

WORK STUDY ON THE
REVIEW OF STAFF STRENGTH
OF
NARROW GAUGE DIESEL SHEDS (PRATAPNAGAR AND DABOI)
UNDER
VADODARA DIVISION
(No.G.463/WR/WS-31/2018-19)

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EXECUTIVE SUMMARY

Serial No.	-	31
Study No.	-	WR/WS-31/2018-2019
Case No.	-	G.463/WR/WS-31/2018-2019
Subject	-	Review of staff strength of Mechanical Department Diesel Shed-DB & PRTN –NG under BRC Division
Area	-	Diesel Shed-DB & PRTN –NG
Division	-	Vadodara
Department	-	Mechanical
Authority	-	AGM-CCG's approval letter No.G.463/3/Vol.IV
Terms of Reference	-	To identify the actual requirement of staff strength in Diesel Shed – PRTN & Daboi under BRC Division.
No. of Recommendations	-	3 (Three)
Summary of Recommendation		At page 5

Projected Manpower :

Cadre position of Supervisory and maintenance staff of NG-DLS Shed /PRTN:

Sr. No.	Description of staff	Sanction Cadre	Man on Roll	Proposed cadre	Proposed for surrender	Vacancy /Excess
1	Group C (Supervisory & maintenance staff)	67	42	42	25	25
2.	Group D staff	23	16	16	07	07
Total		90	58	58	(22*+10)=32	32*

*22 surplus staff from NG/DSL Shed/PRTN are temporarily transferred to MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/ 2018.

Cadre position of Supervisory and Maintenance staff of NG-DLS Shed /DB:

Sr. No.	Description of staff	Sanction Cadre	Man on Roll	Proposed cadre	Proposed for surrender	Vacancy /Excess
1	Group C (Supervisory & maintenance staff)	13	9	0	13	4
2.	Group D staff	04	04	0	04	0
Total		17	13	0	17	4
G. Total		107	71	58	22 *+27= 49	36

NB

*22 posts are temporarily used in MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/2018, so, above 22 posts excluded from proposed surrender of 49 Posts.

Thus, total 27 (Gr."C"- 23 + Gr."D"- 04) number posts identified as surplus from NG Diesel sheds Pratapnagar and Daboi .

Financial Implication - Recurring Savings of Rs**256.69** Lakhs (approx.) per annum.

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ACKNOWLEDGEMENT

The Work Study Team is grateful to Shri B.V.S. Prasad, Sr.DME-BRC and Shri P.R. Meena, AME-BRC, Shri Atul Shrivastava, SEE-BRC and other supervisor and staff of Diesel Shed PRTN and DB of BRC Division for their whole hearted co-operation extended during the course of study.

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TERMS OF REFERENCE

Due to the reduce of Passenger in Narrow Gauge in compare to Broad Gauge in different areas of Vadodara Division, workload and Passenger both are reduced. As such staff requirement for maintenance of narrow Gauge coaches also reduced proportionately as per need base requirement.

AUTHORITY

The work study has been approved by AGM vide file No. G.463/3/Vol.IV.

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METHODOLOGY

Collection	-	of data required for conducting the study Sanctioned cadre, Deployment of staff strength, failure rates and related workload.
Observation	-	of area wise and activity wise working system.
Critical Analysis	-	of data collected, existing staff strength, deployment, quantum and frequency of work load arising.
Discussion	-	with concerned officers and supervisors in regard to work load arising and actual requirement of staff.
Consideration	-	of suggestions and guidelines given by supervisors and other staff.
Assessment	-	of man power requirement corresponding to arising work load advance technology, laid down yardstick, Need base staff providing and arising failures.
Provision	-	Due to the reduction of workload/ Passenger in NG route. As such, there is no need to provide Leave Reserve and Rest Givers on the proposed Man power.
Identification	-	of surplus posts available over and above the need based requirement.
Proposal	-	for adoption of change in existing working system.
Finalization	-	of work study report with necessary recommendations for implementation.

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SUMMARY OF RECOMMENDATIONS

Recommendation No.

Para No.

Recommendation No. 1

3.5

In view of the above, work study team recommended that since all the staffs of NG/DSL Shed /DB are under transfer process to other places, so, cadre of NG/DSL Shed /DB staff are became surplus, hence may be surrendered or redeployed.

Recommendation No. 2

3.8.2

Work Study Team found that 32 post of NG/DIESEL SHED-PRTN are lying vacant which is surplus in compare to the existing work load. Since, the 22 posts of NG/DIESEL SHED-PRTN are temporarily transferred to, MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/ 2018. So, remaining 10 posts are still lying vacant which is recommended to surrender immediately.

Recommendation No.3

3.8.3

The 22 staffs of NG/DIESEL SHED-PRTN temporarily transferred to, MEMU/BRCY will be surrendered in due course of time after completion of MEMU/BRCY work or re-deployed at need place.

