



**WORK STUDY TO REVIEW THE STAFF
STRENGTH AT PAINT SHOP/ CARRIAGE
WORK SHOP / PERAMBUR
NO : G.275/WSSR – 062021/2020 - 21**

SOUTHERN RAILWAY

PLANNING BRANCH

G. 275 / WSSR- 062021 / 2020-21

**WORK STUDY TO REVIEW THE
STAFF STRENGTH AT PAINTSHOPS
CW/PER**

STUDIED BY

**WORK STUDY TEAM
OF
PLANNING BRANCH**

SEP 2020



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(i)
ACKNOWLEDGEMENT

The study team acknowledges the valuable guidance and co-operation rendered by CWM/CW, Dy.CME/Carriage, SSEs of paint shop, Planning and progress sections.

(ii)
AUTHORITY

Annual Programme of work studies approved by SDGM for the year 2020-21

(iii)
TERMS OF REFERENCE

Work study to review the staff strength at Paint Shops at CW/PER
G.275/WSSR – 062021/2020 – 21

(iv)
METHODOLOGY

The following methodology has been adopted

- 1) Collection, compilation and analysis of statistical data
- 2) Interaction with Supervisors and Field staff
- 3) Field observations and assessment of manpower on basis of allowed time, taking into due consideration of ongoing contract works

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(v)

SUMMARY OF RECOMMENDATIONSRECOMMENDATION

65 vacant posts of Technician Grade I (GP Rs.2800/-) is found excess to the requirement, the same may be surrendered and credited to the Vacancy Bank.

Total: 65 Posts

CHAPTER – I1.0 INTRODUCTION1.1 BRIEF HISTORY OF CARRIAGE & WAGON WORKS/PERAMBUR

The Carriage & Wagon Workshop was built by Madras Railways in the year 1857. Later it became a part of the Madras and Southern Mahratta Railway company. Initially the workshop handled BG coaches, wagons & steam locomotives for periodical repairs and overhaul. The locomotive maintenance work was transferred to the Loco Workshops, Perambur in the year 1932. It came under the Southern Railways after amalgamation of 3 company railways in 1951.

Carriage & Wagon Workshop has 7 Major shops and large number of sub shops including Train lighting and Air conditioning section to feed the main shops with sub assemblies. POH of AC coaches was started in the year 1954. This workshop also had the distinction of assisting ICF till 1963, before the setting up of furnishing division at ICF, by way of furnishing the newly built shells. From an activity level of 1324 coaches and 1840 vehicle units of wagons for periodical overhauling in the year 1965-66, it has reached a figure of 2380 coaches and 3276 vehicle units of wagons per year today.

This workshop undertakes POH of various types of AC & Non AC coaches, like Sleeper, GS, Pantry Cars, Military coaches, Saloons, SLRDs, VPU's/VP's and LHB coaches etc. Conversion of coaches into NMG for the leading manufactures such as Hyundai & Maruti, MLRs, Refurbishing of coaches and ARTs, POH of wagons, Rehabilitation of wagons, Conversion of BOXN to BOXNR wagons (stainless steel wagons) Rebuilding/Re-roofing of BCN wagons are also under taken.

In keeping with the changes in technology and demands for faster and better services, this workshop undertakes a lot of special RSP works too, such as Retro fitment of Air Brake, UIC (Fire retardant low smoke) vestibules, Enhanced capacity of Draw gear and Stainless Steel Toilet inlays. This workshop is the first ever workshop in the Indian Railways to undertake conversion of the Vacuum Brake System into Air Brake System in coaches, development of prototype of first BOXNR wagon (stainless steel), and Midlife Rehabilitation attention to Pantry Car in Indian Railways.

1.2 About the present work study

This present work study is to review the staff strength at the Paint shop at CW/PER under the Chittaranjan Pattern Scheme of Incentive.

1.3 CHITTARANJAN PATTERN SCHEME

Introduction

Piece work bonus systems were in existence in certain workshops like Jamalpur, Kancharapara and Perambur prior to Independence. The Railway board has decided in 1949 to introduce some form of incentive scheme in Railway workshops to afford direct financial incentive to workers who exceed a minimum level of performance.

The first formal incentive scheme was introduced in Chittaranjan Locomotive Works in December 1954. Time was the basis of this scheme and the time standards used were pre-determined after systematic work measurement.

The scheme was considerable success and it was extended to Integral Coach factory in 1960.

1.4 Salient Features of Chittaranjan Pattern of Incentive Scheme

Under the incentive bonus scheme, the basic wages are guaranteed to all the works.

Time is then yardstick for measuring work. The various operations in the workshops are subjected to time study measurement. The allowed time are so

fixed that the workman of normal ability may earn 33-1/3% bonus over and above his basic wages in respect of the period spent on piece-work jobs. This allowed time includes all allowances such as fatigue, general handling, gauging and production bonus allowance.

The scheme is based on the concept that an average worker while working under non-incentive conditions is assumed to be working at a rating of 60 units. The same worker while working under incentive conditions would be expected to improve his ratings to 80 units i.e., 33-1/3% more. It is expected that an average worker would complete an operation in $\frac{3}{4}$ of the allowed time. The time saved/lost on the time allowed in each operation is calculated separately for each worker and the gain or loss cannot be carried over to the next month.

1.5 The various terms in use and their meaning is given below

The incentive workers are classified as Direct, Essentially Indirect and Indirect Workers. Supervisors are directly responsible for idle time arising out of lack of work and lack of tools. Apprentices are not eligible for participating in the incentive bonus scheme.

DW - Direct workers

They are so called because they play a direct role in producing out put. 'Direct role' means that their role is confined to those mandatory operations that need to be performed as per 'CAMTECH' (Centre for Advanced Maintenance Technology) on the arising to produce the out turn. It does not include ancillary activities such as procurement of materials, tools etc that need to be done to perform the operations. They earn bonus ranging from 1% to 49% based on the time saved on doing a particular operation.

EIW - Essentially Indirect Workers

They supplement the efforts of the DWs in producing out turn by procuring materials, picking up tools, erecting implements etc. Since their role is not directly linked to the out turn and is only supplementary in nature, they are entitled to only 80% of the bonus earned by the DWs.

IW – Indirect worker

Their role is confined to such of those activities that are in no way linked to the out turn, such as keeping the shop floor clean etc. They do not get any incentive.

