No. G.275/151819 / 2019-20

WORK STUDY TO REVIEW THE STRENGTH AT CR SHOP (BOILER SHOP, SMITHY SHOP, TOOL ROOM & FOUNDARY SHOP) LOCO WORKS/PERAMBUR

SOUTHERN RAILWAY – PLANNING BRANCH

G.275 / WSSR - 151819 / 2018-19

WORK STUDY TO REVIEW THE STRENGTH AT CR SHOP (BOILER SHOP, SMITHY SHOP, TOOL ROOM & FOUNDARY SHOP) LOCO WORKS/PERAMBUR

STUDIED BY

WORK STUDY TEAM
OF
PLANNING BRANCH

FEBRUARY 2019

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(i)

ACKNOWLEDGEMENT

The study team is thankful to CWM, Dy.CME, WMs, AWMs, APE and other Officers & Supervisory staff of Mechanical Department and Personnel Branch staff of LW/PER for their valuable guidance and assistance to conduct the study in time.

(ii)

TERMS OF REFERENCE

To review the Ministerial staff strength vis-à-vis workload at Loco Works/Perambur.

(iii)

METHODOLOGY

The following methodology has been adopted in carrying out the study.

- Collection and compilation of data.
- Interaction with the staff and Officers.
- Personal observation.
- Requirement of staff on Need basis duly applying the Yardstick wherever applicable.

(**iv)**

SUMMARY OF RECOMMENDATIONS

Revised recommendations

Recommendation 1 :

04 posts of SSE in Grade Pay Rs.4600/- , 08 posts of JE in Grade Pay Rs.4200/- are found to be excess to the requirement may be surrendered and credit to the vacancy bank.

(Total Posts – 12)

Recommendation 2:

02 posts of Sr.Tech, 06 Posts of Tech –I, 01 post of Tech –II and 04 posts Tech-III are found to be excess to the requirement may be surrendered and credit to the vacancy bank.

(Total Posts – 13)

(Grand Total posts 25)

CHAPTER – I

1.0 INTRODUCTION

1.1 The Perambur Loco Workshop is the oldest Mechanical Workshop in the Southern Railway system which was established by the erstwhile Madras

Railway Company in the year 1856 almost simultaneously with the opening of their first line from Royapuram to Walajah Road. This workshop was established for the combined activity of overhauling steam locomotive, carriage and wagons up to 1932 & this was the Central Workshop for the maintenance of rolling stock.

1.2 Due to the increase in the fleet strength of locomotives, coaches and wagons and separate Loco works was carved out in its present location in the year 1932 exclusively for overhauling Steam Locomotives and Travelling Steam Cranes of Madras and Mahratta Railways. In the days of steam traction, this workshop became a premier workshop among the Indian Railway Workshops overhauling steam locomotives.

1.3 The Exit of Steam Locomotives in the year 1983 was the most difficult year for all the Steam Loco staff of this Workshop. The workshop had to diversify to various new activities. The employees were sent to different workshops and divisions for getting trained in POH of AC Locomotives and Coaches.

This apart, the available welding skill was utilized for manufacture of UIC bogies. They also undertook repair of CO-CO Bogies and containers.

It was a period of turbulence for the staff and the supervisors who had to absorb the new technologies late in their middle age. Loco Works started taking coaches for heavy corrosion works in the Erecting shop in addition to undertaking POH of coaches also. Simultaneously the erstwhile boiler shop was modified to take over POH of AC Locos. The POH of diesel shunters was also started and thus there was a radical transformation from "210 psi to 25 KV" and "boilers to power packs". This has been made possible by the skill commitment and dedication shown by the staff, supervisors and the officers.

1.4 Consequent upon the phasing out of steam locomotives in the early 80’s, this workshop was chosen for undertaking POH of Electric Locomotives and Diesel Hydraulic locomotives (Shunters) and heavy corrosion repair cum POH of

coaches. A small beginning was made by undertaking totally 8 coaches for POH in the year 1981-82. POH of two Diesel locomotives and POH of 5 Electric locomotives were done in the year 1985-86 by re-deploying and retraining staff engaged in Steam loco POH.

