depot. As such no recommendation is presented.

3.4PACHORA

3.4.1 At Pachora C&W staff is mainly employed for the maintenance of NG passenger train. This staff also attends the messages of the main line Goods and Passenger trains.

3.4.2 Scale check of the C&W staff:

Sr.No	Category	Grade+GP	S/S	MOR	VAC
01	SSE	9300-34800+4600	01	01	--
02	MCM	9300-34800+4200	02	01	01
03	Tech-I	5200-20200+2800	03	01	02
04	Tech-II	5200-20200+2400	01	02	+01
05	Tech-III	5200-20200+1900	01	03	+02
06	Helper/Khalasi	5200-20200+1800	03	03	--
Total			11	11	00

3.4.3 Work load/Main types of maintenance done by C&W Staff at PC:

- i) Primary maintenance of NG coaches.

Types of maintenance / schedule carried out on NG coaches:

- a) Trip schedule – Daily
 - b) “A” schedule (oiling)- Monthly
 - c) “C” schedule-(Repacking)- Every six months
- ii) To attend BG stock i.e. coaching or goods train.
 - iii) Tower wagon schedule (Monthly and six monthly).
 - iv) Loading/unloading of POH due NG coaches’ lorry/BRN from /for KWV workshop.
 - v) To collect material from BSL & KWV work shop.
 - vi) MFD maintenance & break down attend.
 - vii) To accompany BG ODC.
 - viii) Washing and cleaning of NG coaches.
 - ix) Locking & unlocking of NG coaches.
 - x) Rolling in / out of the trains at NG:
 - a) 52121 UP – Rolling out examination- daily –Day shift.
 - b) 52122 DN– Rolling in examination- daily –Day shift.
 - c) 52123 UP– Rolling out examination- daily –Day shift.
 - d) 52124 DN– Rolling out examination- daily –Night shift.

➤ C&W staff at PC attended 27 complaints of BG in last 06 months.

3.4.4 Existing Deployment of the staff in each shift:

At Pachora depot there are only two shifts, each of 10 hrs(Broken shift System):

- i) Day shift 07.00-11.00 & 13.00-19.00.
- ii) Night shift 19.00-22.00 & 00.00-07.00.

Sr.No	Category	Day shift	Night shift
-------	----------	-----------	-------------

01	SSE	01	--
02	MCM	--	01
03	Tech-I	01	--
04	Tech-II	01	01
05	Tech-III	01	02
06	H/Khalasi	02	01
		06	05

3.4.5 Critical analysis

During work study of C&W staff in 2015-16, one post of Helper/khalasi was identified surplus at PC depot and it is surrendered also . So now there is no need of any more recommendation.

Any Non-operative posts identified in the depot: Nil.

Any outsourcing in the depot: Nil

Future planning for any outsourcing/Suggestion:The work of cleaning, washing, locking and unlocking the NG coaches may be given on contract as set in Bhusawal.

3.4.6 Recommendation

The work of cleaning, washing, locking and unlocking the NG coaches may be given on contract as set in Bhusawal.

3.5 AMRAVATI

3.5.1 Amravati is one of the main stations of the BSL Division. It has many trains originating and having destination. In near future a number of trains are about to be introduced from AMI.

3.5.2 Scale check of the AMI C&W depot:

Category	Grade + GP	S/S	MOR	Vac
Supervisors				
SSE	9300-34800+4600	01	02	+01
JE	9300-34800+4200	03	03	00
	Total	04	05	+01
Technician				
MCM	4200	04	05	+01
Gr-I	2800	08	08	00
Gr-II	2400	02	02	00
Gr-III	1900	02	02	00
	Total	16	17	+01
Group D Staff				
Helper/Khalasi	5200-20200+1800	12	09	03
Safaiwala	5200-20200+1800	00	00	00
Office boy/Peon	5200-20200+1800	00	00	00

Total		12	09	03
Ministerial Staff				
OS(N/P)	9300-34800+4200	00	01	+01
Grand total		32	32	+01

3.5.3 Work load on the Depot:

Sr.No	Train No.	From	To	Type of Maintenance	Frequency
01	12112/11	AMI	CSMT	Primary Maintenance	Daily
02	12159/60	JBP	AMI	RBPC	Daily
03	12765/66	TPT	AMI	RBPC	1,4
04	19025/26	ST	AMI	RBPC	1,5,6
05	12119/20	NGP	AMI	RBPC	1 to 5
06	11405/06	PA	AMI	RBPC	1,6
07	51261/62	NGP	AMI	RBPC	Daily
08	51135/50	BD	AMI	RBPC	7 trips/day
09	22117/18	PA	AMI	RBPC	4

3.5.4 Existing Deployment of the staff:

- i) One SSE as depot in charge, over all administration including material procurement, man power distribution, letter dealing, depot inspection, work controlling and under gear examination on rest of JE.
- ii) SSE: under gear examination and amenity fittings of the rake.
- iii) JE: one JE is deputed for 5 days for under gear examination and amenity maintenance of the rake .
- iv) One JE is for linen dealing and for RG & LR of other supervisors and also look after under gear examination.
- v) One JE for RBPC trains.
- vi) OS deals with store correspondence, official correspondence, management of whole linen to be supplier or to be taken back, its proper ledger entry recording and also on rest of JE deals with linen management at linen office.
- vii) Out of 26 staff remaining staff distribution is as follows:
 - i) Pit line examination- 05 staff (All Technicians with MCM).
 - j) Amenity fittings- 02 staff (All Technicians).
 - k) Coach schedule- 01 staff.
 - l) Rest per day- 03 staff.
 - m) Material dealing- 01 staff.
 - n) Gang rest giver- 02 staff.
 - o) Rolling in/out- 06 staff.
 - p) Linen – 03 staff.
 - q) New AMI – 01 staff, RG- 01 staff
 - r) For store dealing- 01 staff.

3.5.5 Critical Analysis:

Any non-operative posts identified in the depot: nil.

Activity out-sourced in the depot:

Running Contracts

Description	Contract Agreement No.	From	To	Firm's name
Mechanized cleaning of RBPC trains	LOA No. BSL.M.RBPC.CLG.AMI.17-12 Dated 22.05.18	06.06.18	05.06.22	Satish G. Bagare Bhusawal
Mechanized cleaning & watering of rakes.	AGR No. BSL.M.MC.AMI.CC Dated 16.06.18.	24.05.16	23.05.20	Satish G. Bagare Bhusawal
Pest Control of train coaches at AMI	AGR. No. BSL.M.RPC.16-19 DT 18.04.17	24.11.16	24.11.19	Shatabdi Pest Control, Ratlam (MP).
AOMC of Bio toilet	LOA No. BSL.M.AMOC.BIOTOILET Dt. 20.08.18	18.09.18	17.09.21	MS Hughes and Hughes Chemltd.New Delhi.23

Future planning for any outsourcing: Nil.

3.5.6 Recommendations:

At present no recommendations.

Murtizapur (MZR):

Murtizapur (MZR) is one of the main junctions of the Bhusawal division. There are two depots of mechanical departments. One of C&W and another of Diesel Loco.

Earlier there were two NG branch lines from MZR.

Murtijapur-Achalpur (MZR_ELP) section of 77 kms.(Now Closed)

Murtijapur-Yavatmal(MZR-YTL) section of 112 kms.

But now MZR-YTL line is closed.

3.6 MURTIZAPUR C&W STAFF:

3.6.1 Importance of C&W Staff at MZR :

- Murtizapur is one of the main C&W depots in BSL division.
- As at BD there is no C&W Depot/staff the responsibility and work load of the depot is increased.
- It has its own importance due to the NG passenger train.

3.6.2 Scale check of the C&W staff at MZR depot:

Sr.No	Category	Level (GP)	S/S	MOR	Vac.	Excess	Remarks
01	SSE	ML-7 (GP-4600)	03	02	01		
02	JE	ML-6 (GP-4200)	01	01	--	--	
03	OS (N/P)	ML-6 (GP-4200)	01	01	--	--	
04	Jr.Clerk (N/P)	ML-2 (GP-1900)	01	01	--	--	--
05	MCM	ML-6 (GP-4200)	04	04	00	--	--
06	Tech-I	ML-5 (GP-2800)	07	03	04	--	--
07	Tech-II	ML-4 (GP-2400)	02	02	00	--	--
08	Tech-III	ML-2 (GP-1900)	03	07	--	+04	Against H/G vacancy
09	Welder	ML-4 (GP-2400)	01	01	--	--	--
10	M/driver	ML-2 (GP-1900)	01	01	--	--	--
11	M/Cleaner	ML-1 (GP-1800)	01	00	01	--	--
12	H/Khalasi	ML-1 (GP-1800)	08	09	--	+01	Against H/G vacancy
	Total		33	32	06	05	

3.6.3 Work load on MZR C&W depot/staff:

- 1) Primary maintenance of 01 NG train daily.