Outturn

The results of incentive working will be determined on basis of the total quantity 'Passed' in respect of each operation, as recorded on the job card.

AT – Allowed Time

As and when an arising rolls in to a work shop for POH, operations that need to be performed as mandated are determined and the time taken to complete such operations are computed based on the computation sheet that lists the time required to perform various operations. This is called as Allowed Time. As such, AT denotes the workload of an incentive shop. AT is fixed based on time study and takes in to consideration various factors, such as infrastructure, skill set etc, that determine the capacity of a worker to produce an out put.

Time Study

AT for each operation is fixed through time study. It is a technique for determining, as accurately as possible, from limited number observations, the time necessary to carry out a given activity at a defined standard of performance. While carrying time study the actual time of each element is normalized depending upon the rating performed by the worker.

Rating

Rating is the assessment of the skill and effort involved in each element. Every element should be rated individually. The principle of rating is that, an average worker, working at non incentive conditions, at such an effort just enough to earn the basic pay, is said to be working at a 60 rating. This can be interpreted as saying that he is producing 60 units per hour. The same average worker when working under incentive conditions, is capable of working at an 80 rating

and is said to be producing 80 units of work per hour so as to earn 33-1/3 % more (80-60) %.

60

TT – Time taken

This is the time actually taken by a DW to finish an operation as mandated.

TS – Time saved

$AT - TT = TS.$

Bonus %

This is the percentage of bonus paid to the DWs based on the Chittaranjan pattern Scheme. This is equal to $TS \times 100 / TT$. While the scheme mandates that every DW should earn a bonus of 33.33%, it may vary anywhere between 0 to 50%. Bonus less than 33.33% indicates that AT of an operation is too less to save time and bonus more than 50% means that AT is too high that a worker could do the operation in much lesser time with consummate ease. In both the cases AT has to be reviewed.



CHAPTER – II**2.0 PRESENT SCENARIO****2.1 The activities performed at the PAINTSHOP at CW/PER**

Sl. No	Activity
1	Washing – Coaches –Exterior and interior
2	Painting – Coaches – Exterior and interior
3	Painting – Coaches – End body
4	Scrapping & Painting – Coaches – Underframe
5	Scrapping & Painting – Coaches – Bogie
6	Trimming
7	Vynatile Laying

2.2 Sanction, Actual, Vacancy & Excess statement of Paint Shop/CW

SI No	Designation	Sanction	Actual	Vacancy	Excess
1	SSE	22	16	6	0
2	JE	12	4	8	0
3	Sr.TECH	144	115	29	0
4	TECH – I	207	47	160	0
5	TECH – II	22	21	1	0
6	TECH – III	45	72	0	27
7	HELPER	29	20	9	0
		481	295	213	27

The men utilized, from amongst the workforce given above, in terms of DW, IW, EIW and Supervisors, the workload handled by this workforce in terms of Allowed Time, Time Taken and Time Saved is, the output produced in terms of coaches / Wagons rolled out and the efficiency level of the workforce in terms of the percentage of bonus earned is summarized below.

2.3 Duty Hours

- On Week days - 07.00 to 11.30 hrs. & 12.30 to 16.30 hrs &
- 14.00 to 23.30 hours for those who attend the
Traffic coaches.
- On Saturdays - 07.00 to 12.00 hrs.
- Rest on all Sundays.

2.4 Details of ongoing contracts at Paint shop/CW/PER

- Interior & Exterior painting of GS & SCN coaches.
- Exterior PU painting of all Utkrisht coaches.
- Underframe scrapping & painting.
- IOH Bogies painting of ICF coaches.
- Interior cleaning of dispatch coaches.
- Stripping & laying of vynatile flooring.
- Stripping, unloading & loading of trimming items, trimming work attention in Janashatabdi Non – AC coaches.



CHAPTER - III**3.0 CRITICAL ANALYSIS**

- 3.1 The Allowed Time for shop wise and month wise were collected for two years. This prime factor is divided by the average monthly man hours of 267 (which is the denominator) as prescribed in the Mechanical code for workshops to arrive at the Direct workers (DWs) required. As per Mechanical code for workshops, the Leave reserves for the DWs are worked out at the rate of 12.5% and for EIW it varies from 10 % to 15%.

It is observed that in CW/PER, EIW /IW were allowed to the extent of 15%. Instructions were issued on several occasions from Headquarters to ensure that the percentage of EIW is reduced to the barest minimum. Considering the practice followed at present while assessing the requirement of manpower EIW is allowed at the rate of 15%. The method of calculation based on which the requirement of manpower is assessed is as under:

$$\begin{aligned}
 \text{Load discharged (Allowed Time)} &= AT \\
 \text{Average monthly Man-hours} &= 267 \\
 \text{DWs required to complete the above AT} &= \frac{AT}{267} = X \\
 \text{LR for DWs (12.5\%)} &= \frac{X \times 12.5}{100} = Y \\
 \text{Therefore DW required} &= X + Y \\
 \text{EIW \& IW @ 15\% of DW} &= \frac{(X + Y) \times 15}{100} = Z \\
 \text{Total staff required} &= X + Y + Z
 \end{aligned}$$

3.2 INDIVIDUAL SECTION WISE ALLOWED TIME, TIMETAKEN, TIME SAVED AND PERCENTAGE OF INCENTIVE IN PAINT SHOP SHOP/CW/PER FROM 2018 – 19 & 2019 – 20

3.2.1 INTERIOR WASHING – 204.01

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	4616.35	3096.00	1520.35	49
May 18	3036.42	2034.40	1002.02	49
June 18	3840.36	2573.30	1267.06	49
July 18	1705.40	1144.00	561.40	49
Aug 18	1193.37	800.00	393.37	49
Sep 18	1194.32	800.00	394.32	49
Oct 18	1050.00	704.00	346.00	49
Nov 18	1098.12	736.00	362.12	49
Dec 18	1080.20	724.00	356.20	49
Jan 19	680.35	456.00	224.35	49
Feb 19	1289.27	864.00	425.27	49
Mar 19	1026.46	688.00	338.46	49
Total	21810.62	14619.70	7190.92	
Average	1817.55	1218.30	599.24	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	1023.12	686.00	337.12	49
May 19	991.21	664.00	327.21	49
June 19	1167.42	782.20	385.22	49