1.5 With the rapid technological changes taking place over Indian Railways, the Loco Works also adapted itself to the changing requirements. Today this has blossomed into an ISO 9001: 2000 (QMS), ISO 14001:2004 (EMS) & ISO 18000 (Safety, Health and Environment standard) workshop. This is one of the composite workshops undertaking POH of Electric Locos, Diesel Shunting Locos, Coaches, Diesel Electric Multiple Units and Self Propelled ARTs. This workshop has also carved a niche for itself by successfully manufacturing ICF and EMU bogies and Elastic Rail Clips. The role played by Loco Works in production of bio-diesel (pilot plant) is unique. 2007-2008 was platinum jubilee for Loco Works Perambur.

1.6 **MAJOR ACTIVITIES**

In addition to undertaking normal POH of Electric and Diesel hydraulic locos and coaches, the following activities have been progressively added to the POH activities:

- Conversion of power pack from 01 model to 21 model for WDS4 shunters.
- Re-cabling of Electric Locomotives
- Conversion of S-P (Series-Parallel) locomotives into 6 P(parallel) locomotives.
- Provision of Dual brake system on the old vacuum brake Elec. Locomotives.
- Conversion of coaches provided with Vacuum brake system into air brake.
- Refurbishing of Coaches
- POH and special repairs of Diesel Electric Multiple units.
- Manufacturing of ICF Bogies, AC/DC EMU bogies.
- Manufacture of Elastic Rail Clips (ERC) for Rail Track maintenance.
- Conversion of NGEF Electric to BHEL Electric in DEMU/DPC
- Refurbishing and Project UTKRIST

- POH of DEMU/TC coaches and Coaching part activities in DEMU/DPC.

1.7 FAIRY QUEEN STEAM LOCOMOTIVE

"Fairy Queen was commissioned in the year 1855 by the East India Railways and was retired in the year 1909. Later on it was kept as an exhibit at various places from the year 1909 to 1996. It was revived by Loco Works during December 1999 by completely stripping and attending to repairs including re-axing the driving axle and has found a place in Guinness Book of Records.

1.8 EXPRESS STEAM LOCOMOTIVE

This Express Stream Locomotive made its maiden journey in 1855 on the121-mile line between Howrah and Raneegunge. This Loco was built by Kitson Thomson and Hewitson Leeds of United Kingdom. This Locomotive was used in the erstwhile East Indian Railway till 1909. After ----years the locomotive came back to run life during a heritage run between Chennai Central and Avadi on 15.08.2010 with great efforts of LW/PER. This is the very oldest running locomotive in the world.

CHAPTER – II

2.0 PRESENT SCENARIO

2.1 The working hours of the Workshop:-

Monday to Friday	-	07.00 – 11.33 hours
	-	12.30 to 16.33 hours
Saturday	-	07.00 to 12.00 hours
Total working hours	-	**48.00 hours per Week**

The office of the CWM and Personnel Branch are working as per the following timings:

Monday to Friday	-	09.45 – 17.30 hours
Saturday	-	09.45 to 13.30 hours
Total working hours	-	**47.30 hours per Week**

ORGANISATION SET UP:

2.2 ACTIVITIES OF VARIOUS SHOPS

There are 9 shops in LW/PER and these are classified into Incentive shops and Non-Incentive shops. The Incentive shops (M & PR, W&T, CR, GW, MW) are involved in POH of coaches and TCs/DTCs of DEMU, Repairs to wheels for Electric/Diesel Loco Shed, manufacturing of Elastic Rail Clips, ICF Bogies, Bogies with air suspension arrangements in AC/DC Trailer coaches and other items, reconditioning of coach items etc., and the employees are getting incentives for their work apart from their regular salary. Whereas non-incentive shops (DSL, AC Loco, Yard& TD) are involved in serving the incentive shops and also involved in POH of Diesel Locos, Electric Locos, DPCs (Driving Power Cars) and production of Bio-Diesel.

