



GOVERNMENT OF INDIA
Ministry of Railways
Southern Railway

Headquarters Office,
Planning Branch,
Chennai – 600003.

No. G.275/WSSR -742021/2020-21

Dated:23.06.2021

DRM / TPJ

Sub: Work study to review the Staff Strength at SSE/P.Way/CUPJ – TPJ Division.
Ref: SDGM's D.O. letter No.G.275/ANNUAL PROG/2020-21
dated 11.09.2020.

A work study on the above subject was conducted by Headquarters Planning Branch and a report on the same is herewith attached.

As report is to be finalized within eight weeks, it is requested to take expeditious action and advise this Office in this regard.

A copy of the work study report may be given to organized labour.

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NTH

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by
M.VAMSIKANTH
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Dy.Chief Planning Officer
for SDGM

Copy to: PCE/MAS (Encl: One copy of the Study report)
The Director (E&R)/Rly. Bd/NDLS for information (e - copy of the study report)



**WORK STUDY TO REVIEW THE
STAFF STRENGTH OF
SSE/P.WAY/CUDDALORE
PORT JUNCTION
TPJ DIVISION
SOUTHERN RAILWAY**

SOUTHERN RAILWAY

PLANNING BRANCH

G. 275 / WSSR-742021 / 2020-21

**WORK STUDY TO REVIEW
THE STAFF STRENGTH OF
SSE/P.WAY/ CUDDALORE PORT
JUNCTION-
TPJ DIVISION**

STUDIED BY

**WORK STUDY TEAM
OF
PLANNING BRANCH**

JUNE 2021



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(i)
ACKNOWLEDGEMENT

The work study team acknowledges its gratitude to Sr.DEN/Co-Ord/TPJ, Sr.DEN/East/TPJ (Co-ordinating Officer), SSE/P.WAY/CUPJ (Co-ordinating Supervisor) and all the staff working under SSE/P.WAY/CUPJ for their valuable inputs and guidance in conducting and completing the study in time.

(ii)
AUTHORITY

Annual programme of work studies, approved by SDGM for the year 2020-21.

(iii)
TERMS OF REFERENCE

To review the staff strength of SSE/P.WAY/ CUDDALORE PORT JUNCTION –
TPJ Division.

(iv)
METHODOLOGY

The following methodology has been adopted while conducting the study:

- 1) Collection of data
- 2) Discussion and interaction supervisors and staff of the unit.
- 3) Observation at Field Unit.
- 4) Applying MCNTM formulae (TRMS Data).
- 5) Applying 15% reduction vide Railway Board vide Letter No.11-2019/SPMPS/Yardstick/2 dated 30.06.2020



(V)

REVISED RECOMMENDATIONS:

The following 20 posts are found excess to the requirement after considering Division's views and the same may be surrendered and credited to the vacancy bank.

Sl.No.	Category	Level	No.of Posts
1	Track Maintainer Gr.I	5	1
2	Track Maintainer Gr.II	4	2
3	Track Maintainer Gr.III	2	2
4	Track Maintainer Gr.IV	1	15
Total			20

Total No. of Posts : 20.



CHAPTER I**1.0 INTRODUCTION**

- 1.1 Indian Railways is a transport & freight handling Organization, with social and welfare obligation. Thus, safe transport of men and material are top priority for our Organization.
- 1.2 Indian Railways is one of the longest rail networks in the world. It is transporting 20 million passengers and 2 million tons of freight daily over its 17 zones, which are subdivided into 67 divisions. Approximately 63,320 kms length of rail and 6909 railway stations are maintained over Indian Railways.
- 1.3 Among the 17 zones of Indian Railways, Southern Railway was formed on 14th April, 1957 by amalgamation of South India Railway, Madras; Southern Maratha Railway and Mysore State Railway. It covers over Tamilnadu, Kerala, Karnataka and Puducherry to the route kilometrage of 5081.
- 1.4 Engineering Branch is seen as Prime, among the various branches in Indian Railways, since this branch maintains Buildings, Bridges and Track. Track is the vital driving factor for Railway Transportation hence much is safety is being maintained.
- 1.5 The operating ratio of Southern Railway for the year 2018-19 is at 157.14% an improvement of 4 points from 161.14% from the year 2017-18. The Operating Ratio of Indian Railways for the year 2020-21 is 96.2% (Budget Estimate) and for the year 2019-20 is 97.4% (Revised Estimate).
- 1.6 Modern Technological improvements in the structure of Permanent way, development of Composite Materials, Modern Testing Technologies and maintaining the Track with Heavy Machines have drastically reduced the work load of Field Technician in the Permanent Way laying as well as maintenance. Various activities involved in laying, re-laying and scheduled maintenance are being outsourced in Permanent Way. Accordingly, providing optimum man power by considering all the above factors, will reduce the staff cost by which the efficiency of the zone can be improved.
- 1.7 The committee on restructuring railways had observed that the expenditure on staff is extremely high and unmanageable. This expense is not under the control of Railway and keeps increasing. It has also been observed that the employee cost is the major key component that reduces the Railways ability to generate surplus.

- 1.8 This study is pertaining to SSE/P.WAY/CUPJ Unit in TIRUCHCHIRAPALLI Division.
- 1.9 The optimum man power utilization is an important factor for enhancing the productivity / operation ratio. RITES is also emphasised to conduct regular work studies to right size the manpower and to justify the available Man Power on Zero base budgeting.
- 1.10 Keeping the above aspects in view, the work study team has made an attempt to study the present system of working at SSE/P.WAY/CUPJ Unit, through means of reducing cost and right sizing the work force and further growth of Technology, the work load vs requirement of staff is critically examined in the ensuing chapters.



CHAPTER II

2.0 PRESENT SCENARIO

- 2.1 Southern Railway has six (6) Divisions namely MAS, MDU, TPJ, PGT, TVC & SA. P.Way under Engineering Department of SA Division is functioning under the overall control of Sr.DEN/Co-ord / TPJ, assisted by Sr.DENs, DENs, ADENs, SSEs and Supervisors in extending Co-operation for smooth and efficient functioning of the Department with sub Division/units/sections.

SSE/P.WAY/CUPJ is In-charge SSE for this section.

2.2 LOCATION OF THE OFFICE OF SSE/P.WAY/CUPJ:

Office of the **SSE/P.WAY/CUPJ** is located near Railway Quarters/CUPJ.

2.3 JURISDICTION OF THE SSE/P.WAY/CUPJ SECTION:

Jurisdiction of SSE/P.WAY/CUPJ is from SERNDANUR to PUDUCHATTIRAM stations.

2.4 STAFF STRENGTH:

The total sanction is 193 including SSEs/JEs and Ministerial staff as per Sr.DPO/TPJ's Sanction, Actual, Vacancy and Excess statement dated 05.10.2020 and as per SSE/PW/CUPJ's scale check statement dated 20.10.2020 sanction is 193 and actual is shown as 188 (excluding course completed act apprentice).

The details of the Sanction, Actual, Vacancy and Excess are given in **Annexure -I**.

2.5 TOTAL MAN-DAYS SERVICE BY A STAFF IN A YEAR:

No. of days per year	=	365
<i>Less Deduction</i>		
CL	=	10
National Holidays	=	12
Rest/Sundays	=	52
Sub-Total	=	74
Net Man days available per year	=	291 Working Days.

2.6 ORGNISATIONAL SETUP:

Sr.DEN/Co-Ord./TPJ
Sr.DEN/EAST/TPJ
ADEN/MV
SSE/P.WAY/CUPJ
SEs & JEs/P.WAY/CUPJ
Min.Staff, Mates, Keyman, Track Maintainers, GKs, Ancl.Techs.

2.7 ROUTE KILOMETRES OF THE UNIT:

This Unit covers total route kilometres of 67.52. Section wise route kms is as shown below:

<i>S.No.</i>	<i>Section</i>	<i>Km.</i>		<i>Total Kms</i>
		<i>From</i>	<i>To</i>	
1	JE/PRT	163/550	196/300	32.750
2	SSE/P/CUPJ Sub Sec	196/300	230/200	33.900
3	PUC Siding	-	-	0.870
Total Kms.				67.520

- 2.8 The entire length of this section is an absolute block system, single line operating system. The track structure is 60 KG PSC with 52 KG rails and combination liner of 3707, 3708 and 3741, 3742.

2.9 UTILISATION OF THE SECTION:

According to Salem Division Working Time Table No.105 dated 01.07.2019, utilization of line capacity is
74 % between VM – CUPJ &
91 % between CUPJ-PUC in this Section.

2.10 TRAFFIC DENSITY:

Traffic Density of this section in terms of GMT is 12.87 for the year 2018-19.

2.11 MAXIMUM SPEED OF THE SECTION:

Maximum speed in this section is 100 Kmph for Passenger Trains. Speed over loop lines is 30 Kmph, except for Road 1 at TDPR, Road 4 at CUPJ, Road 4 & 5 at PUC Yard, which is 15 Kmph subject to other PSR, TSR in force.

2.12 The following 11 stations are coming under the jurisdiction of SSE/P.WAY/CUPJ are:

1. SERNDANUR	-	SXR	@	170.871 Km.
2. THIRUTHURAIYUR	-	TUY	@	176.327 Km.
3. PANRUTI	-	PRT	- @	182.348 Km.
4. MELPATTAMBAKKAM	-	MBU	@	190.373 Km.
5. NELLIKUPPAM	-	NPM	@	195.509 Km.
6. VARAKALPATTU	-	VKP	@	200.100 Km.
7. TIRUPPADIRIPPULIYUR-		TDPR	@	205.202 Km.
8. CUDDALORE PORT Jn.	-	CUPJ	@	209.136 Km.
9. CAPPER QUARRY	-	CQS	@	213.560 Km.
10. ALAPAKKAM	-	ALP	@	220.997 Km.
11. PUDUCHATTIRAM	-	PUC	@	229.591 Km.