July 19	1135.36	761.20	374.16	49
Aug 19	1088.16	729.80	358.36	49
Sep 19	953.48	639.40	314.08	49
Oct 19	1131.48	759.40	372.08	49
Nov 19	1282.25	859.60	422.65	49
Dec 19	1001.28	671.40	329.88	49
Jan 20	763.40	512.00	251.40	49
Feb 20	1156.32	814.20	342.12	42
Mar 20	859.32	576.00	283.32	49
Total	12552.80	8455.20	4097.60	
Average	1046.06	704.60	341.46	48.4

3.2.2 EXTERIOR & INTERIOR PAINTING – 204.02

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	6675.57	4473.00	2202.57	49
May 18	5566.25	3730.60	1835.65	49
June 18	6847.38	4589.60	2257.78	49
July 18	6112.27	4096.60	2015.67	49
Aug 18	6535.28	4380.60	2154.68	49
Sep 18	5930.40	3974.80	1955.60	49
Oct 18	5925.34	3974.40	1950.94	49
Nov 18	5784.37	3876.40	1907.97	49
Dec 18	5281.38	3540.00	1741.38	49
Jan 19	3876.12	2598.40	1277.72	49
Feb 19	7130.47	4779.40	2351.07	49

Mar 19	5368.27	3598.35	1769.92	49
Total	71033.10	47612.15	23420.95	
Average	5919.42	3967.67	1951.74	49.2

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	5762.47	3862.40	1900.07	49
May 19	4715.13	3160.80	1554.33	49
June 19	6923.47	4640.40	2283.07	49
July 19	6278.44	4208.20	2070.24	49
Aug 19	5758.22	3859.40	1898.82	49
Sep 19	5694.14	3816.90	1877.24	49
Oct 19	5632.36	3774.80	1857.56	49
Nov 19	5710.12	3832.60	1877.52	49
Dec 19	5157.19	3456.50	1700.69	49
Jan 20	3705.23	2483.40	1221.83	49
Feb 20	5272.13	3533.60	1738.53	49
Mar 20	4663.28	3125.60	1537.68	49
Total	65272.18	43754.60	21517.58	
Average	5439.34	3646.21	1793.13	49

3.2.3 EXTERIOR & INTERIOR WASHING – 204.03

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	5935.12	3977.70	1957.42	49
May 18	4923.25	3299.10	1624.15	49
June 18	5190.26	3478.30	1711.96	49

July 18	5345.23	3582.60	1762.63	49
Aug 18	5584.25	3742.80	1841.45	49
Sep 18	5267.35	3530.40	1736.95	49
Oct 18	5060.35	3393.60	1666.75	49
Nov 18	5514.14	3695.05	1819.09	49
Dec 18	4552.27	3051.60	1500.67	49
Jan 19	3327.33	2230.25	1097.08	49
Feb 19	5848.41	3919.85	1928.56	49
Mar 19	4144.38	2777.00	1367.38	49
Total	60692.34	40678.25	20014.09	
Average	5057.69	3389.85	1667.84	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	4138.27	2774.00	1364.27	49
May 19	4040.37	2707.60	1332.77	49
Total	8178.64	5481.60	2697.04	
Average	4089.32	2740.80	1348.52	49

June 19 to March 20 data not available.

3.2.4 EXTERIOR & INTERIOR WASHING – 204.042018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	5512.29	3691.60	1820.69	49
May 18	5032.51	3373.00	1659.51	49
June 18	5532.37	3708.30	1824.07	49

July 18	6738.17	4516.20	2221.97	49
Aug 18	6910.45	4631.00	2279.45	49
Sep 18	6158.33	4128.00	2030.33	49
Oct 18	5840.37	3916.60	1923.77	49
Nov 18	5694.24	3816.20	1878.04	49
Dec 18	6177.17	4140.20	2036.97	49
Jan 19	4332.17	2903.60	1428.57	49
Feb 19	7283.42	4881.65	2401.77	49
Mar 19	5957.54	3993.20	1964.34	49
Total	71169.03	47699.55	23469.48	
Average	5930.75	3974.96	1955.79	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	5667.23	3798.80	1868.43	49
May 19	5365.23	3596.00	1769.23	49
June 19	6605.21	4427.00	2178.21	49
July 19	6807.21	4562.90	2244.31	49
Aug 19	6383.37	4278.40	2104.97	49
Sep 19	5704.26	3823.50	1880.76	49
Oct 19	5915.18	3964.60	1950.58	49
Nov 19	6493.27	4358.00	2135.27	49
Dec 19	6026.33	4039.10	1987.23	49
Jan 20	5024.36	3367.80	1656.56	49
Feb 20	6990.31	4685.20	2305.11	49

Mar 20	6217.17	4164.70	2052.47	49
Total	73199.13	49066.00	24133.13	
Average	6099.92	4088.83	2011.09	49.2

3.2.5 EXTERIOR & INTERIOR WASHING – 204.05

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	6155.21	4125.20	2630.01	49
May 18	5525.47	3703.00	1822.47	49
June 18	6348.46	4255.00	2093.46	49
July 18	6284.27	4212.40	2071.87	49
Aug 18	6081.32	4075.80	2005.52	49
Sep 18	5692.17	3814.40	1877.77	49
Oct 18	5307.44	3560.00	1747.44	49
Nov 18	5420.24	3632.20	1788.04	49
Dec 18	5162.23	3459.60	1702.63	49
Jan 19	3480.36	2333.00	1147.36	49
Feb 19	6246.46	4186.80	2059.66	49
Mar 19	5250.19	3518.20	1731.99	49
Total	66953.82	44875.60	22678.22	
Average	5579.48	3739.63	1889.85	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	5170.26	3465.60	1704.66	49
May 19	4852.26	3251.55	1600.71	49

June 19	6495.27	4353.60	2141.67	49
July 19	5876.38	3938.90	1937.48	49
Aug 19	5790.14	3881.20	2104.97	49
Sep 19	5893.18	3950.40	1942.78	49
Oct 19	5393.30	3615.20	1778.10	49
Nov 19	5731.32	3849.00	1882.32	49
Dec 19	5103.54	3420.60	1682.94	49
Jan 20	3875.32	2597.40	1277.92	49
Feb 20	6143.16	4117.40	2025.76	49
Mar 20	5300.26	3552.70	1747.56	49
Total	65624.39	43993.55	21826.87	
Average	5468.69	3666.12	1818.90	49