2.2.1 The details of shops available at Loco works are given below.

- AC LOCO Shop
- DSL Shop
- CR Shop
- Millwright
- M& PR (Stores)
- M & P Shop
- General Welding Shop
- Yard & Transport Shop

Production Control Organization (PCO) is functioning with the following sections viz. Planning, Progress & Inspection.

Other sections functioning at LOCO/Works are given below.

General Section
Information
Safety Cell
Bills Section
Computer Cell
NS indents
Recab
Budget section
Contract Cell

2.2.2 The sanction, actual, vacancy and excess statement of the Personnel and Non-Personnel staff of LW/PER is furnished below. Copy of the same is enclosed as Annexure-1.

(1) **Supervisory Staff:**

Designation	SSE			JE			Total		
	San	Act	Vac	San	Act	Vac	San	Act	Vac
Shops	4600			4200					
CR Boiler	5	1	4	1	0	1	6	1	5
CR Foundry	8	3	5	4	0	4	12	3	9
Smithy	4	3	1	2	1	1	6	4	2
CR Tool room	5	6	-1	2	0	2	7	6	1
Total	22	13	9	9	1	8	31	14	17

(2) **Artisans strength as on 01.01.2019**

Shops	Designation														
	Sr.Tech			Tech.Gr.I			Tech Gr.II			Tech.Gr.III			Total		
	S	**A**	**V**	**S**	**A**	**V**	**S**	**A**	**V**	**S**	**A**	**V**	**S**	**A**	**V**
	4200			**2800**			**2400**			**1900**					
CR Boiler	11	10	1	22	22	0	1	1	0	2	0	2	36	33	3
CR Foundry	7	6	1	11	9	2	0	0	0	0	0	0	18	15	3

Smithy	8	8	0	14	12	2	0	1	-1	1	0	1	23	21	2
CR Tool room	9	9	0	17	16	1	0	0	0	1	0	1	27	25	2
Total	35	33	2	64	59	5	1	0	1	4	0	4	104	94	10

2.2.3 Present pattern of working of CR Shop:

Coach Repair shop is functioning in Loco works at Perambur. This shop is very important one since the following activities are carried out in this shop.

- POH of coaches
- Refurbishing of coaches
- Project UTKRIST
- POH of DEMU/TC Coaches
- Coaching part activities in DEMU/DPC

2.2.4 CR shop is assisted by the following units

- Boiler
- Foundry
- Smithy
- Tool Room
- CR Fitter
- CR Erecting/Carpenter
- CR Painter

At present there are no activities in Boiler, Foundry and Smithy units. The staff of these units are deployed to work in CR shop due to meet out the targeted outturn fixed by the Headquarters. Headquarters is fixing Target for Outturn of POH coaches and hence it is very important to achieve the target fixed by the Headquarters.

2.3 The shop wise activities are enlisted below:

2.3.1 Coach Repair Shop

- Lift & Lower Section
    - Lifting and Lowering and final adjustment of coaches.
    - Striping, Re fixing and readjustment of Bogie components.
    - Center pivot, oil seal attention etc.,
    - Maintenance of oil level.
- Under Frame section
    - Strip and re-fixing and attention of Draft and Coupling gear and its components.
    - S & F of Battery Box, foot step, commode chute, basin chute, Side filling pipe etc.,
- Carpentry Section
    - Strip and re fixing Floor board, LP sheet, Roof sealing etc.,
    - Manufacturing and fixing of tank arch, lavatory doors.
    - Provision of Base moulding and skrit moulding etc.,
    - Provision of upholstery and amenity fittings.

- Water Service section
    - Strip, repair attention, modification and loading of water tank.
    - Attention of pipe fittings like basin cock, Flush valve, Push cock, hose replacement.
- Painting and Stenciling.
    - Exterior Washing of coaches.
    - Painting of Bogies, Interior and exterior painting of coaches, U/F, End wall and Roof painting.
    - Reservation chart and Caution board painting.
    - Stenciling and Lettering
- Coach Repair & Corrosion Section
    - Lifting and Lowering of coaches.
    - Corrosion attention of each member of coach body.
    - Special attention to vulnerable area.
    - Unit replacement of H/S, Aux H/S and Draw housing unit.