2.13 RUNNING LINES IN THIS SECTION:

There are Thirty One Running Lines as below:

S.No.	Station	Running Line		Total
		Main	Loop	
1	SXR	1	1	2
2	TUY	1	2	3
3	PRT	1	3	4
4	MBU	1	1	2
5	NPM	1	4	5
6	VKP Halt	1	-	-
7	TDPR	1	1	2
8	CUPJ	1	4	5
9	CQS Halt	1	-	-
10	ALP	1	2	3
11	PUC	1	4	5
Total				31

2.14 DETAILS OF THE GANGS IN THIS SECTION:

There are 12 Gangs maintaining in this section of 67.52 kms. Details of the gangs and its jurisdiction is enlisted as below:

Gang No.	Place	From	To	Length in Km.	Gang Mate	Key Man	Track Man	GATE KEEPERS	Total Strength
1	LC-128	163/550	170/500	6.950	1	1	6	5	13
2	SXR	170/500	177/500	7.000	1	1	5	2	9
3	PRT	177/500	183/600	6.100	1	1	6	4	12
4	MBU	183/600	190/600	7.000	1	1	7	10	19
5	NPM	190/600	196/300	5.700	1	1	5	7	14
6	VKP	196/30	202/550	6.250	1	1	7	12	21
7	TDPR	202/550	208/600	6.050	1	1	9	4	15
8	CUPJ	208/600	210/900	2.300	1	1	5	0	7
9	CUPJ	SIDING		0	0	1	0	0	1
10	CQS	210/900	217/500	6.600	1	1	8	8	18
11	ALP	217/500	223/900	6.400	1	1	8	5	15
12	PUC	223/900	230/200	6.300	1	1	8	12	22
		-	-	0.870					
TOTAL				67.52	11	12	74	69	166

2.15 DETAILS OF WELDING IN THIS SECTION:

ALUMINO THERMIT Welding Techniques are being used in this section.

2.16 UTILISATION OF TRACK MAINTAINERS:

Track maintainers are utilised as Gang Mate, Key Man, Gang Man, Gate Keeper, Trolley Man and Store Watch Man. There are no colony Gang Man in this section.

2.17 **CURVE DETAILS OF THE SECTION:**

There are 22 number of curves are available in this section. The degree of curve varies from 0.42 ° to 4.01 °.

2.18 Ruling Gradient in this section is 1 in 200.

2.19 **DETAILS OF RAIL FRACTURE AND WELD FRACTURES:** NIL.

2.20 **DETAILS OF POINTS AND CROSSINGS:**

There are 93 Points and Crossings in this section.
(1 in 8.5 angle – 29, 1 in 12 – 58, 1 in 16 – 3 and Trap – 3).

2.21 There are 32 Long Weld Rails in this section having length of 42.04 Kms.

2.22 There are 12 Major bridges and 132 Minor Bridges available in this section.

2.23 There are 3 ROB, 8 RUBs and 3 FOBs in this section.

2.24 There are 17 vulnerable locations in this section.

2.25 **LEVEL CROSSING DETAILS OF THIS SECTION:**

There are 43 number of Level Crossings in this section, of them, 31 are manned by the Engineering staff. Details of the Level Crossing Gates are given below:

SL. NO.	LEVEL CROSSING NO.	LOCATION	BETWEEN STATIONS	I/NI	CLASS	TOTAL VEHICLE UNITS
1	127	167/700-800	VM-SXR	NI	C	11336
2	128	169/500-600	VM-SXR	NI	B	21216
3	131	175/100-200	SXR-TUY	NI	C	10086
4	133	178/100-200	PRT-TUY	NI	B	28106
5	134	179/200-300	TUY-PRT	NI	C	6942
6	136	183/900-184/100	TUY-PRT	NI	C	7618
7	138	185/300-400	PRT-MBU	I	SPL	191828
8	139	186/800-900	PRT-MBU	NI	C	1586
9	141	188/500-600	PRT-MBU	NI	C	16354
10	143	191/100-200	MBU-NPM	I	C	12376

11	144	191/900-192/000	MBU-NPM	NI	A	35464
12	145	193/700-800	MBU-NPM	NI	C	3328
13	151	197-900-198/000	NPM-TDPR	NI	B	26676
14	152	198/400-500	NPM-TDPR	I	A	38064
15	153	198/900-199/000	NPM-TDPR	NI	B	26390
16	154	199/800-900	NPM-TDPR	NI	C	338
17	155	200/600-700	NPM-TDPR	NI	C	9516
18	156	203/800-900	NPM-TDPR	NI	SPL	66482
19	162	207/600-700	TDPR-CUPJ	NI	C	12096
20	167	213/800-900	CUPJ-CQS	NI	A	45030
21	168	214/800-900	CUPJ-CQS	NI	C	9450
22	169	215/800-900	CUPJ-CQS	NI	C	7590
23	170	216/600-700	CUPJ-CQS	NI	C	4290
24	174	219/100-200	CUPJ-CQS	I	C	1470
25	178	222/800-900	ALP-PUC	NI	C	9330
26	179	224/000-100	ALP-PUC	NI	C	5100
27	180	224/400-500	ALP-PUC	NI	C	19830
28	181	225/000-100	ALP-PUC	NI	C	5310
29	183	226/000-100	ALP-PUC	NI	B2	21240
30	184	226/900-227/000	ALP-PUC	NI	B2	20970
31	185	227/600-700	ALP-PUC	NI	B	22500

In addition to the 31 LC Gates manned by Engineering Department, there are 12 LC Gates manned by Traffic Department.

2.26 TROLLEY MOVEMENT:

There are 4 number of Trolleys under this section as below:

Sl.No.	Type of Trolleys	No.of Trolleys
1	Push Trolley	3
2	Motor Trolley	1
TOTAL		4

Push Trolley movement for this section from 01.01.2020 to 30.09.2020 (i.e.Nine months) is as below:

S.No.	SSE/JE	No. of Trolley Movements	Trolley movement/month
1	SSE/PW/CUPJ(In-Charge)	42	4.67
2	SSE/PW/CUPJ/SS	30	3.33
3	JE/PW/PRT	15	1.67
Total		87	Avg. 3.22 p.m.

On an average, 3.22 per month trolleys have been moved for Inspections and other works.

2.27 TEMPERATURE RECORDED IN THE SECTION AREA:

The temperature recorded in the section area for the 3 years from 01.01.2018 to 05.10.2020 is enlisted.

S.No.	Year	Min Temp ° c	Max Temp ° c	Average Temp ° c
1	2018	22	45	33.56
2	2019	18	55	34.99
3	2020	24	59	44.21
Average temperature over 3 yrs.				37.59

Note: The actual de-stressed executed temperature of track is about 36 ° c to 43 ° c. (for Zone III suggested is 40 ° c).

2.28 PRESENT STAFF DEPLOYMENT IN THIS SECTION:

The actual staff strength of this Unit is 191 as on 20.10.2020 (The Scale Check Statement is placed as **Annexure I**).

S.No.	Category	Actual
1	SSE – Incharge	1
2	SSE – Sub-Sec	1
3	JE	1
4	JE- Trainees (<i>not in the sanction</i>)	3
5	Artizan Staff	4
6	Track Maintainers (Track Mate, Key Man, Trolley Man -8, Gate Keepers, Store Watchman, Office Assistant & Maintainers + Act. APP 03)	178
7	Ministerial Staff (OS/WB-2 + Clerk-PB-1)	3
Total		191

2.29 THE DUTIES OF SUPERVISORS AND TECHNICAL STAFF IN P.WAY SECTION:

2.29.1 Duties of SSE/P.Way (as prescribed in para 104-109 of IRPWM 2020)

- Maintenance and inspection of track in a satisfactory and safe condition for traffic.
- Efficient execution of all works incidental to track maintenance including track relaying works.
- Accountal and periodical verification of stores and tools in his charge.
- Maintenance of land boundaries between stations and at unimportant stations as may be specified by the administration.
- Every Permanent Way Inspector shall have in his possession up-to-date copies of the following codes and manuals with all correction slips up-to-date.
- Co-ordination with the Works, Bridge, Signalling and Electrical Staff, when they are required to work jointly.
- The Permanent Way Inspector shall see to the security of rails, chairs, sleepers and other materials in his charge and ensure that unused materials are stacked properly clear of the line, so as not to interfere with the safe running of trains.
- When PWI accompanies a periodical or special inspection by the higher officials he should have registers and documents pertaining to his section.
- Testing of Running qualities of track.

- Inspection of Gangs, Level Crossings, Points and X-ings, Curve Inspection.
- Foot Plate Inspection, Rear vehicle Inspection, Foot Inspection.
- Accompanying OMS/TRC (RDSO) Inspection.
- Check on patrolling.
- Maintenance of station yards.
- Witnessing payment to staff.
- Maintenance of records.
- Custodian of stores etc.
- Apart from above P.Way maintenance activities Staff Welfare viz. promotion, claiming of salary, supply of equipment and uniform, procurement of materials, issuing of materials scrap delivery (DS8).

2.29.2 Duties of JE/P.Way

- Inspection and maintenance of track in a safe and satisfactory condition for traffic, including execution of all works, incidental to track maintenance.
- Execution of special works, such as Renewal, Directed Track maintenance curve re-alignment, deep screening etc.
- To assist the SSE/P.way.
- Co-ordination with Works, Bridge and staff of other departments.
- Inspection of Gangs, Level crossings, Points and X-ings, Curves, foot plate inspection, rear vehicle inspection and foot inspection.

2.29.3 Duties of Gang Mate (as prescribed in para 114 of IRPWM 2020)

- Knowledge of Rules and Signal.
- Safety of the Track.
- Equipments at site of work.
- Muster and Gang Charts/Diary Book.
- Observance of sleepers packing during passage of train.
- Precaution when view is obstructed.
- Tidiness of section and Safe custody of tools.

- Action when line is unsafe or in the event of accident.
- Patrolling during abnormal Rainfall.
- Commencing work affecting safety of train.
- Weekly inspection of Gang length by mate.
- Preventing Trespass and theft of P.way fittings.
- Relief arrangements in emergencies.
- Assistance to P&T staff.
- Assistance in protection of train and Assistance in placing fog signals.
- Responsibilities of the mate in LWR track.

2.29.4 Duties of Key man (as prescribed in para 115-116 of IRPWM)

- Key-man's daily inspection.
- Equipment of key-man.
- Rectifying the defects whichever possible by him.
- Reporting to Mate and PWI about the defects which require assistance for attending.
- In case of serious defects protection of Track & informing as per rules.
- Work at unmanned level crossings.
- Assisting mate after completing his routine inspection.
- Any materials found fallen safe custody and disposal.
- Apart from daily inspection, he should ensure tightness of fittings in systematic manner.

2.30 TRACK MAINTENANCE METHODS:

2.30.1 The para 604 of IRPWM prescribes the system of maintenance for concrete sleeper track as given below. The following *3-tier system of track maintenance* shall be adopted on sections nominated for mechanized maintenance.

1. On track machines Unit (OMU): On track machines for track maintenance include Tie– tamping machines for plain track and points and crossings, shoulder ballast cleaning machines, ballast cleaning

machines, ballast regulating machines, dynamic track stabilizers and UTV.