It is done mainly in the evening shift as the trains arrives at MZR in the evening only. (MZR-ELP-MZR).

Frequently have to maintain dash point oiling, schedule maintenance A & B, brake power adjustment, washing and cleaning , lubrication to buffer and screw coupling, testing of PEASD, testing of angle cock, testing of vacuum brake system, brake block replacing and pit examination.

- 2) Examination of BD-AMI Shuttle (04 coaches) weekly, on Thursday at BD.BPC is issued by the same staff.
- 3) Monthly maintenance of 03 tower wagons at BD, AK and MKU.
For this, 01 Technician & 01 Khalasi are sent.
- 4) Attending unusual on main line and road side stations and also at PS siding for attending brake binding, train parting , hot axle, flat tyre, brake block missing, angle cock replacing etc.
- 5) The staff also maintains a Road Mobile Restoration Unit and maintenance of breakdown equipments.
Breakdown equipments are loaded in a Truck (No.MH-30-H-5101).
There are Hydraulic equipments. Hydraulic Jacks and Electrical lightening equipments used in Breakdown.
- 6) To bring required material from Goods and Coaching Complex BSL, KVV depot.
For this one or two staff is sent one/twice in a month as per the requirement and emergency.
- 7) Attending unusual occurred while loading and unloading at BD, BGN, AK, PS, WLGN, RPLW siding. For any C&W Control message at road side, minimum 03 staff is sent to attend the unusual.
- 8) Attending break down calls in RPLW to BD, JM – KMN, PS MSEB Siding and Main line also.
- 9) Jurisdiction of the SSE/C&W/MZR is up to Chandur Bazar /RPLW siding in DN side and up to Shegaon in UP side. Also JM-KMN, PS Siding and NG sections (MZR-ELP-MZR).
 - In MZR-ELP-MZR (52137/38) Passenger train total 04 coaches, 04 GS and 01 SLR in centre.
 - Round Trip BPC is issued for this Passenger train.
 - Maintenance of the rakes is done mostly in 16-24 duty.
 - In this they check Rolling in, Axle Box feeling and Pit Line Examination.

Particulars of the Coaches running on NG Passenger Trains (MZR-ELP)

Sr.No	Coach No.	Rly	Type	POH	Return Date
01	939	CR	GS	14/12/16-KVV	02/19

02	915	CR	GSLR	10/09/16-KWV	12/18
03	465	CR	GS	19/11/16-KWV	12/18
04	161	CR	GS	10/08/16-KWV	12/18

Particulars of the unusual attended by C&W staff in last six months:

Train parting cases	Hot axle	Air pressure trouble in load	Derailment	Total no. of wagons attended on trains at MZR	Total no. of wagons attended en route out-stn	NG loco attended for trolley change by Road ART	NG coaches loading in truck by Road ART
06	10	05	00	280	32	00	02

3.6.4 Existing deployment of the C&W staff:

- 1) 01 SSE as a Supervisor / Depot In charge.
- 2) In Day shift(08-16):

MCM	01
Tech-I	01
Tech-II	01
Tech-III	02
Helper/Khalasi	02
Total	7 staff

- 3) In Evening shift (16-24)

SSE	01
MCM	01
Tech-I	01
Tech-II	01
Tech-III	01
Helper/Khalasi	02
Total	7 staff

- 4) In Nigh Shift (00-08)

SSE	01
MCM	01

Tech-I	01
Tech-III	02
Helper/Khalasi	02
Total	7 staff

- 5) For the maintenance of Road Mobile Restoration Unit (ART).
01 MCM, 02 Tech-III & 01 Khalasi is deployed. The staff perform all their important work and checking of the Hydraulic jacks and other equipments.
- 6) 01 khalasi used as office boy.
- 7) 01khalasi is for cleaning of both rakes of NG, SSE office, ART shed and premises.
- 8) 01 motor driver for RMRU (ART) and another work.
- 9) 01 Welder, to attend brake down, welding work in NG loco shed, AMI shuttle, MZR and is sent to road side stations also.
- 10)01 OS (NP) to work for store record and official work.
- 11)01 Jr. Clerk (NP) and 01 Tech-III to make pay sheet (Loco+C&W+Running Staff) and other official correspondence.

3.6.5 Recommendation:

In year 2016-17, work study was conducted and in that 01 post of Tech-I was identified as surplus and it was surrendered. Now at present no recommendation is proposed.

3.7 MZR Diesel Loco Shed :

3.7.1 Introduction

- MZR loco shed is one of the oldest NG loco shed in BSL Division. Today it has 06 locos out of which only three locos are in service. A brief description of the diesel locos at MZR/NG is as follows:
- All are of type ZDM/4/A.
- These locos are used for Passenger service only.

Sr.No	Loco No.	Commissioning Date	Remarks
01	199	24-04-1983	Due for condemnation
02	200	28-06-1983	
03	202	14-12-1983	Handed over to BSL for Heritage Museum
04	213	28-06-1986	At Parel for IOH
05	214	26-03-1987	In service
06	216	--	
07	209	04-06-1986	

- Out of these 07 locos, only 03 locos are in service.
- Loco no: 209 & 213 are received from MotiBagh in June 2016.
- Loco no: 214, 209 and 216 are in service.
- Loco no: 199 & 200 are overdue for Yearly Schedule since Nov.2014.
- Codal life of the Diesel loco at MZR/NG is 36 years.
- Fuel Consumption of the loco in MZR-ELP-MZR section is about 250 liters.
- Diesel for the loco comes from Mumbai (Reliance Company). On an average it comes 02-03 times in two months. One tanker is of about 12,000 liters.
- Lube oil is brought from BSL.

3.7.2 Scale check of the Diesel Loco staff at MZR depot:

Sr.No	Category	PB+GP	S/S	MOR	Vac.	Excess	Remarks
01	JE (Steam)	9300-34800+4200	01	00	01	--	--
02	JE DSL. ENG WING	9300-34800+4200	00	01	00	+01 Working Against Steam Vacancy	
03	OS (NP)	9300-34800+4200	02	01	01		
04	Sr. Clerk (P)	5200-20200+2800	01	00	01	--	--
05	Sr. Clerk (N/P)	5200-20200+2800	01	00	01	--	--
06	Jr. Clerk (N/P)	5200-20200+1900	01	00	01	--	--
07	MCM(Steam)	9300-34800+4200	01	00	01	--	
08	Fitter-I	5200-20200+2800	05	00	05	--	--
09	Fitter-II	5200-20200+2400	01	00	01	--	--
10	Fitter-III	5200-20200+1900	00	03	00	+03	Against H/G Vacancy
11	Loco steam Khalasi	5200-20200+1800	05	02	03	--	--
12	Diesel Mech.I	5200-20200+2800	02	00	02		
13	Diesel Mech.II	5200-20200+2400	00	01	00	+01	
14	Diesel Mech.III	5200-20200+1900	01	00	01	--	--
15	HSF I (Dslt&c Wing)	5200-20200+2800	01	00	01		
16	HSF II (Dslt&c Wing)	5200-20200+2400	01	00	01		
	Total		23	08	20	+05	

3.7.3 Work Load on Diesel Loco Staff at MZR:

- 1) Maintenance/repair of the locos is mostly done in the night as the train arrives from ELP in the evening (Mostly after 20.00).
 - 2) Another major or heavy repair is done in day shift i.e 08-16 shifts.
 - 3) There are only three locos in working condition in the depot. So as far as possible the remaining one spare loco is kept ready for the next trip. But if not possible, the same incoming loco is ready for the next trip.
 - 4) In case of any unusual or loco failure the staff attends the location by road way. Loco is attended and is accompanied up to destination.
 - 5) After every trip the loco is taken on pit line. Then the staff checks the under truck, Pony Pin, Fittings, Garden shaft , Brake block, Gear box oil, lube oil, transmission oil level, Bare Fan oil and other important items.
 - 6) After every trip 250-300 liters of diesel is supplied as a top-up.
 - 7) In MZR diesel loco shed, only Trip schedule& Fortnightly Schedule is carried out.
- 3.7.4 Existing Deployment of the Diesel loco staff :

- i) In Night Shift (00-08), depending upon the work load, two or three staff is deployed. This staff readies the incoming loco in all respects like fueling, Watering etc.
- ii) In Day Shift (08-16), 02-03 staff is deployed (Depending upon the work, and availability of staff).
This staff carries out the Maintenance of the remaining locos and also unscheduled maintenance.
- iii) In Evening shift (16-24) only 01 staff is deployed.
This staff does the remaining cleanliness, other pending works of the locos and from security point of the shed and RCD.
- iv) OS deals with Store Correspondence and look after the RCD work.