- Carryout RSP, Crash worthy, TSO modifications and other special instructions.
- Replacement of S.S member with IRS M 41 (CR sheet) in corrosion prone area.

- Battery Box Section.
  - Repair and attention of Battery Box, Vacuum Reservoir and Foot step.
- Trimming Section.
  - Strip, Repair attention and Re-fixing of Seats and Berths.
  - Seat bracket attention and Modification of Berths.
  - Provision of chains, handles and safety brackets to the berth.
  - Remove the old Vynatile and provision of new Vynatile and joint welding.

- Coach Fitting Section.
  - Strip, Repair attention and Re-fixing of FRP shutter, Sliding door attention, Light Luggage Rack repair and fixing, Emergency Window provision.

- Air Brake Section
  - Strip & Fixing and servicing of Air brake components and testing of Air brake system.
  - PEASD attention.
  - Conversion of Brake system.
- ERC Manufacturing (Smithy)
  - Manufacture of Elastic Rail Clips (ERC) for Rail Track maintenance was started in 2000. 43,19,298 Clips were manufactured upto 2012.

- Heat treatment process of Coach/Loco components.

- CR (Tool Room)
    - Overhauling of Distributor valve, Dirt collector, Brake Cylinder, BMBC, TC fan & light fittings.
      Repair of Oxy- Acetylene Regulator.

2.3.2 **General Welding Shop**

- General Welders to all shops.
- Profile cutting
    - Profile cutting of Coach/Loco components.
    - Most of the welders are deployed in various shops for welding and gas cutting purpose of POH of Coaches, Locos, TCs/DPCs, POH/Manufacturing of Bogies and Miscellaneous activities.

- manufacturing Section
    - Manufacturing of 13 Ton, 16 Ton ICF Bogies and EMU/TC Bogie frame.
    - Manufacturing of Head stock unit set.

2.3.3 **Mill Wright Shop**

- Central Manufacturing Section
    - Manufacturing of components required for maintenance such as gears, crane axles, bearing housing, power screws, jaw screws, clutch plates, etc.,
- Machine Maintenance Section
    - Maintenance of EOT cranes, Machinery & Plants.
    - Tensile testing of Screw coupling assembly, BSS, Brake Beam, Chains and Wire rope slings.

- Overhauling of Whiting jacks, etc.

- Bio Diesel Manufacturing Section
    - Production of Bio diesel using Raw oil like Pungammia Pinata and used cooking oils

2.3.4 **Production Shop (Component manufacturing)**

- Buffer Gear Section
    - Reclamation, Repair attention and testing of Buffers, Couplers, CHU Couplers, Fulcrum bracket, Brake gear components etc.,
- Bogie Repair Section
    - Strip & assembly, Repair attention and testing of Bogie components and Bogie frame.
    - Renewal of must change items like Bushes and Pins.
    - Ensure the suspension and safety brackets.

2.3.5 **Machine Shop (Bogie repair)**

- Manufacturing of Various types of components used for POH of Coaches and Locos using the available machines.

2.3.6 **Wheel & Tyre Shop**

- Re-Disc, Re-profiling, Wheel Press-in, Wheel press-out, Re-boring, Wheel chambering.
- Re-axle, Axle turning, Axle Chambering, Axle Drilling.
- Axle Box, Re-tapping, Roller Bearing Cleaning, inspection, testing and Grease filling.
- Gear hub facing, Wheel press in, press out, Axle grinding.