2. Mobile Maintenance Gang (MMU).

3. Sectional gangs.

2.30.2 The para 604 of IRPWM prescribes the system of maintenance for concrete sleeper track as given below. There will be one Mobile Maintenance Gang (MMG) under each SSE/P.Way (In overall charge) with a jurisdiction of about 70-80 km in single line section and 30 to 50 km in double or multi line section. It will be headed by a sectional JE/SSE P.Way/ (MMG) and shall be based on a Rail Borne Maintenance Vehicle (RBMV) for mobility.

2.30.3 **EXISTING MAINTENANCE PRACTICES ON IR:**

As on date, the practice of maintenance can be briefly summarized as follows;

- (a) In sections where relaying with PSC sleepers has been done,
 - i. Tamping with machines as and when machines are available, plus
 - ii. Conventional system of maintenance
- (b) In sections where relaying has not been done,
 - i. Only conventional system of maintenance is being used.

2.30.4 **ANNUAL PROGRAMMED REGULAR TRACK MAINTENANCE:**

Sl. No.	Period	Work
1.	Post monsoon attention for about six months	Attention to run down stretches, one round of through packing.
2.	Pre-monsoon attention for about two months	Clearing of drains
3.	Attention during monsoon for about four months.	Attention to track as required.

2.30.5 The role of open line organization of Engineering Department in IR mainly Meant for maintenance/strengthening/modification of existing infrastructure i.e. track for permitting higher speeds and heavier Loads.

2.30.6 The manual maintenance of the track has given way to highly mechanized Maintenance practices that has become inevitable for the following reasons

- a) The high safety standards that can be achieved

- b) The capability for higher axle load, speed etc.,
- c) The overall economy in cost of maintenance
- d) The accuracy in testing, checking and inspections that can be achieved through mechanization.
- e) The necessity to avoid harsh physical work under inclement Weather and isolated locations
- f) The speed of maintenance

The need to carry out the maintenance works within the constraints of time for line block etc.,

2.30.7 THE PROVISIONS OF "SMALL TRACK MACHINES MANUAL":

The para1.3.2 says that the "Requirement of Manpower doesn't includes Leave Reserve" Further, the para1.3.3 stipulates that the Creation of posts for Operation and maintenance of small track machines should be done by Surrender of equivalent money value of live revenue charged posts of Gangman /other category involved in the track maintenance. The component of unskilled staff being created should be barest minimum. The proportion of skilled personnel should form at least 75% of the total posts to be created.

2.30.8 VARIOUS TRACK MACHINES AND THEIR PERIODICITY OF WORKING IS DETAILED BELOW:

Sl.No.	Name of the Machine	Work Done	Frequency
1	BCM- Ballast Cleaning Machine	Deep Screening of Track	Once in 10 years
2	DUOMAT/CSM- Continuous Action Tamper	Tie Tamping LWR Work	Once in 2 years
3	DGS- Dynamic Track Stabiliser	For consolidating track after works affects core stability	Once in 10 years along with BCM
4	UNIMAT/MPT	Tamping points & crossings	Once in 2 years
5	BRM- Ballast Regulating Machine	Boxing of track	

6	UTV- Utility Track Vehicle	Loading & Stacking materials	As per need
7	T-28- T28 Cranes- One job crane (PRC laying Machine)	For re-laying of Points & Crossings	As per requirement
8	PQRS	For re-laying track	-do-
9	TRT	For CTR of track	-do-

2.31 **ACTUAL GANG PERFORMANCE:**

The various gangs daily performance diaries were observed and noticed the following works are repeatedly allotted by the Supervisor and carried out by the Gangs are;

1. De-weeding
2. Weld collar painting
3. Cleaning
4. Boxing ballast working
5. ERC renewal / greasing.
6. Changing Rubber pad
7. Changing liners
8. Assisting various track machine activities.
9. Packing – manual at points, SEJ and other required areas.
10. Collecting store items.
11. Steel sleepers, chair plates changing.

2.32 **MAN POWER CALCULATION FOR TRACK MAINTENANCE A BRIEF HISTORY:**

Permanent way gang strength was calculated by various methods right from 1931 through maflin formula. Over the years there has been lot of changes in Track maintenance practice, according to the timely changes the man power requirements also varied.

IR adopted various efforts to standardize in the past.

1	Maflin formula	1931
2	Lobo committee or modified Maflin formula	1959
3	Modified Maflin formula freezed	1965
4	Committee Report I	1971
5	Committee Report II No action taken on (4) & (5)	1972
6	Appointment of special committee	1976
7	Submission of Report by Spl. Committee	1979
	Though Rly. Board did not give any direct clearance for this formula of 1979; it was implemented with a 5% reduction in many Zones.	
8	Committee for machine and manpower Deployment for Track Maintenance appointed (Not accepted by Rly.Board)	1989
9	(CMMDTM) Report submitted	1995
10	Kapoor committee appointed	05.01.1996
11	Reconstituted committee	12.11.1997
12	Renamed as MCNTM – Committee for Man power and Cost Norms for Track Maintenance	13.08.199
13	Finalization of the Report	May 2000
14	Acceptance of the Report by Rly. Board	March 2006

The committee of "**Man power and Cost Norms for Track Maintenance** (MCNTM) is the latest which covers all the Track parameters which arrives to calculate the required Gang strength.

2.33 **Evaluation of Man power through MCNTM formulae:**

The man power requirements of Gangs (Trackman, Gatekeeper, Store watchman) are regularly calculated by division level through TRMS activities. IRICEN will be the custodian of the software for calculating man power. The whole activities connected to Track Maintenance are clubbed under four main categories under MCNTM studies.

They are:

Activity 'T' - Affected by Traffic Density	}	Primary activities
Activity 'R' - Not affected by Traffic Density		
Activity 'M' - Miscellaneous	}	Auxiliary activities
Activity 'S' - Site specific		

2.33.1 **ACTIVITY 'T' (AFFECTED BY TRAFFIC DENSITY):**

T ₁	- Slack attention to	a) Bad spots b) Low joints (FP, welded, glued joints) c) SEJ (1 No. / km) d) Minor curve alignment
T ₂	- For Tie tamper Working	a) Pre tamping operations b) Along with tamper c) Post tamping operations
T ₃	- Casual Renewal of	a) Rails b) Sleepers c) Fasteners along with re-gauging
T ₄	- Repair Welding	

2.33.2 **Activity 'R' (Un-affected by Traffic Density)**

R ₁	-	Lubrication of ERCs
R ₂	-	Shallow screening
R ₃	-	Loading, Leading, Unloading
R ₄	-	Overhauling of LC gates
R ₅	-	Watching of caution spots & misc.
R ₆	-	Tree cutting for visibility
R ₇	-	Lubrication of Rails in Curves
R ₈	-	Accident Relief and carcass renewal in run over cases
R ₉	-	Bridge, Sleeper attention & Renewal
R ₁₀	-	Pre-monsoon attention such as clearing of drains and Waterways, cess repair, de-weeding of track and Attention to cuttings & Trolley refuges
R ₁₁	-	Creep pulling approaches to bridges, turnout
R ₁₂	-	Rectifying damage to LC posts and gates.

2.33.3 **Activity 'M' (Miscellaneous)**

M ₁	-	Monsoon patrolling
M ₂	-	Hot weather patrolling
M ₃	-	Cold weather patrolling

M ₄	-	Watching vulnerable locations
M ₅	-	Gate keeping of LC gates
M ₆	-	Rest giving for key man
M ₇	-	Water man duty
M ₈	-	Store watch man duty

2.33.4 Activity 'S' (Site Specific)

S ₁	-	Tunnel Maintenance
S ₂	-	Bridge substructure maintenance
S ₃	-	Long girder maintenance
S ₄	-	Extra maintenance due to very steep curves, Deep cutting, steep gradient
S ₅	-	Maintenance of track on extremely bad formation
S ₆	-	Look out man duty
S ₇	-	Fog signal man duty
S ₈	-	Filth removal from track
S ₉	-	Security patrolling
S ₁₀	-	Watching of water level in suburban section

2.34 ACTIVITIES RECOMMENDED FOR OUTSOURCING BY RATIONAL FORMULA:

1. Formation of treatment Works.
2. Collection of ballast, training out ballast by material train leading ballast from stack to track, insertion of ballast in track.
3. Deep screening of the ballast in track, carried out manually by deploying BCM in which case man power is provided by the contractor.
4. Introduction of sub ballast and ballast layers. Heavy repairs to track, including lifting.
5. Complete realignment of curved track. Through renewal of rails, Sleepers and fosterers.
6. Complete renewal of points and crossings, SEJs, traps etc.
7. Resurfacing of crossings and switch rails.
8. Loading and unloading of P-Way materials is bulk.
9. Loading out of P-Way materials for other than casual renewal.
10. Security of materials kin a depot which is closed and locked. Painting of Rails and weld collars.
11. Painting of bridge girders.

12. Heavy repairs (Measurable) to formation cutting bides drains and catch water
13. Heavy repairs (measurable) to bridges, bridge protection works, river training works and tunnels.
14. Providing (Repairing road surface at level crossings including speed, breakers.
15. Removal of major sand breaches.
16. Works arising due to restoration following breach or accident.
17. Clearing of rank vegetation in platforms and in the insanity of tracks in coaching and goods yards, repair depots and workshops or Engineering/Mechanical/Electrical and S & T departments.