3.7.5 Critical Analysis:

In year 2016-17, work study was conducted and in that 02 posts of Helper/Khalasi were identified as surplus and was surrendered. Now at present no recommendation is proposed for the technical staff.

The workload of OS (NP)& Jr.Clerk at MZR (C&W), OS (NP) at Diesel Loco(MZR) is justified by the work study team.

But it is observed that for Sanction Strength of 68 staff (C&W 33 + LOCO 23 + LOCO(R) 12) one Jr. Clerk(NP) of MZR(C&W) is enough to carry out the dealing (i.e Pay sheet, Pass & PTO and other correspondence).

As per the average benchmarking norms of IR the number of staff dealt by a NP staff is about 100. Hence 01 post of Jr. Clerk (NP) and 01 post of Sr. Clerk (NP) at Diesel loco shed MZR is identified as surplus.

3.7.6 Recommendations:

It is recommended to surrender 02 posts (01 post of Jr. Clerk (NP) and 01 post of Sr. Clerk (NP)) from the Sanction Strength of Diesel Loco Shed MZR.

3.8 MMR-LOCO:

3.8.1 MMR is an important junction in Bhusawal division. Locos from other divisions/railways are taken over and handed over at MMR.

3.8.2 Scale check of the MMR/LOCO depot:

Sr.No	Catgory	ML	SS	MOR	Vac.
01	SSE(Loco)	07	01	01	00
02	Loco Foreman(D)	07	01	01	00
03	SLI(D)	07	01	01	00
04	COS(NP)	07	02	02	00
05	OS(NP)	06	01	00	01
06	Jr.Clerk (NP)	02	02	00	02
07	Office Boy	01	01	01	00
08	MCM (DSL) Pump Driver	06	01	00	01
09	D.PumpDri-I	05	03	00	03
10	D.PumpDri-II	03	00	01	+01
11	D.PumpDri-III	02	01	04	+03
12	MCM T&C	06	01	00	01
13	HSF T&C-I	05	02	01	01
14	HSF T&C-II	03	00	00	00
15	HSF T&C-III	02	00	00	00
16	MCM(DSL)	06	00	00	00
17	DSL Mech-I	05	02	00	02
18	DSL Mech-II	03	00	00	00
19	DSL Mech-III	02	00	01	+01
20	MCM(R&M)	06	00	00	00
21	Tech R&M-I	05	04	01	03
22	Tech R&M-II	03	01	00	01
23	Tech R&M-III	02	00	02	+02

24	D.pump khalasi	01	10	05	05
25	Helper/khalasi	01	08	05	03
26	SKR	02	03	01	02
	Total		45	27	18

3.8.3 Work load on the depot:

Running & maintenance, troubleshooting and fuelling of diesel loco.

Activities undertaken by the staff:

- Decanting of 3 to 4 tankers in a day.
- Round "o" clock in shift duty fueling is done. In each shift around 08 to 09 loco fueling is done which is round about 27 locos in 24 hrs. on an average 50000 to 60000 liters of HSD oil fueling is done in 24 hrs by fuel issuer and pump khalasi.
- Round "o" clock in shift duty servicing of loco is done for T&C and engine wing. In each shift around 06 to 07 locos are being checked either live over or through trains by technician staff with H/Kh which is around 21 locos in 24 hrs.
- Trouble shooting of the loco by supervisor on daily basis.
- Attending any unusual in section by supervisor and technician staff.
- FMS, EDP, Tanker decanting record, HSD Oil sample testing, account of store material/HSD/oil on daily basis and monthly PCDO, audit, vigilance check, monthly survey, officer inspection etc by ministerial staff.
- Office and surrounding cleaning.

3.8.4 Critical Analysis

Non operative posts in the depot: Nil.

3.9 RCD-NGN

3.9.1 Scale check of the depot:

Category	SS	MOR	VAC	Remarks
Supervisor	01	01	00	
Ministerial staff	05	03	02	OS=01 Jr. Clerk=02
Outsourced staff	10	10	00	

3.9.2 Main objective of the depot:

Fuelling of the DSL locomotives.

3.9.3 Activities undertaken by the staff:

Supervisor: to supervise the fuelling of the Diesel locos.

Ministerial staff: working as a fuel issuer.

3.9.4 Critical analysis

Non operative posts in the depot: Nil.

3.9.5 Recommendations:

Installation of Bio-diesel tank for fuelling is in progress. The staff required in addition to existing staff can be outsourced by IOCL.

3.10 RCD-BSL

3.10.1 Scale check of the depot:

Category	SS	MOR	VAC
CLI	01	01	00
OS	01	01	00
Jr. Clerk	04	02	02
Pump Dr/Tech	04	05	+01
Pump khalasi	07	07	00
	17	16	01

3.10.2 Main objective of the depot:

Fueling OF Diesel loco engines, power ART, ART, SPART and other departmental machines i.e UTV, TTM, DGS, DMS.

3.10.3 Duty list:

A) Duty list of OS

To prepare monthly statement i.e survey sheet, Balance sheet, short receipt, CR and other Rly base wise loco HSD oil issued by RCD, also prepare ten days receipt & issued HSD oil statement, to maintain HSD oil stock register day to day, HSD OIL T41 statement shift wise, on line net filling day to day, other correspondence regarding RCD BSL also tanker decanting register maintain and tanker decanting register.

B) Duty list of Jr. Clerk:

Working as a fuel issuer in three shift, fueling of loco and power car, sfter issuing prepare T41 B form & issue ticket, prepare HSD oil position and to repeat to on duty PCOR day to day.

C) Duty list of pump driver & Tech:

To preset flow meter as per conversion by walkie talkie to fuel issuer and to operate Electric motor Pump and DSL pump and DG set. Also supervise all RCD area.

D) Duty list of khalasi:

Fueling OF Diesel loco engines, power ART, ART, SPART and other departmental machines i.e UTV, TTM, DGS, DMS and cleaning of RCD premises.

3.10.4 Critical analysis :

Future planning for outsourcing and suggestions/other requirements if any- enhance Bio diesel facilities.

At present there are 05 RCD in Bhusawal Division

BSL, MMR, NGN are major depots and MZR, PC are 02 minor depots.

At MZR and PC the work of RCD is look after by the Shed staff.

At NGN 10 staff (Pump mechanic & Helper staff) is outsourced by IOCL.

The overall Sanction Strength of BSL division for Diesel Pump Driver and Diesel Pump Driver khalasi is as follows:

Category	ML	SS	MOR	VAC.
Diesel pump Driver				
MCM	ML 6	03	02	01
Diesel pump Driver-I	ML 5	07	00	07
Diesel pump Driver-II	ML 4	01	01	00
Diesel pump Driver-III	ML 2	02	06	+04
Total		13	09	04
Diesel pump Driver Khalasi	ML 1	17	09	08

Need based requirement for the BSL and MMR depot:

Diesel pump driver :

01 in each shift, in 24 hrs 01x03=03 staff

01 as RG/LR

Total requirement 04 staff for 01 depot.

So 08 staff for 02 depots i.e BSL and MMR depot.

Sanction strength for Diesel pump Driver category is 13 and there are 04 vacancies.

Keeping in view the importance and work load of the RCD, work study identifies only 04 posts as surplus.

Recommendation no.02

It is recommended to surrender 04 posts (vacant) of Diesel Pump Driver-I from the Sanction strength of BSL division.

Similarly, for Diesel pump Driver Khalasi

01 in each shift, in 24 hrs 01x03=03 staff

01 as RG/LR

Total requirement 04 staff for 01 depot.

So 08 staff for 02 depots i.e BSL and MMR depot.

Sanction strength for Diesel pump Driver khalasi category is 17 and there are 08 vacancies. Keeping in view the importance and work load of the RCD, work study identifies only 04 posts as surplus.

Recommendation no.03

It is recommended to surrender 04 posts (vacant) of Diesel Pump Driver khalasi from the Sanction strength of BSL division.