2.3.7 **Diesel Shop**

- Power Pack Section
    - Overhauling and testing of Diesel Engine and its accessories during POH of DPC & WDS4B

- Electrical Section
    - Overhauling and testing of all electrical equipment in DPC & WDS4B. Attention to safety control and circuits etc.,
- Transmission Section
    - Overhauling and testing of TRM, RGB and other related equipments in WDS4B, Traction Motor & Wheel Assembly and run down testing.
- Air Brake Section
    - Overhauling and testing of compressor, exhauster and other valves. Attention to Air Brake System.
- Under Truck Section
    - Attention to Bogie, under frame and all draft gear equipments.

2.3.8 **AC Loco Shop**

- Transformer, SL & Rectifier attention.
- Traction motor attention.
- Circuit Breaker, Tap Changer, Relays & Meters attention.
- Switches, Lights, Fans, TFVT, RS attention.
- Battery attention.
- Buffer, CBC, Cattle guard, Roofs & Wire Meshes attention.
- General repair attention.
- Bogie attention.
- Pneumatic & Pantograph attention.
- Compressor & Exhausters attention.
- Re-cabling attention.
- General Cleaning.
- ERE Cleaning.
- (Mech) Painting work.
- Store

2.3.9 **Yard & Transport Shop**

- Shunting Section (101)
    - Shunting of incoming and outgoing POH coaches, Locos and TCs/DPCs of DEMU.
- Yard Section (116)
    - Cleaning and disposal of scraps accumulated in shops.
- Transport (112)
    - Repair attention & Maintenance of all type vehicles used in LW/PER.

In addition to the POH and production shops, the mechanical staff are working in Production Control Organisation (PCO) also. The PCO is sub-divided into following sections.

- General Section
- Information and safety Cell
- Planning and Design Section
- Progress Section
- Inspection Section
- PCO & Bills Section

CHAPTER III

3.0 CRITICAL ANALYSIS

3.1 The Allowed Time for shop wise and year wise were collected for 33 months. 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 LW/PER, EIW /IWs were allowed to the extent of 15%. Instructions were issued on several occasions from Headquarters to see 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:

Let total average monthly Allowed Time = AT
Average monthly Man-hours = 267
DWs required to complete the above AT = $\frac{AT}{267}$ = X

LR for DWs (12.5%) = (X)x (12.5) = Y
100

Therefore DW required = X + Y

EIW & IW @ 15%of DW = (X +Y) x 15= Z
100

Total staff required = X + Y + Z

3.2 COACH REPAIR SHOP

Coach Repair Shop carries out the periodic overhauling (POH) of coaching stock. The following are the major activities undertaken by CR shop.

	Section		**Activities**
a)	Corrosion Repairs	:	Corrosion repairs and modification of ICF/BEML Coach
b)	Under frame	:	Stripping and fitting of under gear buffing gear and buffing gear components.
c)	Coach Fitting	:	Stripping and fitting of seats/berths and window units.
d)	Trimming	:	Repairing of seats/berths and pasting of PVC flooring.
e)	Painting	:	Interior and exterior painting, Lettering.
f)	Lift & Lower	:	Movement and placement. De-wheeling/ wheeling.
g)	Battery Box	:	Repairs of Battery box and footsteps.
h)	Door Repairs	:	Repairs of main door, vestibule door and luggage van door
i)	Water Service	:	Repairs to water tank pipes and pipe fittings.
j)	Air brake	:	Stripping, fitting and testing of Air brake components, Conversion from Vacuum break to

			Airbrake.
k)	Coach cleaning	:	Interior cleaning at the time of final despatch.
l)	MCR	:	Metal Corrosion Repairs
m)	CR (Tool Room)	:	Overhauling of Air Brake, Brake Cylinders, Distribution Valves, Trailer Coach Fans and Tube Light Fittings.
n)	ERC (Smithy)	:	Manufacturing of ERC, Heat Treatment of Coach / Loco components.