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CHAPTER-I

INTRODUCTION :

1.0 General

- 1.1 Indian Railways holds the status of being a premier Transport Service provided to the nation. It is entrusted with the responsibility of carrying the Passenger Traffic across the length and breadth of the country, serving national interest with a social centric objective in spite of the demanding task of remaining financially viable. The organization has been successful lending impetus to the nation's economic and industrial progress on the strength of the sustained approach towards technology Upgradation of infrastructure.
- 1.2 Continuous updating and designing of job description, reduction of number of categories for job enrichment through multi skilling /qualification and responsibilities are the need of the day. Review of the work methods and sequences regularly, so as to create group for execution of job whenever new technology are introduce.
- 1.3 Man power is the biggest component of the expenditure of I.R, rightsizing of man power to reduce unit cost is an effective way to increase efficiency of I.R.
- 1.4 Keeping the above said objective in view, competent authority has desired to review the working of various shed in the Western Railway. The Planning Organization has conducted above Work Study of Diesel Shed PRTN and DB.
- 1.5 Diesel Shed – NG PRTN and DB Repairing shed coming under SSE (DSL-NG)-PRTN and DB is set up for the benefit and the use of Narrow Gauge coach train of Narrow Gauge coaches of Mechanical equipments under and above the coaches under the coach frame and upper frame of the coach. The above shops are POH, repairing and replacing of damaged equipments (under frame and upper frame) of narrow gauge coaches.

There is one MW-NG and Repairing Shop over BRC Division situated at Pratapnagar. These Shed are coming under the control of Mechanical Department and over all control of Sr. DME/BRC.

1.6 Scheduled Maintenance :

DSL Shed – NG- PRTN and DB are repairing, attending the work load of repairing, overhauling of under frame and upper frame of NG Coaches Mechanical equipments.

1.6.1 Under Frame:

Repairing/ Replacing/ Overhauling of under frame equipment like Breaks Cylinders ,axle bearing, Bearing Shield, Wheel Tire, Dimension checking if under size to be replaced etc. All Helical spring should be check & test for any crack , Broken or Spring Tension reduce to be replaced.

1.6.2 **Upper Frame:**

Fan, Exhaust Fan fitting on the roof, all mechanical equipments and engine fitted on the floor of locomotive and allied work.

1.6.3 **Battery:**

Removal from locomotive, Testing of Batteries with the Electrical connectivity's for mechanical movements of equipment under initial start up of Locomotives.

- 1.6.4 Schedule done of ZDM-5 Locos AT DB for the year 2015-16, 2016-17 & 2017-18
Narrow Gauge Diesel Loco Shed Daboi maintaining schedules of GI-schedule, T-schedule and M - Schedule of all ZWM-5 Locomotives and their work load of last three year from 2015-16, 2016-17 and 2017-18 are given below:

Month	GI/Schedule	T/Schedule	M/ Schedule
April 2015	69	12	8
May	71	17	6
June	75	12	5
July	70	17	6
Aug.	77	11	5
Sept.	75	10	6
Oct.	77	10	7
Nov.	69	13	5
Dec 2015	48	8	7
Jan.2016	69	12	5
Feb	62	11	5
Mar	72	15	5
April	74	11	5
May	73	11	6
June	73	14	4
July	76	14	4
Aug.	77	10	6
Sept.	71	10	7
Oct.	76	13	5
Nov.	71	13	6
Dec 2016	71	12	7
Jan.2017	70	14	6
Feb	63	18	4
Mar	70	16	6
April	69	13	8
May	77	11	5
June	75	10	5
July	72	10	6
Aug.	71	13	8
Sept.	72	9	9
Oct.	77	11	5
Nov.	72	10	5
Dec 2017	75	10	5
Jan.2018	77	10	6
Feb	70	12	5
Mar 2018	77	9	9
Total	2583	432	212

- 1.6.5 Schedule maintenance done on ZDM-5 type Locos at PRTN for the year 2015-16, 2016-17 & 2017-18 of Narrow Gauge Diesel Loco Shed PRTN. Schedules are T- schedule - Schedule, (Quarterly, Half Yearly, M-24 Yearly, M-48- 2Yearly and M-72 -3Yearly) of all ZWM-5 Locomotives and their work load of last three year from 2015-16, 2016-17 and 2017-18 are given below:

Month	T/Sch.	M/Sch.	Qtly.	Hly.	M-24 Yly	M-48 2Yly	M-72 3Yly
Apr 2015	8	5	1	4	0	0	1
May	4	3	2	1	0	0	1
June	7	3	6	1	0	0	1
July	9	3	2	1	0	0	1
Aug.	7	4	5	0	0	0	2
Sept.	5	3	2	1	0	0	1
Oct.	7	3	5	0	1	0	0
Nov.	7	3	4	0	1	0	0
Dec 2015	4	2	4	1	0	0	0
Jan.2016	6	3	2	0	0	2	0
Feb	5	3	3	1	1	0	1
Mar	5	2	3	1	1	0	1
April	7	4	2	1	0	0	1
May	6	4	2	1	0	0	2
June	9	5	3	0	0	1	0
July	7	3	3	1	0	1	1
Aug.	8	3	3	1	1	0	0
Sept.	8	4	3	1	0	1	0
Oct.	7	4	3	1	0	1	0
Nov.	6	3	3	0	0	1	0
Dec 2016	8	4	5	1	0	0	0
Jan.2017	7	3	4	1	1	0	0
Feb	8	4	3	2	1	0	0
Mar	8	4	1	2	0	0	0
April	7	4	3	1	0	0	0
May	8	4	3	1	0	0	1
June	6	3	4	0	0	0	1
July	8	4	4	2	1	0	0
Aug.	8	4	1	1	0	0	0
Sept.	5	2	0	2	1	0	0
Oct.	6	3	1	0	1	0	0
Nov.	6	2	3	2	0	0	0
Dec 2017	6	2	3	2	1	0	0
Jan.2018	6	2	2	1	0	0	0
Feb	6	3	2	0	0	0	0
Mar 2018	6	3	1	2	0	0	1
Total	241	118	101	37	11	7	16

- 1.6.6 Above ZDM- 5 types of locos schedule carried out by NG/DSL/DB and PRTN shed staff for Narrow gauge locos.

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CHAPTER-II

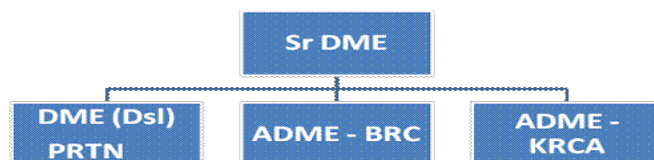
2.0 Existing Scenario:

Narrow Gauge Diesel Loco Shed Daboi maintaining schedules of GI, T- schedule and M Schedule of all ZWM-5 Locomotives and their work load of last three year from 2015-16, 2016-17 and 2017-18 are shown above are converting day by day into broad gauge.

2.1 At present narrow gauge Diesel Shed Daboi, Maintaining the schedule of narrow gauge locomotives of Western Railway and if need be they were also attending other railways narrow gauge locomotives.

2.2 All staffs of NG-DSL/DB and PRTN are under the administrative control of Sr. DME/BRC.

2.3 Organization Chart-



2.3.1 Cadre position of Supervisory and maintenance staff of NG-DLS Shed /DB:

Sr. No.	Description of staff	Sanction Cadre	Man on Roll	Vacancy /Excess
1	Group C (Supervisory & maintenance staff)	13	9	4
2.	Group D staff	4	4	0
Total		17	13	4

2.3.2 Cadre position of Supervisory and maintenance staff of NG-DLS Shed / PRTN:

Sr. No.	Description of staff	Sanction Cadre	Man on Roll	Vacancy /Excess
1	Group C (Supervisory & maintenance staff)	67	42	25
2.	Group D staff	23	16	7
Total		90	58	32*

*22 surplus staff from NG/DSL Shed/PRTN are temporarily transferred to MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/ 2018.

2.4 Activities carried out at different sections under Diesel Shed:

Sr. No.	Name of section	Activities
1.	Heavy Repair Mech.	Mech. heavy schedules, out of course repairs.
2.	Heavy Repair Elect.	Elect. Heavy schedules, out of course repairs, overhauling of traction motors, alternators and other electrical components, load testing
3.	Light/Heavy Repair Mech.	Mech. maintenance schedules, heavy schedules, trouble shooting online, out of course repairs.
4.	Light Repair Elect.	Elect. maintenance schedules, trouble shooting online.
5.	Component Repairs	Overhauling of loco components.
6.	Air Brake	Air Brake maintenance schedules, heavy schedules, trouble shooting online, out of course repairs.
7.	Under Truck	Maintenance schedules, heavy schedules, out of course repairs
8.	Light Repair Mech.	Mech. maintenance schedules, trouble shooting online.
9.	Stores	Chasing of materials, issuing materials, lubricants and other stores transactions.
9.	Control Room Staffs	Maintenance of phone clerk duties in control room.
10.	Ancillary	Carpentry, painting, black smithy, special/innovative works, cleaning etc.
11.	Laboratory	Assisting of laboratory test.
12.	Transport and miscellaneous	Drivers to vehicle, movement of coaches/ locos in and out from shed
13.	Management information system (MIS)	Maintenance of Management information system.
14	Other staff	Loco Movement operational work/ shift maintenance of boiler room, tool room etc.