3.11 Diesel Loco Shed BSL:

3.11.1 Scale check:

Category	SS	MOR	VAC
SSE	01	01	00
JE	05	00	05
CMS-I	01	00	01
CMS-II	01	01	00
Tech MCM	02	02	00
Tech I	06	00	06
Tech-II	01	00	01
MCM Welder	01	00	01
Welder-I	01	00	01
Welder-III	01	00	01
Helper	17	06	11
M/Khalasi	01	01	00
Total	38	11	27

3.11.2 Main objectives if the depot:

- i) Maintenance and operation of ART.
- ii) Maintenance of sterilizer, reservoir of division.
- iii) Wire rope testing of division.

3.11.3 Duty list of the staff of the depot:

The staff carry out the maintenance and operation of ART, maintenance of sterilizer, reservoir of division, Wire rope testing of division.

3.11.4 Critical Analysis & Recommendations:

Non operative posts in the depot: Nil.

Activities outsourced in the depot: Nil.

Future planning/requirement in future:

Nil

No recommendations.

BHUSAWAL DEPOT

As there are main 05 C&W depots in Bhusawal. The overall staff position for BSL Depot. It is as follows:

Sr.No	Category	PB+GP	S/S	MOR	VAC.
01	SSE	9300-34800+4600	86	79	07
02	Tr.SSE	9300-34800+4600	01	01	00
03	JE	9300-34800+4200	41	25	16
04	Lab.Suptd.	9300-34800+4200	01	01	00
05	Welding.Drg.Man	9300-34800+4200	00	00	00
06	Tech.-MCM	9300-34800+4200	188	180	08
07	Tech -Grade-I	5200-20200+2800	374	137	237
08	Tech -Grade-II	5200-20200+2400	153	90	63
09	Tech -Grade-III	5200-20200+1900	104	149	+45
10	Welder-MCM	9300-34800+4200	23	20	03
11	Welder -Grade-I	5200-20200+2800	45	22	23
12	Welder -Grade-II	5200-20200+2400	07	18	+11
13	Welder -Grade-III	5200-20200+1900	14	08	06
14	M/C.Man-MCM	9300-34800+4200	07	05	02
15	M/C.Man -Grade-I	5200-20200+2800	15	06	09
16	M/C.Man -Grade-II	5200-20200+2400	02	04	+02
17	M/C.Man -Grade-III	5200-20200+1900	03	07	+04
18	Helper/Khalasi	5200-20200+1800	313	277	36
19	Safaiwala	5200-20200+1800	00	00	00

20	Office Boy	5200-20200+1800	15	08	07
21	Motor Cleaner	5200-20200+1800	04	05	+01
	Total		1292	1002	290

3.12 COACH CARE COMPLEX BHUSAWAL.

3.12.1 BSL has a very important location in the map of Indian Railways. A number of Passenger Trains are originating and having destination at BSL. Almost 90% of the Passenger trains are maintained by BSL Division. This responsibility of the maintenance is very well done by the Coach Care Complex, BSL.

3.12.2 Scale check of the staff:

Category	MOR
Supervisor	16
Technician	88
Welder	06
Helper/khalasi	45
OS(NP)	01
Office Boy/Peon	01
Grand total	143

3.12.3 Work Load/Maintenance /schedule carried out in CCC BSL:

- i) Trip schedule of rake daily i.e. under gear examination and air brake testing, other repairs noticed during examination, dry sweeping, garbage disposal, internal/external/ lav/wash basin cleaning of trains etc.
- ii) "A" schedule after every month of each coach.
- iii) "B" schedule after every three months of each coach.
- iv) IOH repair after every nine months of each coach.
- v) General/other repairs of coach whenever necessary.
- vi) Examination of VPU/VPH and other coaches.
- vii) Examination and maintenance of ART, Tower wagon, RA/RE& 13 nos. Of CNP coaches.
- viii) Inspection and making reports of off-POH and due POH coaches to the shops.
- ix) Recording and maintenance of each and every schedule, repairs attended and history cards of each coach.
- x) Loading and unloading, storage and handling of materials and make them available at the site.
- xi) Move with SPARMV whenever ordered.
- xii) Total 16 rakes are maintained by CCC, BSL and one millennium train daily.
- xiii) Standard formation of the Pass. Trains:

Sr. No.	Train No.	No. of Rakes	Std. Formation (GS coaches+SL)
01	51183/84	02	12+02
02	51153/54	01	11+02
03	51198/97	02	13+02
04	51182/81	02	13+02
05	51158/57	04	12+02
06	51188/87	04	12+02
07	21111/12	01	09+02(08 CZ+01 ACCZ)
08	Millennium special (VPs) rakes	01	Depending upon of Traffic requirement

- xiv) Total maintenance of 222 nos. of coaches holding of the depot.
- xv) Maintenance of 13 CNP coaches (TV).
- xvi) Maintenance of 02 salons.
- xvii) Maintenance of ART/ARME coaches.
- xviii) Maintenance of 01 ZRTI coach.

3.12.4 Deployment of the staff in each shift:

- In CCC/BSL there are total 07 Gangs and 01 IOH Gang.

In a shift there are 02 Gangs.

In a Gang = 11 staff (10+01 supervisor).

In a Shift = $11 \times 02 = 22$ staff.

In 03 shifts = $22 \times 03 = 66$ staff.

The 07th Gang is a Rest Giver Gang.

- In IOH Gang there is 31 staff (30+01 Supervisor)
- In Material Handling = 26 staff.
- In welding there is 05 staff.
One in each shift, 01 RG and 01 in IOH.
- For Carriage Inspection = 05 staff.
- For Statistical Work = 08 staff is utilized by the in charge as per the suitability of the staff.

3.12.5 Critical analysis:

Calculation of the Man Power at the COACH CARE CENTRE/BSL as per Railway Board's norms is as follows:

Sr.No	Activity/ Types of Maintenance	Remarks	Manpower
01	Primary Maintenance of 56 coaches of pass. Trains.	$56 \times 0.75 = 42$	42
02	Primary Maintenance of 11 S/F coaches	$11 \times 1.1 \times 2.7 = 3.45 = 4$	04
03	Primary Maintenance of avg. 11 VPU/VPD coach/day	$11 \times 0.75 = 8.25 = 8$	8
04	Primary Maintenance of avg. 11 ART/ARME/wagons	$11 \times 0.75 / 7 = 1.17 = 1$	1
05	Material store handling	26	26
06	Inspection carriage	$3 \times 1.76 = 5.28 = 05$	05
07	Statistical work	08	08
08	Sick line attention & IOH total handling+Innovation	$214 + 60 + 44 + 25 + 14 = 357$ coach + 13 TV + 8 ART/ARME+3 Inspection car+ 1 ZRTI, 5 BD-AMI, 06 CSN-DHI, 3 JM-KMN $357 \times 0.14 = 49.98 = 50$	50
	Welding Work	08	08
07	For Clerical work	02	02
08	Office Boy	01	01
09	Depot In- Charge	01	01
10	Leave Reserve	15 As per norms	15
	Total		171

➤ Total Power Requirement = 171 staff.

- i) Upon go through the details of various activities and calculation of manpower requirement, it reveals that there are some unscheduled work like Millennium, Special trains examination, sick attention of coaches, Breakdown duties,

maintenance of RA/RE after placement, maintenance of SPARMV besides his regular duties of Primary maintenance of based trains at Bhusawal.

- ii) The cleaning and washing of coaches as well as premises of the depot has already outsourced and posts were already surrendered against earlier work study.

3.12.6 Recommendation

Considering the above various important examination and maintenance activities to be carried out in time bound manner to ensure safety in train operation, it is necessary to have adequate manpower in the depot. As such no recommendation is presented.

3.13 Passenger Depot BSL

3.13.1 Bhusawal Jn. is one of the main junctions in the Indian Railways. Trains from all over the other railways have halt at BSL. As a junction there are passengers originating to all directions from BSL. As the number of trains passing through BSL is high we have to give attentions to all the trains C&W staff at BSL plays an important role in smooth running of trains.