2.35 OUTSOURCING - MAINTENANCE PROPOSALS FOR THE YEAR 2020:

SI no	Description of work	Unit	Qty
1	Greasing of Pandrol clips and eyes of MCI inserts and smearing liner periphery with railways supply of Grease duly removing the pandrol clips without damaging the sleepers etc.	Each Clip	1,01,640
2	Manual method of oiling, greasing of fish plates, bolts and at fish plates joints as per IRPWM etc.	Per Joint	664
3	Collecting and stacking of released materials such as cut rails 90R/52Kg/60kg and other P.way materials lying mid- section including released/ serviceable/broken PSC/Wooden sleepers available alongside the track to the nearest LC/Station/approach road by clip lorry/Rail dolly, etc.	MT	100
4	Cutting the 52Kg/60Kg rail with gas cutting equipment at various locations will all lead and lift etc.	Each Cut	300
5	Cutting the 52Kg/60Kg rails in running track/free rails at depot with abrasive rail cutting equipments to the true vertical plane duly respacing the sleeper wherever necessary with contractors own rail cutting equipment under line block.	Each Cut	300
6	Drilling of holes 32mm dia holes in 52Kg/60Kg rail including chamfering of bolt holes to correct spacing and size in running track in order to fix fish bolts and nuts with all lead and lift etc.	Each hole	500

7	Welding of rail joints 52/60Kg by SKV process with railways welder under Railways supervision and or under RDSO approved welding agency fixed by railways as per railway manual of fusion welding of Rails by Alumino thermic process corrected upto with Railway's welder etc.	Per Joint	300
8	Destressing of LWR with 52/60 KG rail section as per LWR manual duly converting into 500m/1000m long panels as directed by Engineer in charge including cutting of rail panel by abrasive rail cutting/mechanical hacksaw equipment (Manual hacksaw cutting is prohibited) by introducing closure rails etc.	Per track metre	14,000
9	1. Trucking out of new class –I 60Kg rails/P.Way fittings from any P.Way depot in S.RLY or as directed by HQ with contractor's own vehicle such as road lorry etc.	Per track metre	100
	1 (a). Initial lead upto 20 KM		
10	1 (b) Beyond 20KM	MT/KM	6,000
11	Replacing the worn out switches and stock rails duly removing the existing worn out switch and stock rail and installing new 50Kg/60Kg switches and stock rails duly removing the elastic rail clip screws of slide chairs by cutting / any suitable method, M.S bolts, cleaning the inserts and liner sear on rails, liners, rubber pads and re-fixing elastic rail clips, screws, etc.	Each	10
12	Labour charges for painting of rails with 2 Coat of Railways bituminous black paint conforming to IS-9862-1981 including surface preparation etc	Sqm	8,000
13	Removing the ceased/jammed ER clips using preheating the MCI insert by Gas without damaging the sleepers etc.	Each	1,000
14	Hiring of Road lorry 10MT capacity including cost of Diesel, lubrication, repairs, maintenance charges and other consumbles, Driver, crew with at site of work without causing any infringement to the running lines and replacing with 52Kg/60Kg Class II PSC sleepers etc.	Days	50
15	Removing the existing 52KG/60Kg broken/unserviceable sleepers with all fittings at scattered locations and keeping away at site of work without causing any infringement to the running lines and replacing with 60Kg/52Kg Class II PSC sleepers.	Per Sleeper	300
16	Picking up slacks at the approaches of bridges, level crossings, Curve(transition), breathing length of LWR, Points & Crossings, unsettled location and to attend the OMS/TRC & F.P/P.T inspections etc.	Per track metre	30,000

17	Boxing and sectioning of ballast to standard LWR profile both on UP & DOWN lines as per Annexure 2/11 para 263 of IRPWM including deweeding if any over the ballast on cess etc,	Per track metre	40,000
18	Pre tamping operation along with 5 men with machine for closure preliminary operations during the course of tamping duly squaring of sleepers wherever required, fixing of disturbed ERC's liners, rubber pads and filling up the cavities etc.	Per track metre	25,000
19	Pre tamping operation at PSC/Wooden points and crossings along with 6 mm with machine during the course of tamping and for preliminary operations during manual packing without lifting at locations where tamping tools are cut and tamped especially at switch and crossings portion etc.	set	40
20	Post tamping attentions to track such as levelling and boxing of ballast to profile, tightening fittings providing missing ejected fittings including packing of sleepers at glued joints if any with all lead and lift etc.	Per track metre	25,000
21	Removing and refixing of guard rails over slabs bridges during machine packing. (All labour, lead, lift and tolls and plants are complete by the contractor only at his own cost)	Per track metre	1,900
22	Removing and rooting out shurbs, jungles/vegetation etc. on either side of the track on cess/slope by contractor own means etc.	10Sqm	90,000
23	Opening of LCs by removing, paving blocked/slabs, removing the ballast upto sleeper level, removing and refixing of check rails, examining fittings such as ER clips, Liner pads, check rails bolts blocks etc.	Per track metre	705
24	Hiring of JCB Machine (in good working condition) for levelling and dressing ground/ dismantling structures including disposal of debris through dumpers etc. The contractor shall arrange road permit for vehicle for all the states of operation, as per instructions of engineer in charge and vehicle shall not be more than three years old. Payment shall be made for actual working hours at site.	Hours	600
25	Painting of lettering gradient posts, KM posts, hectameter post, curve plates, SEJ plates, etc two coats (both sides) along the railway tracks.	Each	1985
26	Painting of HFL and danger level marks, year of HFL on bridge abutments and piers with readymix paint	Each mark	460

2.36 EXTERNAL FACTORS:

Certain external factors have also got a bearing on the manpower requirements especially under T, R, M & S activities, they are –

- a) The improvements in road transport and vehicles
- b) The improved availability of water, residence etc.,
- c) The substitution of manual checking / testing / Inspection due to the use of machines like USFD etc.,
- d) The longevity ensured due to mechanized laying of track and construction / inspection methods.
- e) The supervisory element of work in the contracts.



CHAPTER III**3.0 CRITICAL ANALYSIS****GENERAL ANALYSIS:**

Rightsizing of Man Power in Railways is an ongoing process and it is being done after assessment by Planning Branches of concerned Divisions, Departments and by the specialized common branch under SDGM. Railway Board is fixing the annual target for surrender of posts for every zone. Technological improvements, computerization, investments in modernization, improved skills and training and even certain external factors like availability of competitive and quality products from outside, improvement and economy in outsourcing, transport etc help to achieve a better man power ratio. The productivity per employee calls for a work force which is optimum for the requirement. The ground realities are given due consideration during the review of staff strength.

Regards to Track maintenance, Railway Board has stipulated the yard stick and guideline for manpower assessment in the form of MCNTM formula through software. This formula will ensure Zero base review as per the actual traffic and other related conditions to arrive at the optimum staff requirement. The committee has also recommended certain activities for outsourcing (Para 2.34).

It is to be noted here that Railway Board vide Letter No.11-2019/SPMPS/Yardstick/2 dated 30.06.2020, it has been decided that the Yardstick/Norms of various O&M activities across all Departments on the Railways stand reduced by 15% on as is where basis as an interim measure w.e.f.01.07.2020. The same is applied here while arriving at total requirement of staff for this unit.

3.1 The Data applied for 'MCNTM' formula:

Sl. No.	Detail	Division/ MCNTM Data	Remarks/ Corrections
1	Total Section length Kms	67.52	-
2	Total Section length on LWR Kms	42.04	-
3	Equivalent PRC track length Kms	70.72	-
4	Total Track length Kms	70.72	
5	GMT	12.87	-
6	Rain fall (Cms)	91.1	-
7	Length required for Hot patrolling	-	Not done
8	Length required for Cold patrolling	-	Not done
9	No. of EQ turn-outs in mainline	32.00	-

10	No. of EQ turn-outs on PRC Sleepers	43.80	-
11	Running yard line – machine packed	17.49	-
12	Running yard line – manually packed	-	-
13	Running Yard Line on PRC Sleeper	17.49	-
14	Non-Running yard line manually packed	1.73	-
15	No. of EQ turn-outs in RYL	42.80	-
16	No. of EQ turn-outs in NRYL	1.80	-
17	No. Gangs	12	-
18	Beat length of the gangs in KMs	70.88	-
19	No. mates	12	-
20	No. Key men	12	-
21	Man days Required for RG to key man	852.00	852.000
22	man days Required for look out	-	288
23	Man days Required for Waterman	3528	Nil
24	Filth affected gangs	0	PUC Yard
25	Man days Required for filth removal	nil	192
26	No. of Curve	22	-
27	Curve Segment length kms.	7.71	6.775
28	LC Gates	38	31
29	No. of shifts	36-Double Shift 2-Triple Shift	30-Double Shift 1-Triple Shift
30	Gatemen Sanction	-	Nil. Clubbed with TM.
31	Man days for Gate keeping	28470.00	22995.00
32	No. of Track on LC	1	-
33	No. of Bridges	150	144 (12 Major+ 132 Minor)
34	No. of steel girder Bridges	Nil	-
35	Man days required for Substructure	-	SSE/Woks/MV
36	Long girder bridge maintenance	-	SSE/BRI/East/TPJ
37	No. of Tunnel	Nil	-
38	No. of Extremely bad formation	-	-
39	Length of bad formation in (Mts)	-	-
40	Man days for Extremely bad formation	-	-
41	No. of beats in Monsoon patrolling	19	-

42	No. of shifts	2	-
43	Beat infested with wild animals	-	-
44	Monsoon Patrolling days	60	-
45	Man days for beat patrolling	2280	1080
46	Vulnerable locations	17	-
47	Vulnerable Patrolling days	60	-
48	Man days Vulnerable locations	2040	540
49	No. of site stores	2	1
50	Man days Required for Stores Watchman	2190	1095
51	Man days for Security patrolling-Man days	-	-
52	Fog signal man days	-	-

3.2 The following output obtained through MCNTM formulae with updated data:

3.2.1 As per TRMS - TOTAL MAN DAYS CALCULATED/YEAR:

Activity	Man days/Year
T*	9824.60
R	14691.05
M	39360.00
S	1123.47
Total	64999.12

*(7843.04- without Shallow Screening)

(Updated Calculation sheet abstract of TRMS is Annexure- II)

3.3 DISALLOWED MAN DAYS:

MCNTM Formula is inclusive of all TRMS Activities. However, the Division has calculated the total man-days requirement as 64999.12.

Based upon the field inspection and study, it is understood that some of the activities are not being done regularly by the Gang staff and some activities which are not allotted man days in the MCNTM are being performed in this section. Hence, such activities are considered to the extent of actual staff deployment while evaluating the man power by scoring out, according to the work load.

The following activities are altered to suit the present level of requirement.