2.5 Special Features of Narrow Gauge Diesel Loco Shed-Daboi :

- 2.5.1 Now a day's, diesel sheds having most of the locomotives provided with micro processor based propulsions system of M/s General Electric and Medha makes, results on less maintenance and immense help on trouble tracing with the help of en-route fault data logging system. This processor system made this shed one of the major technological advancements in Diesel Traction over Western Railway.
- 2.5.2 Effluent Treatment Plant (ETP) and incinerator –
Shed has plant and established the ETP for separation of water and oil from the Effluent hues volume of water per day.
- 2.5.3 The incinerator is capable of bushing any type waste except metallic parts. The shed is also utilized the heat generated by the incinerator for testing of water, which used for blowing and cleaning of locomotives by providing heat recovery systems.
- 2.5.4 As environmental concerns a Green belt was developed around the shed premises by planting different varieties of plants.
- 2.5.5 Internal cleaning of main reservoir.
- 2.5.6 Test stand for speed sensors and flasher lights.
- 2.5.7 Epoxy flooring.
- 2.5.8 Number of test gadgets like air reservoir testing gadget.
- 2.5.9 Air brake valve testing gadgets are available in air brake section.
- 2.5.10 Jumper cable testing stand. Fuel pump CCEM muster testing stand are available.

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CHAPTER- III

3.0 EXISTING ,CRITICAL ANALYSIS AND PROPOSED SYSTEM OF WORKING.

3.1 General

NG- diesel Shed at DB and PRTN are maintaining Narrow Gauge Locomotives of ZWM-5 with GI schedule, T schedule, M schedule, quarterly schedule, Half yearly schedule, M-24 yearly schedule, M-48 2yearly schedule and M-72 3yearly schedule round the year.

3.2 Critical Analysis of NG Diesel Shed DB

3.2.1 Cadre

NG Diesel Shed DB of April 2018.

Sr. no.	Category	Pay Scale	Grade Pay	San.	Actual	Vac./ Exc.
1	SSE(Loco)	9300-34800	4600	1	0	1
2	JE(DL)	9300-34800	4200	0	1	+1
3	MCF(Diesel)	9300-34800	4200	1	0	1
4	MCF(Elect.)	9300-34800	4200	1	1	0
5	D/Mech.Gr.I	5200-20200	2800	2	2	0
6	D/Mech.Gr.III	5200-20200	1900	1	1	0
7	UGM Gr. III	5200-20200	1900	2	2	0
8	ELF Gr. I	5200-20200	2800	1	1	0
9	ELF Gr. III	5200-20200	1900	1	0	1
10	UGE Gr. III	5200-20200	1900	1	0	1
11	D/Kh.	5200-20200	1800	1	1	0
12	ANCL.Kh	5200-20200	1800	1	1	0
13	Store Kh	5200-20200	1800	1	1	0
14	Call Porter	5200-20200	1800	1	1	0
15	Sr. Ck.	9300-34800	4600	1	1	0
16	Jr.Ck.	9300-34800	4200	1	0	1
	Total			17	13	4

3.3 Schedule done of ZDM-5 Locos AT DB for the year 2015-16, 2016-17 & 2017-18
Narrow Gauge Diesel Loco Shed Daboi maintaining schedules of GI-schedule, T-schedule and M - Schedule of all ZWM-5 Locomotives and their work load of last three year from 2015-16, 2016-17 and 2017-18 are given below:

Month	GI/Schedule	T/Schedule	M/ Schedule
April 2015	69	12	8
May	71	17	6
June	75	12	5
July	70	17	6
Aug.	77	11	5
Sept.	75	10	6
Oct.	77	10	7
Nov.	69	13	5
Dec 2015	48	8	7
Jan.2016	69	12	5
Feb	62	11	5
Mar	72	15	5
April	74	11	5
May	73	11	6

June	73	14	4
July	76	14	4
Aug.	77	10	6
Sept.	71	10	7
Oct.	76	13	5
Nov.	71	13	6
Dec 2016	71	12	7
Jan.2017	70	14	6
Feb	63	18	4
Mar	70	16	6
April	69	13	8
May	77	11	5
June	75	10	5
July	72	10	6
Aug.	71	13	8
Sept.	72	9	9
Oct.	77	11	5
Nov.	72	10	5
Dec 2017	75	10	5
Jan.2018	77	10	6
Feb	70	12	5
Mar 2018	77	9	9
Total	2583	432	212

3.4 **Yard Stick:**

The man power is provided on the need base and accordingly the provision is made.

There has been vast change in working pattern due to introduction of modern and innovative technology and outsourcing, therefore, the yard stick in many cases is redundant and is not useful in present scenario.