3.13.2 Scale check of the C&W staff:

Sr.No	Category	Grade+GP	MOR
01	SSE	9300-34800+4600	12
02	JE	9300-34800+4200	07
02	MCM	9300-34800+4200	34
03	Tech-I	5200-20200+2800	18
04	Tech-II	5200-20200+2400	12
05	Tech-III	5200-20200+1900	12
06	Helper/Khalasi	5200-20200+1800	19
07	Office boy	5200-20200+1800	01
Total			115

3.13.3 Work load on Passenger Depot BSL:

i)

Sr.No	Activity	Daily	Weekly	Monthly
01	Safe to run examination of Mail/Express and passenger trains Rolling in examination Visual examination , obtaining axle box	Mail/Express=10 5 trains, 2310 coaches Passenger trains=22 , 308 coaches.	Mail/Express=735 trains, 16170 coaches Passenger trains=154, 2156 coaches.	Mail/Express=3150 trains, 69300 coaches Passenger trains=660 , 9240 coaches.

	temperature, Defect attention and rolling out examination			
02	PF attention of passenger trains of RBPC trains	7.14 trains	50 trains	214.2 trains
03	Watering of Express trains	105 trains 2310 coaches	735 trains 16170 coaches	3150 trains 69300 coaches
04	CTS work	27 trains 120 AC coaches 315 CN coaches	189 trains 840 AC coaches 2205 CN coaches	810 trains 3600 AC coaches 9450 CN coaches
05	Pipe line repair and material handling	Cannot be specified		
06	Record maintenance and allied activity	Cannot be specified		
07	Attention public complaints	Cannot be specified		

II) Rolling in/out carried out of trains on an average per day per shift:

Shift	Mail/Express	Passenger
00-08	40	06
08-16	28	07
16-24	30	09
Total	98	22

III) Following maintenance / schedules are carried out:

- i) Safe to run examination of Mail/Express and passenger trains consisting of 03 parts
 - a) Rolling in examination
 - b) Visual examination , obtaining axle box temperature
 - c) Defect attention and rolling out examination.
- ii) Repairs/sick marking of major/minor defects noticed during STR examination.
- iii) Attention to public/other complaints related to safety and amenity fittings of Mech. Deptt.
- iv) Issuance and maintenance of BPC/APCC of trains originating/terminating at P.Stn.
- v) Issuance and maintenance of BPC/APCC of coaches attached/detached at P.Stn.
- vi) Assisting in attaching/detaching of coaches.
- vii) Watering of all en-route trains.
- viii) Watering and cleaning of RBPC trains at P.stn.
- ix) Cleaning of nominated en-route CTS trains from 06.00 to 22.00 hrs.

IV) Nature of complaint occurring on station/ main line:

- i) Guard Complaint:

- Main door jam, window shutter not opening or its latch defective, main door locking arrangement failed, Guard seat broken, Guard valve defective, tail lamp bracket broken, Brake not applied in brake van, BP/FP gauge defective, Alarm system of specified coach arrived isolated due to defect.
- ii) Driver Complaint :
Brake power jam of specific coach, air flow indicator showing abnormal, air pressure trouble, cattle run over in section, load running jam, train not in control, buffer height low of front SLR, Defective CBC coupling etc.
 - iii) Commercial staff complaint:-
Luggage compartment sliding door jam, dropped from top rail, door not opening and closing.
 - iv) DY SS instructions:
To maintain the punctuality of the trains. To start train within schedule halt, Attaching/detaching of sectional coaches/VP's/ RA/RE etc.
 - v) Public complaint
Wash basin defect, lavatory push cock broken, leakage or broken, water leakage from roof, Water not available in a specific coach, Alarm system defective, Water leakage from window/roof in the rainy season, Green toilet choke up, Dustbin full, cockroach available in the AC compartments, dirty bed rolls, liquid soap or tissue paper not available in the toilet, Cabin door defective etc.
 - VI) Materials required for maintenance comes from Coaching Complex BSL, Up Repair Depot BSL and DN SS BSL. Few items are locally procured through imprest.

3.13.4 Existing Deployment of the staff at the station:

- 1) At Passenger station, BSL there are total 19 supervisors:

Depot In charge 01.

Shift In charge 04 (03 in each shift + 01 RG).

For 08 Gangs of Main Line 08 Supervisors

For CTS+RBPC work 05 supervisors (04 daily in shifts + 01 RG).

01 Supervisor as LR.

Total comes as 19 supervisors.

- 2) There are total 08 Gangs working:

04 in Up Platform/ UP direction (03 Gang + 01 RG)

04 in DN Platform/ DN direction (03 Gang + 01 RG)

- 3) In 01 Gang there is 11 staff. It comprises of:

MCM	02
Tech-I	05
Tech-II	01

Tech-III	02
Helper/Khalasi	01
Total	11

So, 11 staff x 08 gangs = 88 staff.

- 6) 01 staff is kept for the supervision of the watering of the trains. To attend watering complaint in specified coach.
- 7) For Passenger attention/PF attention/Terminal Attention 04 staff is used.
- 8) Rolling In + Axle Box Temperature Noting done by 06 staff in rolling cycle.
- 7) There is a Special Gang comprising of 14 staff.

MCM-03, Tech- 03, H.Kh 07, 01 Office Boy

This special gang looks after the Pipe line Maintenance, Material Handling and other important scouting.

2 H.Kh. are utilized for monitoring of RBPC trains.

01 Office Boy

This is the deployment of the 115 staff at the Passenger Station, BSL.

Non operative posts in the depot = Nil.

Activities outsourced in the depot:

- Watering of en-route and originating trains.
- Watering & Cleaning of RBPC trains.
- Cleaning of nominated CTS trains.

3.13.5 Critical Analysis:

As BSL station is very important and busy station having more than 105 trains (more than 2310 coaches) halting, it becomes necessary for the C&W staff to give attention to each and every aspect of safety.

Man power requirement at Passenger Station BSL as per Yardstick is given as below:

Sr. No	Activity	Work load	Bench marking norms	Category	Grade	MPR as per yard stick	Actual
01	En route train passing , turn round attention,	No. of coaches per day Mail/Exp 2310	0.26 Men per coach for long dist. High	MCM 8%	9300-34800+4200	45	16
				Grade-I 41%	5200-20200+2800	229	40
				Grade-II	5200-	145	08

	terminating and originating	coaches	speed trains.	26% Grade-III 25%	20200+2400 5200-20200+1900	139	16
	Total					558	
02	Watering to through trains contract awarded but require monitoring round the clock	Not specified			5200-20200+1800	Not specified	08
03	Monitoring of RBPC work of passenger trains-contract awarded but require monitoring round the clock	Not specified			5200-20200+1800	Not specified	02
04	CTS work - contract awarded but require monitoring round the clock	Not specified			5200-20200+1800	Not specified	
05	Ancillary work- pipe line, hydrants maintenance, material handling, record maintenance	specified			Grade-I	04	01
					Grade-II	08	00
					Helper/Khalasi	08	05
06	Office Boy					02	01
07	For tackling SPL trains in holiday/summer season	54 coaches/day requires extra man power $54 \times 0.26 = 14$			MCM	03	
					Grade-I	01	
					Grade-II	6	
					Grade-III	04	
08	Supervisors					22	18
						628	115

Total requirement of the staff for Passenger Station, BSL comes to 628 staff.

3.13.6 Recommendation: to fulfill the staff requirement.

3.14 ROH BSL

3.14.1 ROH is one the main C&W depot in BSL Division. All the Goods Rolling Stock is maintained by the ROH depot and regular examination/inspection is carried out for the safe running of the Goods stock.

3.14.2 Scale check of the C&W staff:

SN	Category	SS	MOR	VAC	Remarks
1	SUPERVISORS				
	SSE.	----	19	----	
		----		----	
	JE	----	1	----	

	CMS Supervisors UST	----	1	----	
	TOTAL		21		
2	MINISTRIAL STAFF				
	COS	----	1	----	
	OS-II	----	0	----	
	Jr. Clerk. (N/P)	----	2	----	
	Sr. Clerk. (P)	----	1	----	
	TOTAL		4		
3	TECHNICIANS				
	Technician - M.C.M	----	62	----	
	Technician - I	----	36	----	
	Technician - II	----	20	----	
	Technician - III	----	41	----	
	TOTAL		159		
4	WELDERS	----			
	Welder -M.C.M	----	13	----	
	Welder-I	----	12	----	
	Welder-II	----	0	----	
	Welder-III	----	13	----	
	TOTAL		38		
5	MACHINE MAN				
	Machine Man- M.C.M	----	6	----	
	Machine Man-I	----	5	----	
	Machine Man-II	----	6	----	
	Machine Man-III	----	7	----	
	TOTAL		24		
6	MOTOR DRIVERS				
	Motor Driver -MCM	----	2	----	
	Motor Driver -I.	----	2	----	
	Motor Driver -II	----		----	
	Motor Driver -III	----		----	
	TOTAL		4		
8	HELPER KHALASI	----	112	----	
	Moter Cleaners	----			
	TOTAL		112	----	
9	Elect.Wire Man I	----	1	----	
	OFFICE BOY	----			
			363		

3.14.3 Work load of ROH BSL:

i) This depot is for maintenance of Freight/Goods stock only i.e. BOXN, BCN, BTPN, BOXN-HL, BCN-HL, BOOST, BLC, BRN, BOBYN, ETC.

ii) Here routine over hauling is done. Periodicity – 18 months of each wagon, except BCN 24 months.

ii) The maintenance is based on RDSO pamphlet G-95, G-76 and Wagon Maintenance Manual.

iii) Also give attentions to the modifications and alterations received from time to time from Head quarter.

iv) As per target this depot has to give a output of 12-15 wagons per day. The monthly target of the depot is 350 wagons.

v) The total holding capacity of the ROH BSL is 172 wagons.

vi) The maintenance is carried out mainly in day shift i.e. 08.00-17.00 hours (lunch break of 01 hour from 12.00-13.00).