3.3. INDIVIDUAL SECTION WISE ALLOWED TIME, TIME TAKEN, TIME SAVED AND PERCENTAGE OF INCENTIVE IN CR SHOP/LW/PER ARE GIVEN BELOW:-

3.3.1 CR Shop

Incentive Details of CR Tool Room:

Year	Tool Room			
	Allowed Time	Time Taken	Time saved	% of Incentive
2015-16	76619.66	52902.93	23716.73	44.83
2016-17	72370.79	49535.85	22834.94	46.10
2017-18	75188.68	52162.16	23026.52	44.14
Upto Dec.2018	55990.00	38546.60	17443.60	45.25
TOTAL	0	0	0	

- Calculation of Men required for CR Tool Room:

  Average DW required 280169/267/45 = 23.31

LR for DW @ 12.5 %	=	2.91
Total DWs required	=	26.22
EIW @ 15%	=	3.93
Total staff required	**=**	**30.15**

3.3.2 Incentive Details of CR Smithy shop:

	Smithy			
Year	Allowed Time	Time Taken	Time saved	% of Incentive
2015-16	26109.3	17662.6	8446.7	47.82
2016-17	14685.48	10190.2	4495.28	44.11
2017-18	2890.79	1998.8	891.99	44.63
Upto Dec.2018	6206.4	4287.05	1919.35	44.77
TOTAL	**49891.97**	**34138.65**	**15753.32**	

- Calculation of Men required for CR Smithy Shop:

Average DW required 49892/267/45	=	4.15
LR for DW @ 12.5 %	=	0.52
Total DWs required	=	4.67
EIW @ 15%	=	0.70
Total staff required	**=**	**5.37**

Incentive Details of CR Boiler & Foundry: These two shops are closed and merged with CR shop and they are working under Incentive of CR Shop activities. Proportionate Man hours are extracted from the Overall Coach Repair incentive hours.

Overall Coach Repair incentive hours for 489 Men are given below. Out of which 32 staff belongs to Tool Room & Smithy and their incentive Man hours are highlighted in the above two tables. For remaining shop of Boiler-18 staff & Foundry -13 staff incentive Man hours are calculated proportionately and in the below given table.

3.3.3 **Incentive Details of Overall CR Shop**:(FOR 489 MEN)

overall CR Shop incentive hours				
Year	Allowed Time	Time Taken	Time saved	% of Incentive
2015-16	1625447	1099141	526306	47.88
2016-17	1619441	1093036	526405	48.16
2017-18	1590672	1087329	503343	46.29
Upto Dec.2018	1172208	798137	374072	46.87
TOTAL	**6007768**	**4077643**	**0**	

Incentive Details of CR Boiler shop:(FOR 18 STAFF)

Year	Allowed time for Boiler Shop – 18	Time taken for Boiler Shop – 18	Time saved for Boiler shop - 18 staff
TOTAL	= (6007768/489) x18= **221145**	=(4077643/489)X 18 **=150097**	=(1930126/489)X18 **71048**

- Calculation of Men required for CR Boiler Shop:

Average DW required 221145/267/45	=	18.41
LR for DW @ 12.5 %	=	2.30
Total DWs required	=	20.71
EIW @ 15%	=	3.10
Total staff required	**=**	**23.80**

3.3.4 **Incentive Details of CR Foundry shop (FOR 13 STAFF)**

Year	Allowed time for Foundry Shop - 13 staff	Time taken for foundry Shop – 13	Time saved for Foundry shop - 13 staff
TOTAL	(6007768/489)*13 **=159716**	=(4077643/489)X 13 **=108403**	=(1930126/489)X13 **51312**

Calculation of Men required for CR Foundry Shop:

Average DW required 159716/267/45	=	13.29
LR for DW @ 12.5 %	=	1.66
Total DWs required	=	14.95
EIW @ 15%	=	2.24
Total staff required	**=**	**17.19**

3.4 **Details of Discussion with DYCME-II LW PER**

Planning branch has discussion with DYCME II (co ordinating officer regarding the progress of workstudy as well as data furnished.