Work study team noticed that work load of Daboi, Narrow gauge diesel shed is reduced day by day and converted narrow gauge into Broad gauge. Work study team also noticed that Daboi NG/DSL shed staff are way of transfer from DB to Miyagaon for pith line work. It means above said staff of NG/DSL Shed /DB are deem to be surplus.

3.5 **Recommendation No. 1**

In view of the above, work study team recommended that since all the staffs of NG/DSL Shed /DB are under transfer process to other places, so, cadre of NG/DSL Shed /DB staff are became surplus hence may be surrendered or redeployed.

3.5.1 Cadre position of Supervisory and Maintenance staff of NG-DLS Shed /DB:

Sr. No.	Description of staff	Sanction Cadre	Man on Roll	Proposed cadre	Proposed for surrender	Vacancy /Excess
1	Group C (Supervisory & maintenance staff)	13	9	0	13	4
2.	Group D staff	4	4	0	04	0
	Total	17	13	0	17	4

3.6 **CRITICAL ANALYSIS – NG/DIESEL SHED-PRTN**

3.6.1 **Cadre position of NG/DSL/PRTN**

Sr. no.	Category	Pay Scale	Grade Pay	San.	Actual	Vac./ Exc.
1	SSE(Loco)	9300-34800	4600	3	2	1
2	CLI/SFI	9300-34800	4600	1	1	0
3	JE(Diesel)	9300-34800	4200	4	2	2
4	SSE(Elect.)	9300-34800	4600	2	0	2
5	JE(Elect.)	9300-34800	4200	1	1	0
6	CMS	9300-34800	4600	1	1	0
7	CMA	9300-34800	4200	1	0	1
8	MCF(DSL)	9300-34800	4200	3	4	-1
9	D/Mech.Gr.-I	5200-20200	2800	16	6	10
10	D/Mech.Gr.-II	5200-20200	2400	5	3	2
11	D/Mech.Gr.-III	5200-20200	1900	3	2	1
12	UGM.Gr.-III	5200-20200	1900	5	5	0
13	ELFGr.-I	5200-20200	2800	4	3	1
14	ELFGr.-II	5200-20200	2400	1	1	0
15	ELFGr.-III	5200-20200	1900	1	0	1
16	UGE.Gr.-III	5200-20200	1900	3	2	1
17	MW.Fitter Gr.-III	5200-20200	1900	1	0	1
18	EOT Crain DR.-I	5200-20200	2800	1	1	0
19	EOT Crain DR.-II	5200-20200	2400	1	0	1
20	Jeep Driver Gr.-I	5200-20200	2800	1	0	1
21	Jeep Driver Gr.-II	5200-20200	2400	0	1	-1
22	Mat.Chaser Gr.-I	5200-20200	2800	1	1	0
23	Welder Gr.-I	5200-20200	2800	1	1	0
24	Painter Gr.-I	5200-20200	2800	1	1	0
25	Painter Gr.-II	5200-20200	2400	1	0	1
26	Painter Gr.-III	5200-20200	1900	0	0	0
27	Carpenter Gr.I	5200-20200	2800	1	1	0
28	Points Man'A'	5200-20200	1900	1	0	1
29	Points Man'B'	5200-20200	1800	1	2	-1
30	D/Kh	5200-20200	1800	9	5	4
31	EIE/KH	5200-20200	1800	5	4	1
32	Anci.Kh	5200-20200	1800	6	4	2
33	Stores Kh	5200-20200	1800	1	0	1
34	Peon	5200-20200	1800	1	1	0
35	Ch.OS	9300-34800	4600	2	2	0
36	OS	9300-34800	4200	1	1	0
	Total			90	58	32*

*22 surplus staff from NG/DSL Shed/PRTN are temporarily transferred to MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/ 2018.

3.6.2 Schedule maintenance done on ZDM-5 type Locos at PRTN for the year 2015-16, 2016-17 & 2017-18 of Narrow Gauge Diesel Loco Shed PRTN .Schedules are T- schedule - Schedule, (Quarterly, Half Yearly, M-24 Yearly, M-48- 2Yearly and M-72 -3Yearly) of all ZWM-5 Locomotives and their work load of last three year from 2015-16, 2016-17 and 2017-18 are given ahead:

Month	T/Sch.	M/Sch.	Qtly.	Hly.	M-24 Yly	M-48 2Yly	M-72 3Yly
Apr 2015	8	5	1	4	0	0	1
May	4	3	2	1	0	0	1
June	7	3	6	1	0	0	1
July	9	3	2	1	0	0	1
Aug.	7	4	5	0	0	0	2
Sept.	5	3	2	1	0	0	1
Oct.	7	3	5	0	1	0	0
Nov.	7	3	4	0	1	0	0
Dec 2015	4	2	4	1	0	0	0
Jan.2016	6	3	2	0	0	2	0
Feb	5	3	3	1	1	0	1
Mar	5	2	3	1	1	0	1
April	7	4	2	1	0	0	1
May	6	4	2	1	0	0	2
June	9	5	3	0	0	1	0
July	7	3	3	1	0	1	1
Aug.	8	3	3	1	1	0	0
Sept.	8	4	3	1	0	1	0
Oct.	7	4	3	1	0	1	0
Nov.	6	3	3	0	0	1	0
Dec 2016	8	4	5	1	0	0	0
Jan.2017	7	3	4	1	1	0	0
Feb	8	4	3	2	1	0	0
Mar	8	4	1	2	0	0	0
April	7	4	3	1	0	0	0
May	8	4	3	1	0	0	1
June	6	3	4	0	0	0	1
July	8	4	4	2	1	0	0
Aug.	8	4	1	1	0	0	0
Sept.	5	2	0	2	1	0	0
Oct.	6	3	1	0	1	0	0
Nov.	6	2	3	2	0	0	0
Dec 2017	6	2	3	2	1	0	0
Jan.2018	6	2	2	1	0	0	0
Feb	6	3	2	0	0	0	0
Mar 2018	6	3	1	2	0	0	1
Total	241	118	101	37	11	7	16

3.7 **Justification of Staff at DSL Shed PRTN**

Present Artisan Staff

No. of D/Mech. = 20

No. ELF. = 06

No. of D/Kh. = 05

No. of E/Kh. = 04

3.7.1 **Total D/Mech. Utilized for maintenance work = 20**

Sr. No	Description of Man hours available	Calculation
1	Total D/Mech. Hours available	20 x 08 x 26 = 4160 hrs.
2	Total ELF. Hours available	06 x 08 x 26 = 1248 hrs.
3	Total D/Kh. Hours available	05 x 08 x 26 = 1040 hrs.
4	Total E/Kh. Hours available	04 x 08 x 26 = 832 hrs.
Total hours utilized for maintenance work schedule = 7280 hrs.		

3.7.2 Justification of hours allotted for the present staff.

i) Trip Schedule

No. of Trip Schedule (Target) = 6.5/month

Sr. No	Description of Man hours available	Calculation
1	D/Mech Hours required	$6.5 \times 4 \times 1 + 10\% \text{ extra} = 26 + 2.6 = 29 \text{ hrs. Approx.}$
2	ELF Hours required	$6.5 \times 4 \times 1 + 10\% \text{ extra} = 26 + 2.6 = 29 \text{ hrs. Approx.}$
3	D/Kh. Hours required	$6.5 \times 4 \times 1 + 10\% \text{ extra} = 26 + 2.6 = 29 \text{ hrs. Approx.}$
4	E/Kh. Hours required	$6.5 \times 4 \times 1 + 10\% \text{ extra} = 26 + 2.6 = 29 \text{ hrs. Approx.}$
Total Hours utilized in Trip schedule = 116 hrs.		

3.7.3 General inspection

No. of GI schedule = 60 approx.

Sr. No	Description of Man hours available	Calculation
1	D/Mech Hours required	$60 \times 4 \times 1 + 10\% \text{ extra} = 240 + 24 = 264 \text{ hrs approx.}$
2	ELF Hours required	$60 \times 4 \times 1 + 10\% \text{ extra} = 240 + 24 = 264 \text{ hrs approx.}$
3	D/Kh. Hours required	$60 \times 4 \times 1 + 10\% \text{ extra} = 240 + 24 = 264 \text{ hrs approx.}$
4	E/Kh. Hours required	$60 \times 4 \times 1 + 10\% \text{ extra} = 240 + 24 = 264 \text{ hrs approx.}$
Total hrs. Utilized in GI schedule = 1056 hrs.		

3.7.4 Permanent staff deputed at ARTV.

Sr. No	Description of Man hours available	Calculation
1	D/Mech Hours required	$02 \times 08 \times 26 = 416 \text{ hrs.}$
2	ELF Hours required	$02 \times 08 \times 26 = 416 \text{ hrs.}$
3	D/Kh. Hours required	$02 \times 08 \times 26 = 416 \text{ hrs.}$
4	E/Kh. Hours required	$02 \times 08 \times 26 = 416 \text{ hrs.}$
Total hrs. Utilized in ARTV = 1664 hrs.		

3.7.5 Permanent staff deputed for Monthly schedule

No. of monthly schedule/ month = 3.125 nos.