Some minor work is carried out in the night shift. 20-25 staff works in the night shift. They mainly arrange the wagons/trolleys for maintenance in the day shift and place the ready wagons in a proper way to avoid the delay in the morning shift.

vii) Materials required for maintenance comes from Dy.CMM(ACL), BSL, SMM/SBSL, Dy.CMM/CWE/Matunga, Dy.CMM/CWE/Parel, Dy.CMM/CWE/Curry Road (CRD).

viii) As ROH depot is a big depot here 4 cranes and 2 fog lift is available for the service.

➤ Various sections in ROH BSL:

- i. Body Repair Section
- ii. DPT Test – additional activity.
- iii. Body/Panel Patch repair Section.
- iv. Trolley Repair Section.
- v. Mirror test of Bogie Bolster- additional activity
- vi. DPT Test Trolley –additional activity
- vii. Magnetic Test of Trolley -additional activity
- viii. BTPN Repair Section.
- ix. CTRB Mounting and Dismounting Section - additional activity
- x. DV Repair & Testing section.
- xi. Air Brake and Testing Section.
- xii. Detection of Due/Overdue CTRB- additional activity

3.14.4 Existing Deployment of the staff

Deployment of Staff working at ROH Depot/BSL				
SL N O	Work	No.of Staff	Total Gang	
1	Supervisor	21	-----	Depot Incharge =01, Second Incharge/ Co-Ordinator =01, Body Work=02, Panel Patching=02, Trolley Section=02 Air Brake Testing=01, BTPN & CTRB=01, M&P=02, BV/IOH=01, UST=04, Night Shift=01, Store=01, LR=01
2	Body Work	58	4	Lowering & Lifting =08, Body Work =15, Welder=10, Reviting=06, Wagon UnCoupling =02, Night Shift=05, Heavey Repair Work=05, Oiling + DPT=01, Shed Cleaning=04, Recorder=01, Canteen Operter=01, Spl Work =02 (Welder =01,Kh=01)
2	Trolley Section	77	4	Wheel =04, Hook =04, Spring Grouping =04, Trolley Gauging =04, Gress Seal (Checking and Punching) =04, EM Pad Warranty =03, SF Key=02, Reivter=02, Mirrer Test =01, DPT Test=01, Trolley Cleaning =02, Trolley Repair =16, Welder=10, SAB=04, Shed Cleanining =01, Night=07, Trus/Bar=02, Material Supply =04, Recoder =02,
3	Panel Patching	48	4	Body Repair=30, Welder=12,Water Tight & Patches Colouring =02, Plate Cutting=02, Recoder=02,
4	Air Brake Testing	26	2	DV Section=05, Brake Gear Adjustment=02, SWTR=02, Pre-Testing=04, Dirt Clening& Filter Changing=02, Brake Gear Couple =05 Welder=02, Recoder=01, Air Brake Compoent Repair =03
5	BTPN Section	12	3	Man Hole Cover Opening &Fiting = 02, Mater Valve / Audco Valve Repair & Testing =05, Man Hole Cover + Filling Pipe and Discharge Pipe Checking & Repair = 04 , Welder =01
6	CTRB Section	9	2	CTRB Dismounting = 03, CTRB Mounting=04, Bearing Particulars Recoder =01, Journal Gaguing + Lateral Play Checking =01
7	BV/IOH	14	1	Under Gear Repair=04, Body Work=02, Couple & Uncouple=02, Hand Barke Repair & Whiting Jack Operater=02, Welder=01, Night Shift=02, Recoder=01
8	UST	14	3	Punching=01, Plate Fixing=01, Small Spanner=01, Torque Wrench=02, Tapping of Lock Plate=01, Cleaning and Application of Greasing of Axle Face=01, Machine Handling=01, Plug Gauging =02, Screw Gauginh=01, Computer Operater=01, Night Shift=02,
9	M&P	54	-----	Maints Work =09, ElectriclesMaints Work=03, Office Work=02, Air Comp Attends=01, Boiler Operation=01, EOT/Fork Lift=01, Wheel Feeding=06, EOT Operation ROH+COG=11, HYT Wheel Lathe in 3 Shift= 06+ Boiler Operation=02, Air Comp Attends=01, Machine Shop=03+ Moter Driver=04, Computer Operater=01, Other Outside Work=02,Welder=01,

10	Stores	16	-----	Store Clerk =03, Handling of Material from SMM/BSL, ACL/BSL & From Out Station =13
11	Miscellaneous	14	-----	Painter=04, Blacksmith=03, Office Poen=02, Shed Cleanining =01, Neutral Control=02, Long Absent=01, ROH Position =01
	Total ROH Staff	363		

Total staff available for ROH activity= 363

Details are as follows:

a) Directly involved in ROH activity = 286 staff including supervisors.

b) Leave Reserve = 39 staff including supervisors.

Total = 325 staff including supervisors.

Staff indirectly involved in ROH activity

a) Mill-Wright Staff = 31 staff including supervisors.

b) Stores activity = 19 staff including supervisors.

c) Personnel Staff = 01 staff.

d) Office Boy = 02 staff.

Total = 53 staff.

Grand total = 325+53=378 staff.

Non operative posts in the depot if any – Nil.

Activities outsourced in the depot -

- a) Rehabilitation of BOXN Wagon to BOXNR
- b) Twin Pipe System
- c) Body Patching Welding Work.
- d) CTRB Overhauling.

Future planning for outsourcing and suggestions / Other requirements if any –

Planning for outsourcing

- A) AMC for EOT Cranes
- B) AMC for Boiler
- C) AMC for Air Compressors.
- D) AMC for Welding Transformer.
- E) Outsourcing of FMM Work.

Other Requirements

- A) Staff required additional =15 for FMM work
- B) Staff required for increased ROH Outturn from 345 to 400 wagons.
= 27
- C) Staff required additional CTRB Work = 5 staff
- D) Staff required additional for wagon purification work=3
- Total Staff required as additional: 50**

3.14.5 Critical Analysis

- Target of the ROH Depot = 400 wagons per month.
- Man/ hour required for attention of one ROH Wagon = 160.
(As per the guide lines of CRSE(Fr.)/CSTM vide their Office Letter no. M/79/C&W/EXAM Dated 06/01/2015.).
- Total man / hour required for 400 wagons= $400 \times 160 = 6400$.
- Available man / hour = $286 \times 7 (\text{maximum working hours per day per shift}) \times 25 (\text{average working days per month}) = 50050 \text{ man / hour}$.
- Man/Hour shortage = $55200 \text{ man / hour} - 50050 \text{ man / hour} = 5150 \text{ man / hour}$.
- Total staff shortage per day= $5150 / 7 / 25 = 29 \text{ staff}$.
- For additional work of mirror test, DPT, Magnetic testing & detection of due/ overdue bearing CTRB and their mounting& dismounting = 22 staff.
- Additional staff requirement for store section= 08 staff (As per norms).
- Total additional staff required for ROH activity = $29 + 22 + 08 = 59 \text{ staff}$.

Therefore, to maintain target of ROH i.e. 345 wagons per month considering all the additional work total sanction strength is required to be $378 + 59 = 437 \text{ staff}$.

However, a work-study for review of C&W staff at ROH Depot/BSL was already conducted in the year 2012 and 15 posts identified were also surrendered.

3.14.6 Recommendation:

To fulfill the requirement of the staff.

3.15 UP WAGON REPAIR DEPOT/BSL:

3.15.1 As the name indicates it a depot located in up direction (in BSL Yard) for the repairing of the wagons. Here the repair work of the BOXN, BCN, BTPN, BOX, BCX, BTPGL etc and Brake Vans of the wagons is done.