3.2.6 EXTERIOR WASHING – 204.06

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	2140.00	1435.00	705.00	49
May 18	1678.23	1124.70	553.53	49
June 18	1944.37	1303.20	641.17	49
July 18	1616.17	1083.20	532.97	49
Aug 18	1778.13	1192.10	586.03	49
Sep 18	1588.47	1064.15	524.32	49
Oct 18	1583.27	1060.20	523.07	49
Nov 18	1590.37	1065.60	524.77	49
Dec 18	1804.23	1208.60	595.63	49

Jan 19	1350.16	904.80	445.36	49
Feb 19	2137.42	1432.20	705.22	49
Mar 19	1557.37	1043.80	513.57	49
Total	20768.19	13917.55	6850.64	
Average	1730.68	1159.79	570.88	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	1511.40	1013.00	498.40	49
May 19	1312.46	879.00	433.46	49
June 19	1383.21	927.60	455.61	49
July 19	1672.30	1121.20	551.10	49
Aug 19	1661.12	1113.60	547.52	49
Sep 19	1563.16	1048.00	515.16	49
Oct 19	1311.46	879.00	432.46	49
Nov 19	1520.00	1020.20	499.80	49
Dec 19	1660.34	1113.20	547.14	49
Jan 20	1522.13	1020.20	501.93	49
Feb 20	1945.26	1303.80	641.46	49
Mar 20	1918.21	1283.80	634.41	49
Total	18981.05	12722.60	6258.45	
Average	1581.75	1060.21	521.53	49

3.2.7 PUTTY – 204.072018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	1415.00	948.90	466.10	49
May 18	1345.29	901.00	444.29	49
June 18	1533.00	1027.50	505.50	49
July 18	1705.35	1143.00	562.35	49
Aug 18	1626.00	1089.20	536.80	49
Sep 18	1362.49	913.20	449.29	49
Oct 18	1303.43	874.20	429.23	49
Nov 18	1227.27	822.20	405.07	49
Dec 18	1032.26	691.40	340.86	49
Jan 19	463.17	310.80	152.37	49
Feb 19	972.28	652.05	320.23	49
Mar 19	785.23	526.80	258.43	49
Total	14770.77	9900.25	4870.52	
Average	1230.89	825.02	405.87	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	823.49	552.00	271.48	49
May 19	990.38	664.00	326.38	49
June 19	1181.46	792.00	389.46	49
July 19	1181.46	792.00	389.46	49
Aug 19	1145.46	768.00	377.46	49

Sep 19	1108.47	743.00	365.47	49
Oct 19	1020.26	684.20	336.06	49
Nov 19	1278.20	859.00	419.20	49
Dec 19	1136.00	761.40	374.60	49
Jan 20	850.44	570.00	280.44	49
Feb 20	1234.18	827.20	406.98	49
Mar 20	1081.20	725.00	356.20	49
Total	13031.00	8737.80	4293.19	
Average	1085.91	728.15	357.76	49

3.2.8 U/G PAINTING – 204.082018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	3647.41	2443.20	1204.21	49
May 18	3282.15	2199.40	1082.75	49
June 18	3760.13	2520.20	1239.93	49
July 18	1486.32	996.00	490.32	49
Aug 18	1243.16	833.20	409.96	49
Sep 18	1170.42	784.60	385.82	49
Oct 18	1500.42	1006.40	494.02	49
Nov 18	1298.36	869.75	428.61	49
Dec 18	3067.25	2055.80	1011.45	49
Jan 19	2217.32	1486.55	730.77	49
Feb 19	3825.45	2564.00	1261.45	49

Mar 19	3007.40	2015.75	991.65	49
Total	29505.79	19774.85	9730.94	
Average	2458.81	1647.90	810.91	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	2646.21	1773.60	872.61	49
May 19	2215.62	1485.00	730.62	49
June 19	2506.43	1680.20	826.23	49
July 19	2845.24	1907.00	938.24	49
Aug 19	2811.22	1884.20	927.02	49
Sep 19	2782.28	1864.80	917.48	49
Oct 19	2519.32	1688.60	830.72	49
Nov 19	2510.31	1686.00	824.31	49
Dec 19	2226.17	1492.40	733.77	49
Jan 20	1753.38	1175.40	577.98	49
Feb 20	1928.26	1292.40	635.86	49
Mar 20	1337.27	896.60	440.67	49
Total	28081.71	18826.20	9255.51	
Average	2340.14	1568.65	771.29	49

3.2.9 BOGIE PAINTING – 204.092018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	5715.50	3828.20	1887.30	49
May 18	5698.24	3819.20	1879.04	49

June 18	6184.36	4145.40	2038.96	49
July 18	5881.24	3942.20	1939.04	49
Aug 18	6286.37	4213.80	2072.57	49
Sep 18	5723.11	3835.20	1887.91	49
Oct 18	5488.47	3681.40	1807.07	49
Nov 18	5670.24	3800.10	1870.14	49
Dec 18	5386.16	3610.40	1775.76	49
Jan 19	3441.44	2306.60	1134.84	49
Feb 19	5989.26	4014.25	1975.01	49
Mar 19	5113.21	3427.40	1685.81	49
Total	66577.60	44624.15	21953.45	
Average	5548.13	3718.67	1829.45	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	5017.29	3362.60	1654.69	49
May 19	4936.13	3308.40	1627.73	49
June 19	5998.13	4020.20	1977.93	49
July 19	5252.43	3520.40	1732.03	49
Aug 19	5226.17	3502.80	1723.37	49
Sep 19	5273.23	3534.60	1738.63	49
Oct 19	5540.44	3713.29	1827.24	49
Nov 19	6098.27	4092.80	2005.47	49
Dec 19	5209.36	3491.80	1717.56	49
Jan 20	4219.22	2827.90	1391.32	49

Feb 20	5921.44	3968.80	1952.64	49
Mar 20	5868.17	3931.70	1936.47	49
Total	64560.28	43275.29	21285.08	
Average	5380.02	3606.27	1773.75	49