DISALLOWED MAN DAYS					
Sl. No	Activity	Activity Part	Man days as per TRMS	Actual/ Corrected Man days	Disallowed Man days
Activities 'T' affected by Traffic Density – Man days: 7843.04					
T.1. Slack attention to					
a	Bad Spots	35/126	$35 \times 7843.04 / 126 = 2178.62$	288	1,890.62
b	Low Joints(FP or welded), Glued joints	16/126	$16 \times 7843.04 / 126 = 995.94$	288	707.94
T.2. for Tie Tamper Working					
a	Pre-tamping Operations	10/126	$10 \times 7843.04 / 126 = 622.46$	180	442.46
c	Post tamping Operations	14/126	$14 \times 7843.04 / 126 = 871.44$	240	631.44
T.3. Casual renewal of					
b	Track Sleepers	6/126	$6 \times 7843.04 / 126 = 373.47$	200	173.47
c	Fasteners (along with re-gauging)	10/126	$10 \times 7843.04 / 126 = 622.46$	600	22.46
T.4	Repair Welding	12/126	$12 \times 7843.04 / 126 = 746.95$	375	371.95
DISALLOWED MAN DAYS – T Activity					4,240.34
R. Activities not affected by Traffic Density – Man days: 14691.05					
R.2	Shallow Screening (1/5 length)	55/159	$55 \times 14691.05 / 159 = 5081.81$	-	5081.81
R.3	Loading, Leading, Unloading	20/159	$20 \times 14691.05 / 159 = 1847.93$	840	1007.93
R.4	Overhauling of Level Crossing	13/159	$13 \times 14691.05 / 159 = 1201.15$	250	1201.15
R.5	Watching caution spots & miscellaneous	10/159	$10 \times 14691.05 / 159 = 923.96$	600	323.96
R.6	Tree cutting for visibility	10/159	$10 \times 14691.05 / 159 = 923.96$	150	773.96
R.8	Accident relief & carcass removal in run over case	10/159	$10 \times 14691.05 / 159 = 923.96$	96	827.96
R.9	Bridge sleeper attention & renewal	10/159	$10 \times 14691.05 / 159 = 923.96$	-	923.96
R.10	Pre monsoon attention, such as clearing of drains & waterways, cess repairs, deweeding of track & attention to cuttings & trolley refugees	18/159	$18 \times 14691.05 / 159 = 1663.13$	480	1183.13

R.11	Creep pulling (approaches of bridge turnouts)	5/159	5*14691.05/159=461.98	-	461.98
R.12	Rectifying damage to LC posts & gates	2/159	2*14691.05/159=184.79	84	100.79
DISALLOWED MAN DAYS – R Activity					11,886.63
M - Miscellaneous activities = 39360					
M.1	Monsoon Patrolling		2280	1080	1200
M.4	Watching vulnerable locations		2040	540	1500
M.5	Gate Keeping at Level Crossings	28470 man days (36 Double Shift + 2 Triple Shift)		22995 man days (30 Double Shift + 1 Triple Shift)	5475
M.7	Waterman duty		3528	-	3528
M.8	Store watchmen duty		2190	1095	1095
DISALLOWED MAN DAYS – M Activity					12,798
S – Site Specific = 1123.47					
S.2	Bridge substructure maintenance		614.85	-	614.85
S.4	Long girder maintenance		508.62	-	508.62
DISALLOWED MAN DAYS – S Activity					1,123.47
ON NEED BASIS- ADDITIONAL MANDAYS					
T.1.c SEJ (1 No. per KM)		4/126	4*7843.04/126=248.98	1200	951.02
T.1.d Minor curves & Bridge Approaches		10/126	10*7843.04/126=622.46	900	277.54
T.2.b Along with tamper		3/126	3*7843.04/126=186.73	240	53.27
T.3.a Rails		6/126	6*7843.04/126=373.47	375	1.53
ADDITIONAL MANDAYS -T Activities Total					1,283.36
R.7 Lubrication of rails in curves		4/159	4*14691.05/159=369.58	1008	638.42
ADDITIONAL MANDAYS -R Activities Total					638.42
S.6 Look out man duty			-	288	288
S.8 Filth removal from track	PUC Yd.		-	192	192
ADDITIONAL MANDAYS -S Activities Total					480

Based upon the above mentioned disallowed and additional mandays, TRMS activities mandays are calculated as below:

Activity	Mandays as per TRMS (A)	Disallowed mandays (B)	Additional Mandays (C)	Evaluated Mandays [(A-B)+C]
T	7843.04	4240.34	1283.36	4,886.06

R	14691.05	11886.63	638.42	3,442.84
M	39360.00	12798.00	0	26,562.00
S	1123.47	1123.47	480	480.00
	63,017.56	30048.44	2401.78	35,370.9
Total Evaluated TRMS Mandays is 35370.90				

3.4 GANG STRENGTH REQUIREMENT:

3.4.1 GANG STRENGTH:

Gang Strength is calculated as below

Gang Strength = The Actual Evaluated TRMS for Man Days/ 291

$$35370.90/291 = 121.55 \text{ Men}$$

Say **122 Men**

Total Gang Staff (Track Maintainer

+ Gate Keeper + Store Watchman) = **122 Men**

3.4.2 GANG MATE AND KEY MAN:

There are 12 Gangs. One Gang Mate and One Key Man are required for a gang.

Gang Mate and Key Man required = 24 Men

3.4.3 REQUIREMENT OF TROLLEY MEN:

This section has 03 push type and 01 motor type trolleys for scheduled and other inspections. The total running kilometer of this section is 67.70, which are manned by 3 supervisors. The total monthly inspection conducted by the supervisors is 3.22 per month in general.

TROLLEY INSPECTION SCHEDULE:

SSE/P.Way (in charge) – once in a month (CS No.132 Para 124(a),
Dt.: 08.04.2013)

SSE/JE (section in charge) – once in a fortnight (CS No.132 Para 139,
Dt.: 08.04.2012)

For the movements of a pushing trolley two person are required in which, two will physically push the trolley and the other two is sitting and watching back

side of the movement on safety view. For Push Trolley Batch four persons are required.

For the movement of Motor Trolley One person is required to operate the trolley and One more to assist him. For Motor Trolley Batch two persons are required.

They are managing the trolley movement with 8 trolley man now.

On need basis, **2 Batches for Push trolley and 1 Batch for Motor Trolley** will meet the requirement.

The total required no. of Trolley men = 10 men.

3.4.4 TOTAL TRACK MAN REQUIREMENT:

Category	No. of Men Required
Gang Staff (Track Maintainer, GK & Store Watchman)	122
Gang Mate & Key Man	24
Trolley man	10
TOTAL TRACK MAN REQUIRED	156

3.5 REQUIREMENT OF ARTIZAN STAFF:

Currently, there are 6 sanctioned posts of Artizan staff. On need basis, work study allows same number of the Artizan staff

- 6 Men.

3.6 REQUIREMENT OF SUPERVISORS:

SSE/In charge	:	1
SSE/JE Sub-Section Supervisors	:	2
SSE/RG & LR,Contract, Outsourcing & Other allied works	:	1
Total	:	<u>4</u>

This section is divided into 2 sub-sections. (CUPJ & PRT)

On need basis, Work study teams allows the current actual strength of SSE/JE - 4 Men.

3.7 MINISTERIAL STAFF:

At present, there are two ministerial staff (01 OS in GP 4200 & 01 Jr.Clerk in GP 2400) are looking after the staff personal matters and other allied issues,

this work study allows the sanctioned strength to continue, on need basis. Hence the additional strength may be utilized to the needful area.

There is no sanction of ministerial staff at this unit. On need basis, work study allows 2 posts of ministerial staff.

No. of Ministerial staff required - 2 Men.

3.8 TOTAL COMPOSITE STAFF REQUIREMENT OF SSE/P.WAY/CUPJ:

Categories	Reference Paragraph	Staff
Track Maintainers	(3.4.1)	122
Gang Mate & Key Man	(3.4.2)	24
Trolley Man	(3.4.3)	10
Sub Total		156
LR @12.5% for 156 Men		20
Artizans	(3.5)	6
Supervisors	(3.6)	4
Ministerial Staff	(3.7)	2
Total		188
Less: 15% deduction as per RB letter No 11-2019/SPMPS /yardstick/2 dated 30.06.2020 (15 % of 188 = 28.2 Say 28)		28
		160

TOTAL STAFF REQUIREMENT IS 160.

3.9 TOTAL STAFF SANCTION VS REQUIREMENT OF SSE/P.WAY/CUPJ:

COMPOSITE SANCION VS REQUIREMENT						
Category	Level	GP (Rs.)	Sanction	Actual	Reqd.	Surplus
SSE	7	4600	3	2	3	0
JE	6	4200	3	1	1	2
OS	6	4200	0	2	2	*2
Carpenter/Sr.Tech	6	4200	1	0	1	0
Painter/Sr.Tech	6	4200	1	0	1	0
Tech III – Welder	2	1900	1	0	1	0
Blacksmith/Sr.Tech	6	4200	0	1	0	0
Blacksmith/Tech I	5	2800	2	0	2	0
Blacksmith/Tech II	4	2400	0	1	0	0
Blacksmith/Tech III	2	1900	1	2	1	0
Track Maintainer Gr.I	5	2800	18	9	15	3
Track Maintainer Gr.II	4	2400	37	17	30	7
Track Maintainer Gr.III	2	1900	37	35	30	7
Track Maintainer Gr.IV	1	1800	89	115	73	16
Trainee	1	1800	0	3	0	0
	Total		193	188	160	35
Division may initiate to create 2 posts						

Summary of Sanction Vs Requirement:

Sanction	Actual	Requirement	Surplus	Shortfall
193	188	160	35	2

3.10 RECOMMENDATIONS:

The following 35 posts are found excess to the requirement and the same may be surrendered and credited to the vacancy bank.

Sl.No	Category	Level	No of Posts
1	Junior Engineer	6	2
2	Track Maintainer Gr.I	5	3
3	Track Maintainer Gr.II	4	7
4	Track Maintainer Gr.III	2	7
5	Track Maintainer Gr.IV	1	16
Total			35

Total No. of Posts: 35



CHAPTER IV**4.0 PLANNING BRANCH'S REMARKS ON CO-ORDINATING OFFICER'S VIEWS:**

The Division has furnished its views vide ADRM/TPJ's Letter No.T/2.571/Work Study/SE(P.Way)/CUPJ/742021 dated 17.05.2021.

CO-ORDINATING OFFICER'S VIEWS:

The work study report sent vide reference above have been studied in detail. As the co-ordinating officer is Divisional officer in this case, the draft report is taken as final report and the Division's remarks on the same are furnished item wise.

The following is the summary of recommendations of the Work study committee for surrender of posts.

1. Junior Engineer--2 Nos.
2. Track Maintainer-I—3 Nos.
3. Track Maintainer-II—7 Nos.
4. Track Maintainer-III—7 Nos.
5. Track Maintainers-IV--16

Recommendation-I--Surrender of JE Post-2 Nos.

The supervisory posts available in the section arose when the P.Way mistries were re-designated as JEs and clubbed with supervisors. Pin-pointing of the posts of supervisors has not been done in the division yet and hence there are some additional sanctions in some sections and the sanction is inadequate in some other sections. The division proposes to do this exercise shortly. However, as the total requirement of P.Way supervisors for the Division is still below the overall requirement surrender the Post of JEs(P.Way) is not possible.