3.15.2 Scale check of the staff at Up Repair Depot BSL:

Sr.No	Category	MOR
01	Supervisor (JE+SSE)	07
02	Technician	46
03	Welder	09
04	Helper/Khalasi	25
05	Office Boy	04
06	Ministerial Staff	06
	Total	97

3.15.3 Work load on the UPWRD, BSL

1. Attending all types of the repairs of sick wagons like BOXN, BCN, BTPN, BOX, BCX, BTPGL etc and Brake Vans TK Wagons, BLC (Excluding scheduled works).
2. ROH activities of UIC stock: Depend upon the availability of the stock.
3. Wheel defect rectified and wheel change.
4. Draft Gear Failure attended of above said goods stock.
5. Water tightening of all covered wagons.
6. Repairing of Master valve and discharge pipe attended to sick BTPN wagon.
7. Testing/Replacement of Air Brake.
8. Body repair, Door Gear attended of BOBYN wagons.
9. Attending sick wagons in section at all road side stations of BSL Division.
10. M.S Plate & other material unloading.
11. Vac. Gauge and Air pressure Gauge repair.
12. Condemnation of wagon/coach activities.
13. Scrap material collecting stacking & disposal.
14. Collecting restricting items from condemn wagons ex Loco Yard/BSL for disposition to OS (C&W) Store/BSL.
15. Warranty claims of premature failure of wagons components.
16. Maintain driver staff and vehicles.
17. Maintain store activities.
18. Output of the Depot is 10-12 wagons per day (Average Placement).
19. Maintenance of all vehicles, utilization of motor driver, Maintenance of all plant and machineries of UPWRD.
20. . Condemnation of all coaches and wagons on the basis of overage and present physical condition of the stock and disposal through stores organization .

21. Collection of restricted items and proper disposal of item , send to working Depot for further utilization.

- Material required for the Depot is brought from MTN, CRD, Byculla, VidyaVihar, DMM/BSL, DMM/AC/LOCO/BSL etc.
- Material required for the Depot is brought from ROH Depot/BSL in a regular manner since the major store maintained at ROH Depot/BSL.
- **Monthly out turn since last one year 2017(Nos. of wagon)**

Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec.	Tl.	Avg./Month
371	365	400	367	382	351	442	396	392	428	433	420	4747	395.6

Work load on Time Office:

- i) Preparing monthly pay sheet of all C&W staff (1582 staff) working at BSL as ROH depot (UPWRD, YD, STN, Cog. Complex, Stn, BTC, DRM Office staff).
- ii) All DAR activities if the 1582 staff.
- iii) All pass/PTO of the OR staff.
- iv) Other welfare work like promotion , increment, Loan matters, Ecc bank , Retirement benefit etc. etc.

3.9.4 Existing Deployment of the staff:

Direct Working Staff.

1. There are total 05 repair gangs.
In a gang there are 05 staff and 02 welders = 07 staff.
 $07 \times 05 = 35$ staff.
Also 01 Gang as a Air Brake System Gang = 07 staff.
So, $35 + 07 = 42$ staff.
 2. For Statistical Work 02 staff.
 3. For Computer Operation 01 staff.
 4. For Line Blocking 01 staff.
 5. For Material Handling 03 staff.
 6. Painter 01 staff.
 7. NC Neutral Control for Final Testing 01 staff.
Total =51
- Indirect Working Staff.
1. There are total 06 supervisors in the Depot.
Depot in charge 1
Total =58(4 Supervisors in the sidings.01 Supervisors in the Condemnation.

- 01 Supervisor in the M&P Maintenance.
2. 04 staff for Ministerial staff for Time Office and Pay Sheet work.
3. 02 OS (N/P).
4. 03 staff in siding for Dak, store correspondence and wagon dealing memos.
5. 04 staff in Time Office for letter correspondence to DRM (P), BSL, Finance and other miscellaneous work. (71+Condmination work =03=74
6. Pressure gauge repair 01staff, Compressor operator =01 ,
7. M&P Repair gang =3Technician + 02 Khalasi =05 staff.
8. 81staff+ 16LR/RG=81+16=97 staff.

3.15.5 Critical Analysis

As the depot carry out the work which is very important from safety point of view in a time bound period, it becomes necessary to review the requirement of the staff.

Sr.No	Name of the work	Work load (Out turn)						Avg. Out turn	Man power/wgn	Man Power R/ment
		Jan	Feb	Mar	Apr.	May	June		80m/hr.	
01	Wheel Change	33	21	32	22	20	24	55.3	80	4426.6
02	Draft gear	13	12	14	14	14	14	13.5	80	1080
03	Body repair A category	238	234	242	245	260	229	241.3	80	19306
	B category	13	12	14	14	14	14	13.5	100	13500
04	BTPN Repair	69	49	72	84	54	59	64.5	80	5160
05	DV Replace	9	15	17	18	16	11	14.3	80	1147
	AB Cyl. Replace	14	11	10	15	15	16	13.5	80	6480
06	Pre and final air brake testing	371	365	400	369	382	351	373	80	29840
07	Road side station	9	14	7	1	8	3	7	108	756
08	P/G Replace	09	09	15	15	13	07	11.3	80	906
09	Misc. Repair	13	09	14	10	12	10	11.3	80	904
10	Material collection from ROH and other depot							3x8		720
11	Scrap collection							3x8		720

										84945 M/ hour
--	--	--	--	--	--	--	--	--	--	------------------

as per norms.

Average total turn out = 395 Wagon/month.

Man power requirement= $395 \times 80 = 31600$ man-hours/240=131.6=132.

[LR@12.5%=16.5](#), [RG@16.6=21.9](#)

Total = $131 + 16.5 + 21.9 = 170$ staff (Direct working staff).

Other indirect staff requirement

Office Boy=02, Computer Operator=02, Data Recorder=04.

Total 08 staff.

Total Man Power Requirement for the Depot comes to $170 + 08 = 178$ staff.

3.15.6 Recommendation

. To fulfill the requirement of the staff.

3.16 BHUSAWAL YARD

3.16.1 Bhusawal Yard is the second largest yard in the Asia. As a Junction place goods trains from various directions come to Bhusawal and their repair and maintenance is carried out in yard.

3.16.2 Scale check of the staff:

Category	MOR
SSE	12
JE	10
MCM	46
Tech-I	33
Tech-II	08
Tech-III	38
Welder	14
Helper/khalasi	58
Jr. Clerk	01
Total	220

3.16.3 Work load/Maintenances/Examinations carried out at BSL Yard:

- i) Intensive Examination of all freight trains consisting of three parts
 - a) Rolling-in examination.
 - b) Visual examination obtaining axle box temperature, detaching defects and their maintenance as possible on trains or mark sick for repairs.
 - c) Rolling-out examination.
- ii) BSL yard is very well known for
 - a) CC pattern examination.
 - b) Premium rake examination.
 - c) Safe to run examination of loaded trains after back loading, when BPC is invalid.
- iii) In CC pattern examination (BSL freight Yard) BOXN, BONHL and BTPN are known as Pawan Hans, for BOXN Blue-Hans for BOXN-HL and Tapti for BTPN trains.
- iv) Certification for BTPNE rakes are also done in BSL yard after each and every unloading.
- v) Safe to run examination of loaded trains are also conducted in BSL yard after back loading, when BPC are invalid these trains are run by TFC on the GDR report.
- vi) Revalidations of the BLC rake are also done in BSL yard after every loading/un loading as per the Railway Boards Directives.
- vii) Measurements of the ODC's are also done in the BSL yard as well as in RPD siding as per their movement.
- viii) Unusual are also attended en route as per crew complaint as well as in MSEB siding and Chord line.
 - Work load on the BSL yard is divided in several points which are as under:
 - I) Terminal Point

All the trains running PTSC/Bye pass or terminating for nodal examination are passing from the terminal point. For this nominated staff works as under:

 - a) Staff is conducting Rolling in examination to detect deficiency and lapses & safety items negotiation.
 - b) Conducting axle box feeling by temperature gun as well as visual examination.
 - c) Attention on trains as per pre intimation by Carriage Controller.
 - d) Work load on the Terminal Point in last 03 months is given below:

Sr.No	Month	March-2018	April-2018	May-2018
01	Total number of trains examined as above	947	927	827
02	Total number of wagons detected as unsafe & marked	10	16	05

	sick			
--	------	--	--	--

II) NDL Yard (New Departure Line Yard)

- a) Nominated staff issuing the final BPC to Block/Released trains and working for departure and examination and attaching wagons.
- b) Conducting Rolling out examination of Blocked and Released trains & PTSC and Bye-Pass trains.
- c) Work load on the NDL yard in last 03 months is given below

Sr.No	Month	March-2018	April-2018	May-2018
01	Issue Final BPC to Blocked and Released trains	75	65	77
02	Rolling out Exam	75	65	77

Note: Trains are in UP directions only.