3.2.10 HCR PAINTING – 204.092018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	1354.50	908.40	446.10	49
May 18	1204.26	807.40	396.86	49
June 18	1235.37	828.20	407.17	49
July 18	1372.34	919.80	452.54	49
Aug 18	1347.43	903.40	444.03	49
Sep 18	1182.17	791.60	390.57	49
Oct 18	1202.46	806.60	395.86	49
Nov 18	1276.25	855.40	420.85	49
Dec 18	1197.18	802.40	394.78	49
Jan 19	958.27	642.60	315.67	49
Feb 19	1554.24	1042.20	512.04	49
Mar 19	1182.23	792.15	390.08	49
Total	15066.70	10100.15	4966.55	
Average	1255.55	841.67	413.87	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	1283.17	860.40	422.77	49
May 19	1254.27	841.40	412.87	49
June 19	1410.35	945.60	464.75	49
July 19	1355.34	908.70	446.64	49
Aug 19	1276.25	855.40	420.85	49
Sep 19	1183.15	793.00	390.15	49
Oct 19	1329.47	891.20	438.27	49
Nov 19	1375.40	923.20	452.20	49
Dec 19	1234.47	827.40	407.07	49
Jan 20	1033.35	692.80	340.55	49
Feb 20	1399.19	937.80	461.39	49
Mar 20	1342.16	899.80	442.36	49
Total	15476.57	10376.70	5099.87	
Average	1289.71	864.72	424.98	49

3.2.11 LATTERING & STENCILLING – 204.102018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	6584.36	4415.30	2169.06	49
May 18	6292.42	4219.60	2072.82	49
June 18	7200.40	4826.00	2374.40	49
July 18	6447.28	4321.60	2125.68	49
Aug 18	7305.27	4896.30	2408.97	49
Sep 18	6299.12	4222.20	2076.92	49

Oct 18	5830.11	3909.80	1920.31	49
Nov 18	6094.26	4083.80	2010.46	49
Dec 18	6212.38	4163.80	2048.58	49
Jan 19	4465.25	2992.80	1472.45	49
Feb 19	7306.25	4896.80	2409.45	49
Mar 19	5660.16	3794.00	1866.16	49
Total	75697.26	50742.00	24955.26	
Average	6308.10	4228.50	2079.60	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	5632.21	3775.40	1856.81	49
May 19	5213.14	3494.00	1719.14	49
June 19	6241.33	4183.20	2058.13	49
July 19	5629.17	3772.80	1856.37	49
Aug 19	5354.19	3588.60	1765.59	49
Sep 19	4998.46	3350.50	1647.96	49
Oct 19	4843.32	3246.00	1597.32	49
Nov 19	4989.36	3342.40	1646.96	49
Dec 19	4838.25	3247.50	1590.75	49
Jan 20	4192.18	2810.20	1381.98	49
Feb 20	5492.15	3681.00	1811.15	49
Mar 20	4914.27	3293.00	1621.27	49
Total	62338.03	41784.60	20553.43	
Average	5194.83	3482.05	1712.78	49

3.2.12 MISC. – 204.112018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	4470.17	2998.00	1472.17	49
May 18	4183.37	2803.20	1380.17	49
June 18	4518.17	3028.40	1489.77	49
July 18	4023.24	2697.00	1326.24	49
Aug 18	4554.47	3052.60	1501.87	49
Sep 18	4285.17	2872.50	1412.67	49
Oct 18	3622.23	2429.40	1192.83	49
Nov 18	4120.46	2761.80	1358.66	49
Dec 18	4155.29	2785.05	1370.24	49
Jan 19	2603.24	1744.80	858.44	49
Feb 19	4666.27	3127.80	1538.47	49
Mar 19	3945.14	2644.20	1300.94	49
Total	49147.22	32944.75	16202.47	
Average	4095.60	2745.39	1350.20	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	3859.20	2586.60	1272.60	49
May 19	3573.41	2395.05	1178.36	49
June 19	4143.20	2777.40	1365.80	49
July 19	4010.34	2687.90	1322.44	49
Aug 19	4020.34	2694.60	1325.74	49
Sep 19	3870.24	2594.00	1276.24	49

Oct 19	3861.27	2588.40	1272.87	49
Nov 19	4287.00	2877.50	1409.50	49
Dec 19	3708.13	2485.80	1222.33	49
Jan 20	2982.41	1998.70	983.71	49
Feb 20	4179.38	2801.40	1377.98	49
Mar 20	3960.12	2653.60	1306.52	49
Total	46455.04	31140.95	15314.09	
Average	3871.25	2595.07	1276.17	49

Trimming Activities

3.2.13 LOADING & UNLOADING – 204.12A

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	3937.13	2637.80	1299.33	49
May 18	3658.42	2452.20	1206.22	49
June 18	3506.47	2353.00	1153.47	49
July 18	4498.38	3015.00	1483.38	49
Aug 18	4880.33	3271.20	1609.13	49
Sep 18	4206.44	2819.40	1387.04	49
Oct 18	3910.29	2622.60	1287.69	49
Nov 18	3751.28	2514.00	1237.28	49
Dec 18	4085.12	2738.60	1346.52	49
Jan 19	2712.44	1818.20	894.24	49
Feb 19	4273.38	2864.20	1409.18	49

Mar 19	3761.33	2520.80	1240.53	49
Total	47181.01	31627.00	15554.01	
Average	3931.75	2635.58	1296.16	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	4365.29	2926.00	1439.29	49
May 19	3910.23	2620.60	1289.63	49
June 19	4171.32	2796.00	1375.32	49
July 19	4395.43	2946.00	1449.43	49
Aug 19	4317.25	2893.60	1423.65	49
Sep 19	4131.46	2769.20	1362.26	49
Oct 19	3578.26	2398.50	1179.76	49
Nov 19	4195.20	2815.90	1379.30	49
Dec 19	4112.12	2759.80	1352.32	49
Jan 20	3251.46	2179.40	1072.06	49
Feb 20	4204.15	2818.20	1385.95	49
Mar 20	4264.37	2858.40	1405.97	49
Total	48896.54	32781.60	16114.94	
Average	4074.71	2731.80	1342.91	49

3.2.14 REXINE CUTTING – 204.12B2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	2745.36	1840.50	904.86	49
May 18	2782.27	1865.10	917.17	49