Sr. No	Description of Man hours available	Calculation
1	D/Mech Hours required	$1 \times 8 \times 3.125 + 10\% \text{ extra} = 25 + 2.5 = 28 \text{ hrs.}$
2	ELF Hours required	$1 \times 8 \times 3.125 + 10\% \text{ extra} = 25 + 2.5 = 28 \text{ hrs.}$
3	D/Kh. Hours required	$1 \times 8 \times 3.125 + 10\% \text{ extra} = 25 + 2.5 = 28 \text{ hrs.}$
4	E/Kh. Hours required	$1 \times 8 \times 3.125 + 10\% \text{ extra} = 25 + 2.5 = 28 \text{ hrs.}$
Total hrs. Utilized in monthly schedule = 112 hrs.		

3.7.6 Permanent staff deputed for Quarterly schedule

No. of Quarterly schedule/ month = 2.83 nos.

Sr. No	Description of Man hours available	Calculation
1	D/Mech Hours required	$8 \times 8 \times 2.83 + 10\% \text{ extra} = 181 + 18 = 199 \text{ hrs.}$
2	ELF Hours required	$2 \times 8 \times 2.83 + 10\% \text{ extra} = 45.28 + 4.5 = 50 \text{ hrs.}$
3	D/Kh. Hours required	$8 \times 8 \times 2.83 + 10\% \text{ extra} = 181 + 18 = 199 \text{ hrs.}$
4	E/Kh. Hours required	$2 \times 8 \times 2.83 + 10\% \text{ extra} = 45.28 + 4.5 = 50 \text{ hrs.}$
Total hrs. Utilized in Quarterly schedule = 498 hrs.		

3.7.7 Permanent staff deputed for Half yearly schedule

No. of Half yearly schedule/ month = 1.5 nos.

Sr. No	Description of Man hours available	Calculation
1	D/Mech Hours required	$12 \times 8 \times 1.5 + 10\% \text{ extra} = 144 + 14 = 158 \text{ hrs.}$
2	ELF Hours required	$3 \times 8 \times 1.5 + 10\% \text{ extra} = 36 + 3.6 = 40 \text{ hrs.}$
3	D/Kh. Hours required	$12 \times 8 \times 1.5 + 10\% \text{ extra} = 144 + 14 = 158 \text{ hrs.}$
4	E/Kh. Hours required	$3 \times 8 \times 1.5 + 10\% \text{ extra} = 36 + 3.6 = 40 \text{ hrs.}$
Total hrs. Utilized in Half yearly schedule = 396 hrs.		

3.7.8 Permanent staff deputed for yearly schedule

No. of yearly schedule/ month = 0.43 nos.

Sr. No	Description of Man hours available	Calculation
1	D/Mech Hours required	$147 \times 8 \times 0.43 + 10\% \text{ extra} = 506 + 50.6 = 557 \text{ hrs.}$
2	ELF Hours required	$16 \times 8 \times 0.43 + 10\% \text{ extra} = 55 + 5.5 = 61 \text{ hrs.}$
3	D/Kh. Hours required	$147 \times 8 \times 0.43 + 10\% \text{ extra} = 506 + 50.6 = 557 \text{ hrs.}$
4	E/Kh. Hours required	$12 \times 8 \times 0.43 + 10\% \text{ extra} = 41.28 + 4.1 = 45 \text{ hrs.}$
Total hrs. Utilized in yearly schedule = 1220 hrs.		

3.7.9 Permanent staff deputed for 2 yearly schedule

No. of 2 yearly schedule/ month = 0.25 nos.

Sr. No	Description of Man hours available	Calculation
1	D/Mech Hours required	$167 \times 8 \times 0.25 + 10\% \text{ extra} = 334 + 33.4 = 367 \text{ hrs.}$
2	ELF Hours required	$16 \times 8 \times 0.25 + 10\% \text{ extra} = 32 + 3.2 = 35 \text{ hrs.}$
3	D/Kh. Hours required	$138 \times 8 \times 0.25 + 10\% \text{ extra} = 276 + 27.6 = 304 \text{ hrs.}$
4	E/Kh. Hours required	$12 \times 8 \times 0.25 + 10\% \text{ extra} = 24 + 2.4 = 26 \text{ hrs.}$
Total hrs. Utilized in 2 yearly schedule = 732 hrs.		

3.7.10 Permanent staff deputed for 3 yearly schedule

No. of 3 yearly schedule/ month = 0.26 nos.

Sr. No	Description of Man hours available	Calculation
1	D/Mech Hours required	$175 \times 8 \times 0.26 + 10\% \text{ extra} = 364 + 36.4 = 400 \text{ hrs.}$
2	ELF Hours required	$16 \times 8 \times 0.26 + 10\% \text{ extra} = 33.28 + 3.3 = 36 \text{ hrs.}$
3	D/Kh. Hours required	$111 \times 8 \times 0.26 + 10\% \text{ extra} = 230.88 + 23.08 = 254 \text{ hrs.}$
4	E/Kh. Hours required	$12 \times 8 \times 0.26 + 10\% \text{ extra} = 24.96 + 2.49 = 27 \text{ hrs.}$
Total hrs. Utilized in 3 yearly schedule = 717 hrs.		