III) Back Road (DN departure Point)

- a) Nominated staff issuing the final BPC to blocked and released trains of DN direction as examination of part attaching wagons & Ready with air pressure in all respect.
- b) Conducting Rolling out examination & dispatching trains in DN direction.
- c) Conducting rolling-in examination of train arriving from MSEB/BSL siding and Paras siding.
- d) Work load on the Back Road in last 03 months is given below

Sr. No	Month	March-2018	April-2018	May-201
01	Issue Final BPC after readying the train in all respects	176	165	144
02	Rolling-out exam. Of above trains	176	165	144
03	Rolling-in exam.	44	40	38

IV) UP Marshalling Yard

- a) Up marshalling yard is mainly utilized for BTPNE/ BTPN loaded train examination and their certification work.

- b) Except above loaded trains, few trains are also examined in this yard like empty rakes of BCNE, steel consignment rake and revalidation of BLC rake.

V) DN Marshalling Yard

- a) It is utilized in examination of all stock except BTPN trains either loaded or empty.
b) Data of UP/DN Marshalling Yard is as under

Sr.No.	Month	March-2018	April-2018	May-2018
01	In UP yard total load exam. & revalidation of BLC	69	57	73
02	In DN yard total load exam.	179	175	158
03	Total mark sick in UP yard	110	118	105
04	Total mark sick in DN yard	471	522	386
05	Total wagon fit on train in both yard	2067	1860	1800
06	Total wagons attended and make fitted	250	230	172

VI) Sectional unusual

Sectional unusual are also attended by the BSL Yard staff

No. of unusual (in section) attended in last 03 months

Sr.No	Month	No. of unusual
01	March-2018	16
02	April -2018	37
03	May-2018	08

No. of unusual (in MSEB and Chord line) attended in last 03 months

Sr.No	Month	No. of unusual
01	March-2018	21
02	April -2018	15
03	May-2018	11

No. of ODC attended by staff in last 03 months

Sr.No	Month	Staff accompanied with "B" class ODC
01	March-2018	06
02	April -2018	03
03	May-2018	04

Requirement as per Man power as the Yard stick

Sr.No	Stock	Total no's of holding Capacity of wagons
01	BOXNE	1062
02	BOXNHLE	2494
03	BTPNE	800
	Total	4356

Rolling in /rolling out carried out of trains on an average per day per shift

i) Total nos. of Rolling in at all points per month=1101, per day=36.7, per shift=12.3

ii) Total nos. of Rolling out at all points per month=241, per day=8.3, per shift=2.67

3.16.4 Existing Deployment of the staff:

- I) Yard Examination Gang:
In a shift there are 03 gangs.
In 24 hrs =03x03=09 gangs
Rest Giver =02 gangs
Total 11 gangs.

01 gang consists of 09 staff (excluding Supervisors).
Total staff=11x09=99 staff.

- II) Back Road:
In a shift 01 gang
In 24 hrs 01x03=03 gangs
In 01 gang= 04 staff.
Total staff=04x03=12 staff (excluding Supervisors).

- III) Terminal Point:
In a shift=01 gang.
In 24 hrs=01x03=03 gangs.
01 gang is utilised as Rest Giver at Terminal Point and Back Road.

Total 04 gangs.
 In 01 gang= 11 staff.
 Total staff=11x04=44 staff.

- IV) For statistical work=02 staff (In General Shift).
 V) For Computer work=04 staff (In General Shift).
 VI) Welder –Total 14 staff.
 04 in each shift and 02 in General shift for Breakdown and other heavy works.
- VII) Air Compressor Attendant=04 staff.
 In yard there are 02 Compressors (01 in UP side & 01 in DN side).
 In a shift = 01 Compressor attendant.
 So, 01x03=03 staff and 01 as their Rest Giver
 Total 04 staff.
- VIII) Shift In charge Recorder= 06 staff.
 01 in each shift,
 In 24 hrs =01x03=03 staff.
 02 are also utilised in General shift =02
 01 as Rest Giver
 Total 06 staff.
- IX) For Yard survey= 02 staff.
 X) Clerk=01 staff.
 XI) In Material Gang=06 staff.
 XII) Light Job = 02 staff.
 XIII) Long sick more than 03 month. 02 staff
 XIV) Supervisors = Total 22
 Depot In charge=01Supervisor.
 01 each in 11 gangs=11Supervisors
 Material + Statistical Data=01Supervisor
 On Back Road, 01 in each shift=01x03=03 Supervisors
 On Terminal Point, 01 in each shift=01x03=03Supervisors
 Combined Rest Giver for Back Road & Terminal Point= 01Supervisor
 Shift In charge = 03, 01 as Rest Giver, Total =04 Supervisors

3.16.5 Critical analysis:

Sr. No	Activity	Work Load	Decided Man-hrs	Gang / Shift	Total no. of gangs	Total Man power requirement /gang	Total man power requirement

01	Intensive examination of all types of freight trains	08.00 load/day CC-1.64 PM-4.00 STR-2.35	100 Man-hrs 100 Man-hrs 56 Man-hrs	03	11 (09 proper gang =02 RG gang).	15	11x15=165 Men
02	Terminating points.	30.54 trains/day	16 man-hrs	01	04 (03+01 RG gang)	13	13x04=52men
03	NDL Yard	2.41 trains/day					
04	Back road point	5.67 trains/Day & 01 train/Day for axle box feeling	10 man-hrs	01	04 (03+01 RG gang) --	06	06x04=24 men
05	Welders	--	--	--	--	15	15
06	Office Boy	--	--	--	--	00	00
07	Computer Operator	--	--	--	--	04	04(Technical Staff)
08	STT Recorder	--	--	--	--	03	03(Technical Staff)
09	Store/Material handling	--	--	--	--	04	04
10	Supervisors/Engineers	--	--	--	--	23	26

	Total		293 staff
--	-------	--	-----------

3.16.6 Recommendations:

- i) Condition of old wagons is deteriorated day by day, which required extra resources and manpower to thorough examination of freight trains.
- ii) Round the clock provision of staff in multi gangs is necessary for examination of trains offered in bunching to avoid detention of freight trains in the yard for examination which ultimately leads to the huge saving of earning potential of railway. As such adequate manpower is necessary to release the trains after examination at the earliest to meet the traffic requirements.
- iii) Condition of old wagons is deteriorating day by day, which required extra resources and manpower to thorough examination of freight trains.
- iv) Round the clock provision of staff in multi gangs is necessary for examination of trains offered in bunching to avoid detention of freight trains in the yard for examination which ultimately leads to the huge saving of earning potential of railway. As such adequate manpower is necessary to release the trains after examination at the earliest to meet the traffic requirements.
- v) During the course of work study it was observed that the staff attends the sick wagons itself in yard on the train without detachment.

3.10.6 Recommendation:

Considering the above critical analysis there is no recommendation is presented.

3.17 SSE/LOCO/BSL:

Category	SS	MOR	VAC
SSE	01	01	00
JE	05	00	05
CMS –I	01	00	01
CMS-II	01	01	00
Tech MCM	02	02	00
Tech I	06	00	06
Tech II	01	00	01
MCM Welder	01	00	01
Welder I	01	00	01
Welder III	01	00	01
Helper	17	06	11

M/Khalasi	01	01	0
Total	38	11	27

Main objectives of the depot:

- I. Maintenance and operation of ART.
- II. Maintenance of sterilizer, reservoir of division.
- III. Wire rope testing of division.

Duty list of the staff:

The staff carries out the maintenance and operation of ART, maintenance of sterilizer, reservoir of division and wire rope testing of division.

Non operative posts in the depot: Nil.

Activities outsourced in the depot: Nil.

CHAPTER NO. 04 FINANCIAL IMPLICATION

As per the recommendations of the work study team, 04 posts are identified as surplus and the money value as a result of surrender of these posts is worked out as under:

Category	Level	Pay Scale	Mean Value	Monthly Money Value	Yearly per post money value	No. of posts	Total Annual saving in Rs.
Jr.Clerk	2	19900-63200	41500	45235	542820	01	542820
Sr.Clerk	5	29200-92300	121500	132435	1589220	01	1589220

Diesel pump driver-I	5	29200-92300	121500	132435	1589220	04	6356880
Diesel pump driver Khalasi	1	18000-56900	37450	40821	489852	04	1959408
Total Posts						10	

On surrender of 10 identified surplus posts the recurring saving will be Rs. 10,448,328 /- Per annum.