During discussion the man power requirement for shops (Boiler, toolroom,smithy,foundry) which under workstudy have been discussed in detail and assured same. The outcome of discussion and manpower requirement also discussed, and following number of surplus post has found surplus during workstudy

1. Artisan -13
2. Supervisors-17
   Total =30.

During discussion the revised allowed time for the workshops is enclosed as annexure II

3.5 **Therefore Total staff requirement of**

1. CR Tool Room - 30.15 =31
2. CR Smithy Shop - 5.37=06
3. CR Boiler Shop - 23.80=24

   Boiler shop staff working
   in other shops
   (Justification to be submitted) = - 11.29 =12
4. CR Foundry Shop - 17.19 =18

TOTAL = 91 Staff

Shops	Total			
	San	Act	Requirement	Surplus
CR Boiler	36	33	36	00
CR Foundry	18	15	18	00
Smithy	23	21	6	17

CR Tool room	27	25	31	-4
Total	**104**	**94**	**91**	**13**

Shops	Boiler shop,Tool Room,Foundry shop, Smithy shop				
Designation	San	Act	Vac	Req	Surplus
Sr Tech	35	33	02	91	02
Tech I	64	59	05		06
Tech II	01	02	-01		01
Tech III	04	00	04		04
Total	104	94	10	91	13

Requirement Vs Surplus (Artizans)

3.6 **Requirement of supervisors in CR shop (CR Tool Room, CR Boiler, CR Smithy & CR Foundry)**

Provision of Supervisors Vs Artisans ratio is 1:18 for incentive shops

Total = 91/18 =5.06

LR @ 12.5 % = 0.63

Total requirement of supervisors (including SSE's & JE's) **= 5.69 say 6**

In view of other special works such as UTKRISHT etc. the existing supervisory strength of 14 supervisors are requested (justification to be submitted) and allowed as it is.

3.6.1 **Supervisory Staff:**

Shops	Total			
	San	Act	Requirement	Surplus
CR Boiler	6	1	1	5
CR Foundry	12	3	3	9
Smithy	6	4	4	3
CR Tool	7	6	6	
Total	**31**	**14**	14	**17**

3.6.2 **Requirement Vs Surplus (Supervisors)**

Shops	Boiler shop,Tool Room,Foundry shop, Smithy shop				
Designation	San	Act	Vac	Req	Surplus
SSE	22	13	09	13	09
JE	09	01	08	01	08
Total	31	14	17	14	17

3.6.3 **SUMMARY OF RECOMMENDATIONS**

Recommendation: 1.

09 posts of SSE in Grade Pay Rs.4600/- , 08 posts of JE in Grade Pay Rs.4200/- are found to be excess to the requirement may be surrendered and credit to the vacancy bank.

(Total Posts – 17)

Recommendation 2:

02 posts of Sr.Tech, 06 Post of Tech –I, 01 posts of Tech –II and 04 posts Tech-III are found to be excess to the requirement may be surrendered and credit to the vacancy bank.

(Total Posts – 13)

(Grand Total posts 30)

CHAPTER – IV

4.0 REMARKS ON CO-ORDINATING OFFICER'S VIEWS

.

The views of the co ordinating officer (DYCME II) received vide Lr.No NIL dated 28.02.2019 (enclosed in annexure-I) and remarks of planning are appended below.

Co ordinating officer views: Smithy section where the activity of manufacturing of ER Clips has been stopped during the year 2017-18 itself. The allowed time given by the shop is purely meant for ER clip activity only and hence the staff requirement based on the allowed time may be dispensed and the actual requirement of staff for smithy shopis calculated based on the method adopted in other shop such as Foundry & Boiler shop

year	Allowed time for smithy shop -14 staff	Time taken for smithy shop -14 staff	Time saved for smithy shop -14 staff
Total	(6007768/489)* 14=172002	(40077643)/ 489*14=55260	(1930126)/489*14=55260

Calculation of men required for CR Smithy shop:

Average DW required 172002/267/45=14.31
LR for DW @ 12.5%=01.79
Total DWs Required =16.10
EIW @ 15% =02.42
Total staff required =18.52

Therefore, the total staff requirement is revised to 19 for smithy shop in place 6 as shown in the para 3.5. In view of the above re – calculation there is no surplus as identified in the draft work study report.