3.7.11 Summary of required staff utilized as per man hour

Sr. No.	DSL/Mech	EL:F	DSL/KH	ELEC/KH	Total Man Hours
1	29	29	29	29	116
2	264	264	264	264	1056
3	416	416	416	416	1664
4	28	28	28	28	112
5	199	50	199	50	498
6	158	39	158	39	394
7	557	61	426	45	1089
8	367	35	304	26	732
9	400	36	254	27	717
Total	2418	958	2078	924	6378

3.7.12 Work Study Team notice that the present Artisan staff man hours for maintenance schedule = 7280 hours and allotment of the present staff are 6378. So, staff man hours excess = 7280 – 6378 = 902 hours. As such existing man power is justified for carry out the existing workload with the present Man on Roll with fatigue allowance and natural call etc.

3.8 Proposed man power for above work load at NG-DLS Shed / PRTN:

Sr. No.	Description of staff	Sanction Cadre	Man on Roll	Proposed cadre	Proposed for surrender	Vacancy /Excess
1	Group C (Supervisory & maintenance staff)	67	42	42	25	25
2.	Group D staff	23	16	16	07	07
Total		90	58	58	32(22+10)	32*

*22 surplus staff from NG/DSL Shed/PRTN are temporarily transferred to MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/ 2018.

3.8.1 As per cadre position 32 posts are lying vacant. From which 22 staff from NG/DSL Shed/PRTN are temporarily transferred to, MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/ 2018. So, remaining 10 posts are still lying vacant which may be surrendered immediately.

3.8.2 Recommendation No. 2

Work Study Team found that 32 posts of NG/DIESEL SHED-PRTN are lying vacant which is surplus in compare to the existing work load. Since the 22 posts of NG/DIESEL SHED-PRTN are temporarily transferred to, MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/ 2018. So, remaining 10 posts are still lying vacant which is recommended to surrender immediately.

3.8.3 Recommendation No. 3

The 22 staffs of NG/DIESEL SHED-PRTN temporarily transferred to, MEMU/BRCY will be surrendered in due course of time after completion of MEMU/BRCY work or re-deployed at need place.

3.9 **Proposed man power for above work load at NG-DLS Shed / PRTN:**

Sr. No.	Description of staff	Sanction Cadre	Man on Roll	Proposed cadre	Proposed for surrender	Vacancy /Excess
1	Group C (Supervisory & maintenance staff)	67	42	42	25	25
2.	Group D staff	23	16	16	07	07
Total		90	58	58	32(22+10)	32*

*22 surplus staff from NG/DSL Shed/PRTN are temporarily transferred to MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/ 2018.

Proposed man power for above work load at NG-DLS Shed / DB

Sr. No.	Description of staff	Sanction Cadre	Man on Roll	Proposed cadre	Proposed for surrender	Vacancy /Excess
1	Group C (Supervisory & maintenance staff)	13	9	0	13	4
2.	Group D staff	04	04	0	04	0
Total		17	13	0	17	4
G. Total of both PRTN & DB		107	71	58	22*+27 = 49	36

NB *22 posts are temporarily used in MEMU/BRCY vide Note No. E/DSL/830/8/1 dated 28/03/2018, so, above 22 post excluded from proposed surrender of 49 Posts.

Total 27 (Gr."C"- 23 & Gr."D"- 04) number posts identified as surplus from NG Diesel sheds Pratapnagar and Daboi .

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CHAPTER - IV

4.0 FINANCIAL IMPLICATIONS

- 4.1 After scrutinizing the activities and working of NG/DSL shed PRTN & NG/DSL shed DB the work study team proposes a staff strength of **58 posts at DSL shed PRTN** and Zero staff at DSL shed DB (because Daboi shed staff are shifted to Miyagaon station) against sanctioned cadre of **90 posts at NG/DSL shed PRTN & 17 posts at NG/DSL shed DB** and identifies **23 Posts of Group-C** (Pay Band – PB-1&2) and 4 Posts of Group-D (Pay Band – PB-IS), total 27 posts identified as excess to the requirement and recommends surrendering of these excess posts.

Number of posts	Average cost per employee	@ Annual Savings
23 Group-C (Pay Band – PB-1&2) Posts	Rs. 10,03,714/-	Rs. 2,30,85,422/-
04 Group-D (Pay Band – PB-IS) posts	Rs6,45,968/-	Rs.25,83,872/-
Total		Rs. 2,56,69,294/-

- 4.2 On implementation of study report and surrendering of **23 Group-C** (Pay Band = PB-1&2) Posts and 04 Group-D (Pay Band – PB-IS), total **27** posts, an annual recurring savings of **Rs. 256.69 Lakhs** can be achieved.

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