PLANNING BRANCH'S REMARKS:

Agreed to. As division has furnished that pin-pointing of posts of supervisors over Tiruchchirapalli Division is proposed to set right the situation of some additional sanctions in some sections and inadequate sanctions in some sections.

CO-ORDINATING OFFICER'S VIEWS:

Recommendation-II--Surrender of 3 posts of track maintainers Gr.I

Recommendation-III-- Surrender of 7 posts of track maintainers Gr.II

Recommendation-IV--Surrender of 7 posts of track maintainers Gr.III

Recommendation V-- Surrender of 16 posts of track maintainers Gr.IV

The work study team while calculating man-days for the activities as per MCNTM has disallowed certain activities. The same are listed below along with division's remarks.

CO-ORDINATING OFFICER's VIEWS:	PLANNING BRANCH's REMARKS:
<p>SI No.1; Activity: T; Work Study Committee's Observations: Page 27 of report – Para 3.3 – Disallowed man days -T Activity</p>	<p>The TRMS formula itself was approved in 2006, 20 years ago and requires periodical review. The report itself calls for annual review of staff strength based on the progressive mechanization and new technologies. Under 'T' activity, almost all the activities are carried out by the Track Machines.</p>
<p>Division's Remarks:</p> <p>Shallow screening is a part of the legitimate works to be executed by P.Way gangs as given in IRPWM and as emphasised in Board's letter No.97 E/MPP/1/9 dated 13.10.97 placed as Annexure-M of MCNTM Report. Thus the same cannot be excluded. As such manpower for T activities should be 9824.60 only and not 7843.04 (without shallow screening).</p> <p>T-1—Slack attention to Bad spots, low joints, SEJs, curves requiring alignment are not planned works but identified out of the inspection of Keymen, Supervisors and Officers. Attending to these track defects immediately is of paramount importance in view of safety and cannot wait for machines. They are attended with departmental labour only.</p> <p>T-2—For Tie tamper working—Even though this activity was outsourced during 2019-20, the contract could not be fixed for further periods viz. 2020-21 & 2021-22. Thus these activities are done only by departmental labour.</p> <p>T-3—Casual renewal of rails/sleepers and fastenings—This also is not a "Planned activity" but carried out upon inspection of supervisors/officers. They are incidental to rail/weld defects noticed during the course of inspection/abnormality reports received from LPs. These locations require immediate attention in</p>	<p>However <i>Shallow Screening under 'T' activity is now allowed considering CO's views</i>. Hence mandays under 'T' activity is now re-calculated as 9824.00. Added man days under this activity is 1980.96.</p> <p>T.1. activity – Not agreed to. Sufficient man days already allowed vide Para 3.3 considering actual requirement of 576 man days at unit level based upon data and field inspection.</p> <p>T.2. activity - Agreed to. As outsourcing is not renewed for the next year, disallowed man days are now fully allowed and added to the total man days. Added man days under this activity is 1073.90.</p> <p>T.3. activity – Not agreed to. Sufficient man days of 1175 already allowed vide Para 3.3 considering actual requirement at unit level based upon data and field inspection.</p> <p>T.4. activity - Not agreed to. Vide Para 3.3, man days of 375 already allowed, which is sufficient based</p>

<p>view of safety and punctuality of train operation. As these activities are being done as necessitated during the course of regular maintenance, advance planning can't be done for outsourcing and also not able to be attended with Track Machines.</p> <p>T-4—Repair welding—This is carried out only with departmental welding team and track maintainers.</p> <p>Thus, in view of the above, the man days calculated by MCNTM formula viz., 9824.30 is fully justified and to be allowed.</p>	<p>upon collected data and field inspection.</p> <p>'T' Activity after considering CO's views is recalculated as below: 'T' activity already evaluated- 4886.06 man days Add: Shallow screening - 1980.96 man days (added) Add: T.2. activity additional - 1073.90 man days (added) Revised T Activity Total - 7940.92 man days.</p> <p>Hence Re-evaluated T activity man days is 7940.92.</p>
<p>CO-ORDINATING OFFICER's REMARKS:</p> <p>SI No.2; Activity: R; Work Study Committee's Observations: Page 28/29 of report –Mandays have been disallowed for activities covered under R1, R3, R4, R6, R8, R9, R10, R11 and R12</p>	<p>PLANNING BRANCH's REMARKS:</p> <p>Not agreed to.</p> <p>R2 activity- Shallow Screening: This activity is fully carried out by the Track Machines in this section. Man days of 1980.96 is allowed for shallow screening, under T activity. Hence man days for this activity is fully disallowed.</p>
<p>Division's Remarks:</p> <p>The requirement for these activities have been worked out on a detailed exercise by an empowered committee of experts and the same has been approved by Railway Board for uniform adoption across all Railways. For any change in the calculation of mandays, the work study committee may make a reference to IRICEN/Board for necessary amendment.</p> <p>Hence the reduction of man days is not acceptable.</p> <p>R-2--Shallow screening: As per Para 345 of IRPWM this activity is included as a part of regular track maintenance operations in LWR/CWR stretches. Now majority of the track stretch is LWR/CWR only and hence this activity is indispensable in view of safety. Further it is also an activity as a part of Pre-monsoon attention as described under Para 602 of IRPWM and systematic overhauling of track described under Para 609(1)(a) of IRPWM.</p> <p>R-3—Loading, leading, unloading: Lorrying/carrying materials or equipment as required for normal maintenance jobs has been</p>	<p>R.3, R.4, R.5., R.6, R.8, R.10 and R.12 activities: Sufficient man days already allowed Vide Para No.3.3 based upon data, field inspections and taking views of field supervisors.</p> <p>R.9. activity – Bridge Sleeper attention and renewal & R.11. activity – Creep Pulling: These activities are not performed by this unit.</p> <p>Hence evaluated R activity man days is 3442.84.</p>

<p>covered under Works undertaken as part of normal track maintenance vide Annexure-L of the MCNTM report.</p> <p>Also vide Annexure-M of the MCNTM report, Lorrying out materials for other than casual renewal of rails and sleepers is only covered under list of items to be executed by casual labour/contract.</p> <p>Further, Opening, examination and overhauling of level crossings (R4) and adjustment of minor creep (R11) are a part of the legitimate works to be executed by P.Way gangs as given in IRPWM and as emphasised in Board's letter No.97 E/MPP/1/9 dated 13.10.97 placed as Annexure-M of MCNTM Report.</p> <p>R5--Watching caution spots is a safety related activity and can be executed only by a regular employee with adequate knowledge of train passing at work sites.</p> <p>The other activities (R6, R8, R9, R10 and R12) are unforeseen and not realistically quantifiable in advance. However they are to be executed as and when necessary and adequate manpower provision should be available in reserve to meet contingencies.</p> <p>Thus the manpower required for carrying out the above activities cannot be disallowed and the manpower for R activity should be 14691.05 only</p>	
<p>CO-ORDINATING OFFICER's REMARKS:</p> <p>SI No.3; Activity: M; Work Study Committee's Observations: Page 29 of report –</p>	<p>PLANNING BRANCH's REMARKS:</p>
<p>DIVISION's REMARKS:</p> <p>Monsoon patrolling (M1) and Watching vulnerable locations (M4) are important safety related activities and are being carried out as per the charts approved by HQ during every monsoon. Being HIGH PRIORITY SAFETY related activities, the manpower should be allowed as per the requirement as otherwise it may be detrimental to the safety.</p>	<p>M1 Monsoon Patrolling: Agreed to. Sufficient man days already allowed vide Para 3.3 considering actual requirement of 1080 man days at unit level based upon data and field inspection. However, <i>considering CO's views</i>, full man days under monsoon patrolling is allowed now. Hence man days under this activity is now re-calculated as 2280. Added man days under this activity is 1200.</p>

<p>M5 Gate keeping at LCs—There are 29 LCs in double shift and 2 LCs in Triple Shift and the total mandays required is 23360.</p> <p>The man days for Waterman duty (M7) has been disallowed by the work study committee. The work study team while giving reply to the remarks of the Co-ordinating officer in the case of provision of look out man (vide page 36 of the report of Work study No.772021 SSE/P.Way/TJ section) has advised that, for inclusion of this activity in the MCNTM formula IRICEN/PUNE may be referred for updating.</p> <p>In that same spirit, any change in the requirement provided for in the MCNTM formula has to be referred to IRICEN/PUNE for correction and till such time correction is issued the deduction of mandays for these activities is not permissible.</p> <p>The manpower for Store watchmen has been reduced by 50% is agreed to.</p> <p>Hence the mandays for M activities should be 33155.</p> <p>Man days as per MCNTM —39360</p> <p>Deduction of excess in Gate keeping—5110</p> <p>Deduction of Store watchmen (1 No)—1095</p> <p>(39360-5110-1095=33155)</p>	<p>M4 Watching Vulnerable Locations: Not Agreed to. 540 Man days already allowed vide Para 3.3 on need basis, which is sufficient based upon data and field inspection.</p> <p>M5 Gate keeping at Level Crossings: Agreed to. Man days already allowed under this activity considering 30 LCs in double shift and 1 LC in Triple Shift is 22995 man days. Considering the CO's views, man days is re-calculated as 23360 (29 LCs in 2 shift and 2 LCs in Triple Shift). Added man days under this activity is 365.</p> <p>M7 Waterman duty: Not agreed to. This activity is not being performed now a days. Man days for this activity has been disallowed based upon observation at unit level and it has been disallowed in all the previous work studies.</p> <p>M8 Store Watchmen duty: Agreed to. 1095 mandays allowed to this activity vide para 3.3.</p> <p><u>'M' Activity after considering CO's views is recalculated as below:</u></p> <p>'M' activity already evaluated - 26562.00 man days</p> <p>Add: M1 Monsoon Patrolling - 1200.00 man days (added)</p> <p>Add: M5 Gate Keeping at LCs - 365.00 man days (added)</p> <p>Revised M Activity Total - 28127.00 man days.</p> <p>Hence Re-evaluated M activity man days is 28127.00.</p>
<p>CO-ORDINATING OFFICER's REMARKS:</p>	<p>PLANNING BRANCH's REMARKS:</p>

SI No.4; Activity: S; Work Study Committee's Observations: Page 29 of report – The manpower S2 & S4 have been disallowed	S2 Bridge Substructure Maintenance & S4 Long Girder Maintenance: Not agreed to. These activities are not performed by this Unit. Hence man days for these activities has been disallowed. Hence evaluated S activity man days is 480.00.
DIVISION's REMARKS: Any change in the requirement provided for in the MCNTM formula has to be referred to IRICEN/PUNE for correction and till such time correction is issued the deduction of mandays for any of the activities mandatorily covered under MCNTM is not permissible.	
CO-ORDINATING OFFICER's REMARKS: SI No.5; Activity: Additional man days ; Work Study Committee's Observations: Page 29 of report – On need basis some additional mandays have been allowed by Work Study team	PLANNING BRANCH's REMARKS: Not agreed to. Additional mandays for T.1.c - SEJ, T.1.d – Minor curves & Bridge Approaches, T.2.b Along with Tamper, T.3.a Rails, R7 Lubrication of rails in curves, S6 – Look out man duty and S8 Filth removal from track activities have been allowed on need basis, based upon observations and discussion with supervisors at the Unit Level. Hence increase in mandays for the above-mentioned activities is essential.
DIVISION's REMARKS: While the division appreciates, the work study team for allowing additional mandays for some activities over and above the provisions of MCNTM, as the division is bound by the formula and strictly confined to the requirements provided for therein being universally adopted across all Railways, the additional mandays is not taken into account.	