June 18	3378.37	2266.10	1112.27	49
July 18	2897.16	1942.30	954.86	49
Aug 18	2796.42	1875.60	920.82	49
Sep 18	2650.35	1776.80	873.55	49
Oct 18	2563.32	1719.20	844.12	49
Nov 18	2586.36	1733.00	853.36	49
Dec 18	2681.49	1797.25	884.24	49
Jan 19	1851.32	1242.50	608.82	49
Feb 19	3039.35	2037.10	1002.25	49
Mar 19	2332.44	1565.40	767.04	49
Total	32304.21	21660.85	10643.36	
Average	2692.01	1805.07	886.94	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	2590.21	1736.40	853.81	49
May 19	2426.27	1626.20	800.07	49
June 19	2646.42	1773.80	872.62	49
July 19	2707.32	1814.70	892.62	49
Aug 19	2468.26	1654.20	814.06	49
Sep 19	2175.30	1457.80	717.50	49
Oct 19	2414.28	1618.40	795.88	49
Nov 19	2580.33	1730.20	850.13	49
Dec 19	2262.14	1516.50	745.64	49
Jan 20	1918.21	1286.00	632.21	49

Feb 20	2695.46	1806.90	888.56	49
Mar 20	2430.12	1628.40	801.72	49
Total	29314.32	19649.50	9664.82	
Average	2442.86	1637.45	805.40	49

3.2.15 CURTAIN STRITCHING – 204.12C

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	2254.37	1511.80	742.57	49
May 18	2060.37	1380.40	679.97	49
June 18	2141.36	1435.50	705.86	49
July 18	2231.17	1495.90	735.27	49
Aug 18	2287.27	1533.40	753.87	49
Sep 18	1868.48	1252.40	616.08	49
Oct 18	1831.44	1228.40	603.04	49
Nov 18	1786.40	1196.65	589.75	49
Dec 18	1889.27	1266.60	622.67	49
Jan 19	1528.44	1025.80	502.64	49
Feb 19	2495.17	1672.80	822.37	49
Mar 19	2095.34	1405.60	689.74	49
Total	24469.08	16405.25	8063.83	
Average	2039.09	1367.10	671.98	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	1991.28	1335.00	656.28	49
May 19	1620.13	1085.80	534.33	49

June 19	1756.47	1177.00	579.47	49
July 19	2578.17	1728.00	850.17	49
Aug 19	2483.28	1664.40	818.88	49
Sep 19	2039.32	1366.80	672.52	49
Oct 19	1830.24	1227.20	603.04	49
Nov 19	1771.42	1190.00	581.42	49
Dec 19	1952.27	1308.80	643.47	49
Jan 20	1593.37	1068.20	525.17	49
Feb 20	2134.45	1430.60	703.85	49
Mar 20	1843.13	1235.80	607.33	49
Total	23593.53	15817.60	7775.93	
Average	1966.12	1318.13	647.99	49

3.2.16 PVC FLOOR LAYING – 204.12D

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	8081.51	5416.20	2665.31	49
May 18	7331.38	4913.90	2417.48	49
June 18	8078.43	5414.50	2663.93	49
July 18	7471.33	5007.60	2463.73	49
Aug 18	8065.25	5406.00	2659.25	49
Sep 18	7298.36	4891.80	2406.56	49
Oct 18	6756.46	4531.60	2224.86	49
Nov 18	7272.26	4874.05	2398.21	49
Dec 18	7144.12	4788.60	2355.52	49
Jan 19	4791.40	3211.40	1580.00	49

Feb 19	8410.24	5637.20	2773.04	49
Mar 19	6595.30	4420.80	2174.50	49
Total	87296.04	58513.65	28782.39	
Average	7274.67	4876.13	2398.53	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	6618.13	4633.60	1984.53	49
May 19	5095.37	3415.40	1679.97	49
June 19	5333.30	3574.60	1758.70	49
July 19	4697.11	3148.20	1548.91	49
Aug 19	4526.13	3033.60	1492.53	49
Sep 19	4384.12	2938.60	1445.52	49
Oct 19	4177.32	2794.60	1382.72	49
Nov 19	4541.00	3053.90	1487.10	49
Dec 19	4260.25	2855.40	1404.85	49
Jan 20	3411.27	2286.60	1124.67	49
Feb 20	4386.27	2940.20	1446.07	49
Mar 20	4100.27	2747.60	1352.67	49
Total	55530.54	37422.30	18108.24	
Average	4627.54	3118.52	1509.02	49

3.2.17 Non - AC TRIMMING - I – 204.12E

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	9015.36	6041.60	2973.76	49
May 18	7820.52	5244.80	2575.72	49

June 18	9568.19	6413.00	3155.19	49
July 18	7771.23	5208.60	2562.63	49
Aug 18	8470.48	5677.00	2793.48	49
Sep 18	7938.36	5320.80	2617.56	49
Oct 18	7807.47	5236.40	2571.07	49
Nov 18	8264.12	5538.60	2725.52	49
Dec 18	9051.36	6066.60	2984.76	49
Jan 19	6183.27	4144.20	2039.17	49
Feb 19	10566.44	7073.60	3492.84	49
Mar 19	8560.40	5737.00	2823.40	49
Total	101017.20	67702.20	33315.10	
Average	8418.10	5641.85	2776.25	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	8450.38	5664.00	2786.38	49
May 19	7712.46	5168.80	2543.66	49
June 19	8811.45	5905.80	2905.65	49
July 19	9468.30	6346.20	3122.10	49
Aug 19	9036.44	6056.60	2979.84	49
Sep 19	8755.32	5868.20	2887.12	49
Oct 19	8756.46	5869.20	2887.26	49
Nov 19	9136.21	6115.60	3020.61	49
Dec 19	8057.25	5400.60	2656.65	49
Jan 20	6612.24	4431.80	2180.44	49

Feb 20	8965.12	6008.80	2956.32	49
Mar 20	7787.14	5219.80	2567.34	49
Total	101548.77	68055.40	33493.37	
Average	8462.39	5671.28	2791.11	49

3.2.18 Non - AC TRIMMING - II – 204.12F

2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	8361.57	5603.90	2757.67	49
May 18	7647.48	5125.20	2522.28	49
June 18	8211.26	5503.80	2707.46	49
July 18	8007.46	5367.00	2640.46	49
Aug 18	8321.48	5577.40	2744.08	49
Sep 18	8127.19	5447.60	2679.59	49
Oct 18	7916.31	5309.40	2606.91	49
Nov 18	8503.32	5698.80	2804.52	49
Dec 18	8876.21	5949.65	2926.56	49
Jan 19	6152.32	4122.20	2030.12	49
Feb 19	11244.31	7536.75	3707.56	49
Mar 19	9199.27	6165.40	3033.87	49
Total	100568.18	67407.10	33161.08	
Average	8380.68	5617.25	2763.42	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	9381.37	6287.80	3093.57	49
May 19	8444.21	5959.60	2784.61	49