Planning branch remarks: Not agreed to, as per coordinating officer's statement, manufacturing of ER clips activities are stopped during 17-18, Hence the calculation for Smithy shop hours shown in the draft work study report stands good.

Co ordinating officer views: The requirement versus surplus of supervisors under para 3.6.2 may be reconsidered considering the following aspects.

a) special works such as Project Utkrisht has been given to the shop for which additional supervisory staff is required to ensure dispatch of coaches on time as per the directions of the head quarters. In this connection, it is informed that

Railway Board /Headquarters/SRly has fixed target of 185 coaches under Project Utkrisht during the year 2019-2020

b) In this connection,it is to be brought to your kind attention that some of the activities of PCO (planning, Progress & Inspection) has been carried out at shop floor itself by the supervisors since there is no sufficient staff at PCO being ex-cadre section. For handling these additional works ,adddtional number of SSEs are required in shops

c) In order to supervise the contract works additional supervisory staff are to be deputed.

d) since the target fixed by Railway Board in respect of POH/IOH of coaches, AC Locos etc has to be met without fail, more number of SSEs are required
.
e) LW/PER has already surrendered 14 posts vide surrender memorandum No.22 vide Letter No.LS/PB/135/MPP/2018 dated 29.03.2019 which may also taken in to consideration while finalising the work study.

In view of the above, the report on the above workstudy may be finalized duly considering all above points.

Planning branch remarks: Considering all the above contents of co's views, in this connections plannining branch already allowed 8 Supervisors, now an additional 5 numbers of supervisory posts allowed on need basis, rest of 12 number of supervisors recommended as surplus to surrender.

Revised recommendations

Recommendation 1 :

04 posts of SSE in Grade Pay Rs.4600/- , 08 posts of JE in Grade Pay Rs.4200/- are found to be excess to the requirement may be surrendered and credit to the vacancy bank.

(Total Posts – 12)

Recommendation 2:

02 posts of Sr.Tech, 06 Posts of Tech –I, 01 post of Tech –II and 04 posts Tech-III are found to be excess to the requirement may be surrendered and credit to the vacancy bank.

(Total Posts – 13)

(Grand Total posts 25)

CHAPTER – V

5.0 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	Gross Pay (Rs.)	Total Annual savings (Rs.)
1.	SSE	4600	4	104888	5034624
2.	JE	4200	8	82768	7945728
3.	Sr Tech	4200	2	82768	1986432
3.	Technician Gr.I	2800	6	68040	4898880
4.	Technician Gr.II	2400	1	59696	716352
5.	Technician Gr.III	1900	4	46536	2233728
TOTAL			**25**		**0**

ANNEXURE-I

(1) **Supervisory Staff:**

Designation	SSE			JE			Total		
	San	Act	Vac	San	Act	Vac	San	Act	Vac
Shops	4600			4200					
CR Boiler	5	1	4	1	0	1	6	1	5
CR Foundry	8	3	5	4	0	4	12	3	9
Smithy	4	3	1	2	1	1	6	4	2
CR Tool room	5	6	-1	2	0	2	7	6	1
Total	22	13	9	9	1	8	31	14	17

(2) **Artisans strength as on 01.01.2019**

Design.	Sr.Tech			Tech.Gr.I			Tech Gr.II			Tech.Gr.III			Total		
Shops	San	Act	Vac	San	Act	Vac	San	Act	Vac	San	Act	Vac	San	Act	Vac
	4200			2800			2400			1900					
CR Boiler	11	10	1	22	22	0	1	1	0	2	0	2	36	33	3
CR Foundry	7	6	1	11	9	2	0	0	0	0	0	0	18	15	3
Smithy	8	8	0	14	12	2	0	1	-1	1	0	1	23	21	2
CR Toolroom	9	9	0	17	16	1	0	0	0	1	0	1	27	25	2
Total	35	33	2	64	59	5	1	0	1	4	0	4	104	94	10