CO-ORDINATING OFFICER's REMARKS:			
6	Revised calculation of requirement – Page 31/32 of Report		
Activity	As per Work Study Committee	As per Division	Remarks
T activity	4886.06	9824.60	Deduction for the activities is not acceptable in view of the remarks given against SI.Nos. 1 above.

R activity	3442.84	14691.05	Deduction for the activities is not acceptable in view of the remarks given against Sl.No 2 above.
M activity	26562.00	33155.00	Deduction for the activities is not acceptable in view of the remarks given against Sl.Nos. 3 above.
S activity	480.00	1123.47	Vide remarks given against Sl.No.4 above.
Total man-days	35370.90	58794.12	
No.of staff required (A)	122	202	
Mate & Key man (B)	24	24	
Trolley men (C)	10	10	
Lr @12.5% on (A)+(B)+(C)	20	30	
Supervisors	6	6	Vide reply to recommendations-1 above
Artizan staff	6	6	
Total requirement	188	278	
15% reduction	28	42	
Net requirement	160	236	

As the calculated requirement is much higher than the available sanctioned posts, surrender of posts of Track Maintainer is not agreeable.

In addition, a kind reference is invited to CTE/MAS letter No.W.349/A/119/Vol.IV dated 22.8.2016 addressed to SDGM/MAS which clearly stated that insistence on surrender of posts of Trackman based on work study report is in contravention to the existing instructions issued by the Railway Board on the subject. In this connection, PCE/MAS endorsement in the report that "We cannot accept surrender of mate and trackmen" as communicated to the division in letter No.W.349/A 209/Work study/Vol.XVII dated 3.5.2017 also deserves mention.

In the light of the fore-going, the division will not be in a position to surrender any of the posts recommended in this work study report. It is requested that the report may kindly be closed.

PLANNING BRANCH'S REMARKS:

Re-evaluated mandays for TRMS activities is as under:-

T activity	-	7940.92
R activity	-	3442.84
M activity	-	28127.00
S activity	-	480.00

Total re-evaluated mandays for TRMS activities - 39990.76.

REVISED COMPOSITE STAFF STRENGTH REQUIREMENT OF SSE/P.WAY/CUPJ:

Categories	Remarks/Calculations	Staff
Track Maintainers	39990.76 mandays/291 = 137.42 Say 137	137
Gang Mate and Key Man		24
Trolley Man		10
Sub-Total		171
Leave Reserve	@12.5% for 171 staff = 21.37 Say 21	21
Artizans		6
Ministerial Staff		2
Supervisors		6
Total		206
Less: 15% deduction as per RB letter No.11-2013/SPMPS/yardstick/2 dated 30.06.2020 (15% of 206 = 30.9, Say 31)		31
Total Requirement of staff		175

Revised staff requirement of SSE/P.WAY/CUPJ is 175.

REVISED TOTAL STAFF SANCTION VS REQUIREMENT OF SSE/P.WAY/CUPJ

Category	Level	GP (Rs.)	Sanction	Actual	Reqd.	Surplus
SSE	7	4600	3	2	3	0
JE	6	4200	3	1	3	0
OS	6	4200	0	2	2	*2
Carpenter/Sr.Tech	6	4200	1	0	1	0
Painter/Sr.Tech	6	4200	1	0	1	0
Tech III – Welder	2	1900	1	0	1	0
Blacksmith/Sr.Tech	6	4200	0	1	0	0
Blacksmith/Tech I	5	2800	2	0	2	0
Blacksmith/Tech II	4	2400	0	1	0	0
Blacksmith/Tech III	2	1900	1	2	1	0
Track Maintainer Gr.I	5	2800	18	9	17	1
Track Maintainer Gr.II	4	2400	37	17	35	2
Track Maintainer Gr.III	2	1900	37	35	35	2
Track Maintainer Gr.IV	1	1800	89	115	74	15
Trainee	1	1800	0	3	0	0
Total			193	188	175	20
Division may initiate to create 2 posts						

Revised summary of Sanction vs Requirement

Sanction	Actual	Requirement	Surplus	Shortfall
193	188	175	20	2

Revised Recommendations:

The following 20 posts are found excess to the requirement after considering Division's views and the same may be surrendered and credited to the vacancy bank.

Sl.No.	Category	Level	No.of Posts
1	Track Maintainer Gr.I	5	1
2	Track Maintainer Gr.II	4	2
3	Track Maintainer Gr.III	2	2
4	Track Maintainer Gr.IV	1	15
Total			20

Total No. of Posts : 20.



CHAPTER V**5.0 FINANCIAL SAVINGS:**

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

S. No	Category	Level	Grade pay (Rs.)	No. of posts	Mean Pay (Rs.)	Annual Financial savings (Rs.)
1	Track Maintainer Gr.I	5	2800	1	71,078	8,52,936
2	Track Maintainer Gr.II	4	2400	2	62,361	14,96,664
3	Track Maintainer Gr.III	2	1900	2	48,614	11,66,736
4	Track Maintainer Gr.IV	1	1800	15	43,817	78,87,060
Total				20		1,14,03,396



ANNEXURE – I**SAVE STATEMENT OF SSE/P.WAY/CUPJ****SOUTHERN RAILWAY**

No.T/P.182/I/EA/Workstudy.

Divisional Office,
Personnel Branch,
Tiruchchirappalli.
Dt. 05.10.2020.

SDGM/MAS.

Sub : Workstudy to review the staff strength at P.Way/CUPJ -
Engineering Department, TPJ Division.
Ref : SDGM/MAS letter No.G.275/WSSR-742021/2020-21
dated 01.10.2020.

#####

The particulars called for in the letter cited above, are furnished hereunder with regard to SSE/P.Way/CUPJ, Engineering Department, TPJ Division as per Book of Sanctions.

Sl.	Category	Level	SAN	ACT	VAC
1	SSE/P.WAY	7	3	2	1
2	JE/P.WAY	6	3	1	2
3	OS/Works Branch	6	0	2	-2
4	Sr Tech/Carpenter	6	1	0	1
5	Sr Tech/Painter	6	1	0	1
6	Tech III/Welder	2	1	0	1
7	Sr.Tech/Blacksmith	6	0	1	-1
8	Techn I/Blacksmith	5	2	0	2
9	Techn II/Blacksmith	4	0	1	-1
10	Techn III/Blacksmith	2	1	2	-1
11	Track Maintainer Gr I	5	18	9	9
12	Track Maintainer Gr II	4	37	17	20
13	Track Maintainer Gr III	2	37	35	2
14	Track Maintainer Gr IV	1	89	115	-26
15	Trainee	1	0	3	-3
	TOTAL		193	188	5

S Venka
7.10.20
(S.VENKATRAMAN)
APO/ENGG/TPJ
/ St. DPO/TPJ

MANDAYS M																				
DIV :	TPJ																	AS ON:	31-Mar-19	
Senior Section Engineer Unit Name :										CUPJ										
Gauge	Monsoon Patrolling		Hot/Cold Weather Patrolling of LWR					Vulnerable Locations		Gate Keeping			Rest Giver for Keymen		Waterman		Store Watchman		Total Mandays Required For M Activities	
	No. of Beats	Mandays Required	Total Length of LWR	Length of LWR Requiring Hot Weather Patrolling	Length of LWR Requiring Cold Weather Patrolling	Mandays Required for Hot Weather Patrolling	Mandays Required for Cold Weather Patrolling	No of Locations	Mandays	No of Engg Manned Gate	Sanctioned	Mandays Required	No of Keymen	Mandays Required	No of Gangs	Mandays Required	No of Site	Mandays Required		
											Cadre of						Stores			
											Gatemen									
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
BG	19	2280.00	42.04	0.00	0.00	0.00	0.00	17	2040.00	38	0	28470.00	12	852.00	12	3528.00	2	2190.00	39360.00	
MG	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0		0.00	0	0.00	0	0.00		0.00	0.00	
NG	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0		0.00	0	0.00	0	0.00		0.00	0.00	
TOTAL	19	2280.00	42.04	0.00	0.00	0.00	0.00	17	2040.00	38	0	28470.00	12	852.00	12	3528.00	2	2190.00	39360.00	

DIV: TPJ		MANDAYS S																							AS ON: 31-Mar-19	
		Senior Section Engineer Unit Name : CUPJ																								
Sr. No.	Gauge	Tunnel Maintenance		Bridge Substructure Maintenance			Long Girder Bridge Maintenance			Extra for very Sharp Curves		Extremely Bad Formation		Lookout Man Mandays Required	Fog Signal Man				Filth Removal		Security Patrolling			Mandays Required For 'S' Activities		
		Total Length in km	Mandays Required	No. of Bridges	Lineal Water Way in meters	Mandays Required	No. of Long Girder Bridges	Lineal Water Way of Long Girder Bridges	Mandays Required	Track Km on > 3deg(BG) >6deg(MG)	Mandays Required	Length of Bad Formation	Mandays Required		No of Mandays Required Yr(-3)	No of Mandays Required Yr(-2)	No of Mandays Required Yr(-1)	Mandays Required	No of Gangs working in Affected Area	Mandays Required	No of Mandays Required Yr(-3)	No of Mandays Required Yr(-2)	No of Mandays Required Yr(-1)		Mandays Required	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	
1	BG	0.00	0.00	150	1859.58	614.85	0	0.00	0.00	1.73	508.62	0.00	0.00	0.00	0	0	0	0.00	0	0.00	0	0	0	0.00	1123.47	
2	MG	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0	0.00				0.00	0.00	
3	NG	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0	0.00				0.00	0.00	
Total		0.00	0.00	150	1859.58	614.85	0	0.00	0.00	1.73	508.62	0.00	0.00	0.00	0	0	0	0.00	0	0.00	0	0	0	0.00	1123.47	



CO-ORDINATING OFFICER'S VIEWS

File No.SR-TPJ0ENGG(GENL)/22/2021-O/o Sr.DEN/Co-Ordn./TPJ/SRIy

SOUTHERN RAILWAYDivisional Office
Works Branch
Tiruchchirappalli-620001

T/W.571/Work Study/SE(P.Way)/CUPJ/742021

Date: 17.5.2021

SDGM/MASSub: Work study to review the staff strength of SSE (P.Way)CUPJ—TPJ Divn.
Ref: SDGM letter No.G.275/WSSR-742021/2020-21 dated 08.02.2021.