June 19	9234.47	6189.40	3045.07	49
July 19	9270.12	6213.60	3056.52	49
Aug 19	8668.18	5810.20	2857.98	49
Sep 19	8885.15	5955.20	2929.95	49
Oct 19	8761.32	5872.20	2889.12	49
Nov 19	9782.46	6565.40	3217.06	49
Dec 19	8679.22	5817.60	2861.62	49
Jan 20	6699.27	4490.60	2208.67	49
Feb 20	9091.45	6093.50	2997.95	49
Mar 20	8497.35	5695.60	2801.75	49
Total	105394.57	70950.70	34743.87	
Average	8782.88	5912.55	2895.32	49

3.2.19 AC TRIMMING DELUXE – 204.12H
2018 – 19

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 18	6938.26	4650.30	2287.96	49
May 18	6967.45	4672.40	2295.05	49
June 18	7720.34	5178.30	2542.04	49
July 18	6886.32	4615.50	2270.82	49
Aug 18	7780.00	5214.20	2565.80	49
Sep 18	6754.28	4527.20	2227.08	49
Oct 18	5445.52	3652.55	1792.97	49
Nov 18	4893.46	3279.80	1613.66	49
Dec 18	4677.46	3135.15	1542.31	49

Jan 19	3151.28	2249.80	901.48	49
Feb 19	5491.36	3680.80	1810.56	49
Mar 19	4770.27	3200.20	1570.07	49
Total	71476.00	48056.20	23419.80	
Average	5956.33	4004.68	1951.65	49

2019 – 20

Month & year	Allowed Time	Time Taken	Time saved	% of Incentive
Apr 19	4755.30	3187.40	1567.90	49
May 19	4115.23	2758.20	1357.03	49
June 19	4773.20	3199.20	1574.00	49
July 19	5062.35	3393.00	1669.35	49
Aug 19	4537.47	3041.20	1496.27	49
Sep 19	4424.00	2965.20	1458.80	49
Oct 19	3940.36	2641.40	1298.96	49
Nov 19	4895.00	3285.60	1609.40	49
Dec 19	4741.25	3177.80	1563.45	49
Jan 20	3565.42	2390.00	1175.42	49
Feb 20	5596.42	3751.00	1845.42	49
Mar 20	5305.12	3554.20	1750.92	49
Total	55711.12	37344.20	18366.92	
Average	4642.59	3112.01	1530.57	49

3.2.20. Monthly Average section wise incentive details Allowed time, Time taken, Time saved and Man power requirement of Paint shop during 2018 – 19 & 2019 - 20

Sl no	Section	Allowed time	Time taken	Time saved
1	Interior Washing – 204.01	1431.80	961.45	470.35
2	Exterior & Interior painting – 204.02	5679.38	3806.94	1872.43
3	Exterior & Interior painting – 204.03	4573.50	3065.32	1508.18
4	Exterior & Interior painting – 204.04	6015.33	4031.89	1983.44
5	Exterior & Interior painting – 204.05	5524.08	3702.87	1854.37
6	Exterior Washing – 204.06	1656.21	1110.00	546.20
7	Putty – 204.07	1158.40	776.58	381.81
8	U/G Painting – 204.08	2399.47	1608.27	791.10
9	Bogie Painting – 204.09	5464.07	3662.47	1801.06
10	HCR Painting – 204.09	1272.63	853.19	419.42
11	Lettering & Stenciling – 204.10	5751.46	3855.27	1896.19
12	Miscellaneous – 204.11	3983.42	2670.23	1313.18
13	Loading & Unloading – 204.12A	4003.23	2683.69	1319.53
14	Rexine Cutting – 204.12B	2567.43	1721.26	846.17
15	Curtain Stitching – 204.12C	2002.60	1342.61	659.98
16	PVC Floor Laying – 204.12D	5951.10	3997.32	1953.77
17	NAC Trimming – I – 204.12E	8440.24	5656.56	2783.68
18	NAC Trimming – II – 204.12F	8581.78	5764.90	2829.37
19	AC Trimming Deluxe – 204.12H	5299.46	3558.34	1741.11

1) Calculation of Men required at Interior Washing(204.01)

Average DW required	1431.80/267	=	5.36
LR for DW @ 12.5 %		=	0.67
Total DWs required		=	6.03
EIW @ 15%		=	0.90
Total staff required		=	6.93 say 7

2) Calculation of Men required at Exterior & Interior Painting (204.02)

Average DW required	5679.38/267	=	21.27
LR for DW @ 12.5 %		=	02.65
Total DWs required		=	23.92
EIW @ 15%		=	03.58
Total staff required		=	27.5 say 27

3) Calculation of Men required at Exterior & Interior Washing (204.03)

Average DW required	4573.50/267	=	17.12
LR for DW @ 12.5 %		=	02.14
Total DWs required		=	19.26
EIW @ 15%		=	02.88
Total staff required		=	22.14 say 22

4) Calculation of Men required at Exterior & Interior Washing (204.04)

Average DW required	6015.33/267	=	22.52
LR for DW @ 12.5 %		=	02.81
Total DWs required		=	25.33
EIW @ 15%		=	03.79
Total staff required		=	29.12 say 29

5) Calculation of Men required at Exterior & Interior Washing (204.05)

Average DW required	5524.08/267	=	20.68
LR for DW @ 12.5 %		=	02.58
Total DWs required		=	23.26
EIW @ 15%		=	03.48
Total staff required		=	26.74 say 27

6) Calculation of Men required at Exterior Washing (204.06)

Average DW required	1656.21/267	=	06.20
LR for DW @ 12.5 %		=	00.77
Total DWs required		=	06.97
EIW @ 15%		=	01.04
Total staff required		=	8.01 say 08

7) Calculation of Men required at Putty (204.07)

Average DW required	1158.40/267	=	04.33
LR for DW @ 12.5 %		=	00.54
Total DWs required		=	04.87
EIW @ 15%		=	00.73
Total staff required		=	5.60 say 06

8) Calculation of Men required at U/G Painting (204.08)

Average DW required	2399.47/267	=	08.98
LR for DW @ 12.5 %		=	01.12
Total DWs required		=	10.01
EIW @ 15%		=	01.51
Total staff required		=	11.52 say 12

9) Calculation of Men required at Bogie Painting (204.09)