The work study report sent vide reference above have been studied in detail. As the co-ordinating officer is Divisional officer in this case, the draft report is taken as final report and the Division's remarks on the same are furnished item wise.

The following is the summary of recommendations of the Work study committee for surrender of posts.

1. Junior Engineer--2 Nos.
2. Track Maintainer-I—3 Nos.
3. Track Maintainer-II—7 Nos.
4. Track Maintainer-III—7 Nos.
5. Track Maintainers-IV—16

Recommendation-I—Surrender of JE Post-2 Nos.

The supervisory posts available in the section arose when the P.Way mistries were re-designated as JEs and clubbed with supervisors. Pin-pointing of the posts of supervisors has not been done in the division yet and hence there are some additional sanctions in some sections and the sanction is inadequate in some other sections. The division proposes to do this exercise shortly. However, as the total requirement of P.Way supervisors for the Division is still below the overall requirement **surrender the Post of JEs(P.Way) is not possible.**

Recommendation-II—Surrender of 3 posts of track maintainers Gr.I**Recommendation-III— Surrender of 7 posts of track maintainers Gr.II****Recommendation-IV—Surrender of 7 posts of track maintainers Gr.III****Recommendation V— Surrender of 16 posts of track maintainers Gr.IV**

The work study team while calculating man-days for the activities as per MCNTM has disallowed certain activities. The same are listed below along with division's remarks.

S. No.	Activity	Work study committee's observations	Division's remarks
1	T	Page 27 of report— Para 3.3— Disallowed mandays—T activity	Shallow screening is a part of the legitimate works to be executed by P.Way gangs as given in IRPWM and as emphasised in Board's letter No.97 E/MPP/1/9 dated 13.10.97 placed as Annexure-M of MCNTM Report. Thus the same cannot be excluded. As such manpower for T activities should be 9824.60 only and not 7843.04 (without shallow screening)

S. No.	Activity	Work study committee's observations	Division's remarks
1	T Contd....	Page 28 of report of report—Para 3.3—Disallowed mandays—T activity..... Contd.....	<p>T-1—Slack attention to Bad spots, low joints, SEJs, curves requiring alignment are not planned works but identified out of the inspection of Keymen, Supervisors and Officers. Attending to these track defects immediately is of paramount importance in view of safety and cannot wait for machines. They are attended with departmental labour only.</p> <p>T-2—For Tie tamper working—Eventhough this activity was outsourced during 2019-20, the contract could not be fixed for further periods viz. 2020-21 & 2021-22. Thus these activities are done only by departmental labour.</p> <p>T-3—Casual renewal of rails/sleepers and fastenings—This also is not a "Planned activity" but carried out upon inspection of supervisors/officers. They are incidental to rail/weld defects noticed during the course of inspection/abnormality reports received from LPs. These locations require immediate attention in view of safety and punctuality of train operation. As these activities are being done as necessitated during the course of regular maintenance, advance planning can't be done for outsourcing and also not able to be attended with Track Machines.</p> <p>T-4—Repair welding—This is carried out only with departmental welding team and track maintainers.</p> <p>Thus, in view of the above, the man days calculated by MCNTM formula viz., 9824.30 is fully justified and to be allowed.</p>
2	R	Page 28/29 of report —Mandays have been disallowed for activities covered under R1, R3, R4, R6, R8, R9, R10, R11 and R12	<p>The requirement for these activities have been worked out on a detailed exercise by an empowered committee of experts and the same has been approved by Railway Board for uniform adoption across all Railways. For any change in the calculation of mandays, the work study committee may make a reference to IRICEN/Board for necessary amendment.</p> <p>Hence the reduction of mandays is not acceptable.</p>

File No.SR-TPJ0ENGG(GENL)/22/2021-O/o Sr.DEN/Co-Ordn./TPJ/SRly

S. No.	Activity	Work study committee's observations	Division's remarks
2	R	Page 28/29 of report – Mandays have been disallowed for activities covered under R1, R3, R4, R6, R8, R9, R10, R11 and R12	<p>R-2--Shallow screening: As per Para 345 of IRPWM this activity is included as a part of regular track maintenance operations in LWR/CWR stretches. Now majority of the track stretch is LWR/CWR only and hence this activity is indispensable in view of safety. Further it is also an activity as a part of Pre-monsoon attention as described under Para 602 of IRPWM and systematic overhauling of track described under Para 609(1)(a) of IRPWM.</p> <p>R-3—Loading, leading, unloading: Lorrying/carrying materials or equipment as required for normal maintenance jobs has been covered under Works undertaken as part of normal track maintenance vide Annexure-L of the MCNTM report. Also vide Annexure-M of the MCNTM report, Lorrying out materials for other than casual renewal of rails and sleepers is only covered under list of items to be executed by casual labour/contract.</p> <p>Further, Opening, examination and overhauling of level crossings (R4) and adjustment of minor creep (R11) are a part of the legitimate works to be executed by P.Way gangs as given in IRPWM and as emphasised in Board's letter No.97 E/MPP/1/9 dated 13.10.97 placed as Annexure-M of MCNTM Report.</p> <p>R5--Watching caution spots is a safety related activity and can be executed only by a regular employee with adequate knowledge of train passing at work sites.</p> <p>The other activities (R6, R8, R9, R10 and R12) are unforeseen and not realistically quantifiable in advance. However they are to be executed as and when necessary and adequate manpower provision should be available in reserve to meet contingencies..</p> <p>Thus the manpower required for carrying out the above activities cannot be disallowed and the manpower for R activity should be 14691.05 only</p>

3	M	Page 29 of report—	<p>Monsoon patrolling (M1) and Watching vulnerable locations (M4) are important safety related activities and are being carried out as per the charts approved by HQ during every monsoon. Being HIGH PRIORITY SAFETY related activities, the manpower should be allowed as per the requirement as otherwise it may be detrimental to the safety.</p> <p>M5 Gate keeping at LCs—There are 29 LCs in double shift and 2 LCs in Triple Shift and the total mandays required is 23360.</p> <p>The man days for Waterman duty (M7) has been disallowed by the work study committee. The work study team while giving reply to the remarks of the Co-ordinating officer in the case of provision of look out man (vide page 36 of the report of Work study No.772021 SSE/P.Way/TJ section) has advised that, for inclusion of this activity in the MCNTM formula IRICEN/PUNE may be referred for updating.</p> <p>In that same spirit, any change in the requirement provided for in the MCNTM formula has to be referred to IRICEN/PUNE for correction and till such time correction is issued the deduction of mandays for these activities is not permissible.</p> <p>The manpower for Store watchmen has been reduced by 50% is agreed to.</p> <p>Hence the mandays for M activities should be 33155. Man days as per MCNTM —39360 Deduction of excess in Gate keeping—5110 Deduction of Store watchmen (1 No)—1095 (39360-5110-1095=33155)</p>
4	S	Page 29 of report— The manpower S2 & S4 have been disallowed	Any change in the requirement provided for in the MCNTM formula has to be referred to IRICEN/PUNE for correction and till such time correction is issued the deduction of mandays for any of the activities mandatorily covered under MCNTM is not permissible.
5	Additional mandays	Page 29 of report—On need basis some additional mandays have been allowed by Work Study team	While the division appreciates, the work study team for allowing additional mandays for some activities over and above the provisions of MCNTM, as the division is bound by the formula and strictly confined to the requirements provided for therein being universally adopted across all Railways, the additional mandays is not taken into account.

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6 Revised calculation of requirement--Page 31/32 of Report--			
Activity	As per Work Study Committee	As per Division	Remarks
T activity	4886.06	9824.60	Deduction for the activities is not acceptable in view of the remarks given against Sl.Nos. 1 above.
R activity	3442.84	14691.05	Deduction for the activities is not acceptable in view of the remarks given against Sl.No 2 above.
M activity	26562.00	33155.00	Deduction for the activities is not acceptable in view of the remarks given against Sl.Nos. 3 above.
S activity	480.00	1123.47	Vide remarks given against Sl.No.4 above.
Total man-days	35370.90	58794.12	
No of staff required(A)	122	202	
Mate & Key men (B)	24	24	
Trolley men (C)	10	10	
LR @ 12.5% on (A)+(B)+(C)	20	30	
Supervisors	6	6	Vide reply to recommendation-1 above
Artisan staff	6	6	
Total requirement	188	278	
15% reduction	28	42	
Net requirement	160	236	

As the calculated requirement is much higher than the available sanctioned posts, surrender of posts of Track Maintainer is not agreeable.

In addition, a kind reference is invited to CTE/MAS letter No.W.349/A/119/Vol.IV dated 22.8.2016 addressed to SDGM/MAS which clearly stated that insistence on surrender of posts of Trackman based on work study report is in contravention to the existing instructions issued by the Railway Board on the subject. In this connection, PCE/MAS endorsement in the report that "We cannot accept surrender of mate and trackmen" as communicated to the division in letter No.W.349/A 209/Work study/Vol.XVII dated 3.5.2017 also deserves mention.

In the light of the fore-going, the division will not be in a position to surrender any of the posts recommended in this work study report. It is requested that the report may kindly be closed.

SUBRAMANIAM
THIRUVARANGA
RAMALINGAM

Digitally signed by
SUBRAMANIAM
THIRUVARANGA RAMALINGAM
Date: 2021.05.19 11:03:29
+05'30'

Addl. Divisional Railway Manager

Copy to
CTE/MAS for kind information.
PCE/MAS for kind information.

Signed by S.t.ramalingam

Date: 19-05-2021 11:00:52

Reason: Approved