Average DW required	5464.07/267	=	20.46
LR for DW @ 12.5 %		=	02.55
Total DWs required		=	23.01
EIW @ 15%		=	03.45
Total staff required		=	26.46 say 26

10) Calculation of Men required at HCR Painting (204.09)

Average DW required	1272.63/267	=	04.76
LR for DW @ 12.5 %		=	00.59
Total DWs required		=	05.35
EIW @ 15%		=	00.80
Total staff required		=	06.15 say 06

11) Calculation of Men required at Lettering & Stenciling (204.10)

Average DW required	5751.46/267	=	21.54
LR for DW @ 12.5 %		=	02.69
Total DWs required		=	24.23
EIW @ 15%		=	03.63
Total staff required		=	27.86 say 28

12) Calculation of Men required at Miscellaneous (204.11)

Average DW required	3983.42/267	=	14.91
LR for DW @ 12.5 %		=	01.86
Total DWs required		=	16.77
EIW @ 15%		=	02.51
Total staff required		=	19.28 say 19

13) Calculation of Men required at Loading & Unloading (204.12A)

Average DW required	$4003.23/267$	=	14.99
LR for DW @ 12.5 %		=	01.87
Total DWs required		=	16.86
EIW @ 15%		=	02.52
Total staff required		=	19.38 say 19

14) Calculation of Men required at Rexine cutting (204.12B)

Average DW required	$2567.43/267$	=	09.61
LR for DW @ 12.5 %		=	01.20
Total DWs required		=	10.81
EIW @ 15%		=	01.62
Total staff required		=	12.43 say 12

15) Calculation of Men required at Curtain Stitching (204.12C)

Average DW required	$2002.60/267$	=	07.50
LR for DW @ 12.5 %		=	00.93
Total DWs required		=	08.43
EIW @ 15%		=	01.26
Total staff required		=	09.69 say 10

16) Calculation of Men required at PVC floor laying (204.12D)

Since the activity is done fully through contract work, only minimum staff is required for monitoring the work done by contract. Hence the work study team has reduced the allowed time by 50% ($5951.10/2 = 2975.55$)

Average DW required	$2975.55/267$	=	11.14
LR for DW @ 12.5 %		=	01.39
Total DWs required		=	12.53
EIW @ 15%		=	01.87
Total staff required		=	14.14 say 14

17) Calculation of Men required at NAC Trimming - I (204.12E)

Average DW required	$8440.24/267$	=	31.61
LR for DW @ 12.5 %		=	03.95
Total DWs required		=	35.56
EIW @ 15%		=	05.33
Total staff required		=	40.89 say 41

18) Calculation of Men required at NAC Trimming - II (204.12F)

Average DW required	$8581.78/267$	=	32.14
LR for DW @ 12.5 %		=	04.01
Total DWs required		=	36.15
EIW @ 15%		=	05.42
Total staff required		=	41.57 say 42

19) Calculation of Men required at AC Trimming Deluxe (204.12H)

Average DW required	$5299.46/267$	=	19.84
LR for DW @ 12.5 %		=	02.48
Total DWs required		=	22.32
EIW @ 15%		=	03.34
Total staff required		=	25.66 say 26

Requirement of staffs at Paint shop

Sl no	Section	Staff requirement
1	Interior Washing – 204.01	07
2	Exterior & Interior painting – 204.02	28
3	Exterior & Interior painting – 204.03	22
4	Exterior & Interior painting – 204.04	29
5	Exterior & Interior painting – 204.05	27
6	Exterior Washing – 204.06	08
7	Putty – 204.07	06
8	U/G Painting – 204.08	12
9	Bogie Painting – 204.09	26
10	HCR Painting – 204.09	06
11	Lettering & Stenciling – 204.10	28
12	Miscellaneous – 204.11	19
13	Loading & Unloading – 204.12A	19
14	Rexine Cutting – 204.12B	12
15	Curtain Stitching – 204.12C	10
16	PVC Floor Laying – 204.12D	14
17	NAC Trimming – I – 204.12E	41
18	NAC Trimming – II – 204.12F	42
19	AC Trimming Deluxe – 204.12H	26
Total		382

Note :

It is to be mentioned at this juncture, the work study team has not reduced the allowed time for the activities done partially through contract works and the units where 50 % of the contract works in progress is detailed as under

1. Interior & Exterior painting of GS & SCN coaches – 204.02
2. Underframe scrapping & Painting – 204.08
3. Painting of IOH Bogies (ICF coaches) – 204.09
4. Stripping, Unloading & Loading of trimming items, Trimming work attention in Janashatabdi Non – AC coaches – 204.12A

Overall summary of Sanction Vs Requirement

Sl No	Designation	Sanction	Actual	Requirement	Excess
1	SSE	22	16	22	0
2	JE	12	4	12	0
Total -A		34	20	34	0
3	Sr.TECH	144	115	144	0
4	TECH – I	207	47	142	65
5	TECH – II	22	21	22	0
6	TECH – III	45	72	45	0
7	HELPER	29	20	29	0
Total -B		447	275	382	65
Total A+B		481	295	416	65



CHAPTER – IV4.0 PLANNING BRANCH REMARKS ON CO-ORDINATING OFFICER'S VIEWS

The draft work study report for this study was sent through e-office to Dy.CME/Carriage/CW/PER (Co-ordinating Officer) on 13/08/2020 to offer his remarks. Normally a period of 15 days is allowed to offer Co – ordinating officer remarks. In this case, planning branch has not received any remarks after 21 days of submission of draft report. Hence the work study report is released without the remarks of Co – ordinating officer.



CHAPTER – V5.0 FINANCIAL SAVINGS

5.1 If the recommendations made in the study report are implemented, the annual recurring financial savings will be as under:

Sl. No.	Category	Grade pay (Rs.)	No. of posts	Money value (Rs.)	Total Annual savings (Rs.)
1	Technician – Gr.I	2800	65	71078	5,54,40,840
Total			65		5,54,40,840

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ANNEXURE - I**SAVE STATEMENT OF PAINT SHOP/CW/PER**

SI No	Designation	Sanction	Actual	Vacancy	Excess
1	SSE	22	16	6	0
2	JE	12	4	8	0
3	Sr.TECH	144	115	29	0
4	TECH – I	207	47	160	0
5	TECH – II	22	21	1	0
6	TECH – III	45	72	0	27
7	HELPER	29	20	9	0
		481	295	213	27

