भारत सरकार / GOVERNMENT OF INDIA
रेल मंत्रालय / Ministry of Railways
दक्षिण रेलवे / Southern Railway

प्रधानकार्यालय/ Headquarters Office,
Planning Branch,
चेन्नै - 600 003/Chennai - 600 003.

No.G.275/WSSR-712021/2020-21

Dated: 12.01.2021.

DRM / MDU

Sub: Work study to review the Staff Strength at SSE/PWAY/SVKS -MDU 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 attached.

As the 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.

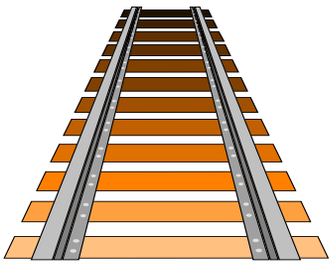
This has the approval of SDGM.

12/1/2021

(D. JAYARAMAN)
Dy. Chief Planning Officer
for Senior Deputy General Manager.

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 AT SSE/P.WAY/SVKS - MDU DIVISION

SOUTHERN RAILWAY

PLANNING BRANCH

G.275/WSSR-712021 /2020-21

WORK STUDY TO REVIEW THE STAFF STRENGTH

AT

SSE/PWAY/SVKS – MDU Division

STUDIED BY

WORK STUDY TEAM

OF

PLANNING BRANCH

JANUARY 2021

I N D E X

(i)

ACKNOWLEDGEMENT

The Work Study Team conveys its sincere thanks to Sr DEN (Co-ord), ADEN/S/MDU, SSE / P.Way / SVKS and other staff for their valuable guidance and co-operation in the conduct & completion of the study.

(ii)

AUTHORITY

Annual Programme of work studies for the year 2020-21.

(iii)

TERMS OF REFERENCE

Work Study to review the staff strength in Trackmen category at SSE/PWAY/SVKS – MDU Division.

(iv)

METHODOLOGY

1) Collection and analysis of data.
2) Interaction with Officials.
3) Critical examination of the existing system of working and reassessment of manpower requirement.

(v)

SUMMARY OF RECOMMENDATIONS

Recommendation-I:

1 Vacant JE post is identified as surplus which may be surrendered and credited to the Vacancy bank.

Recommendation-II:

10 posts of Track Maintainer-IV are identified as surplus which may be surrendered and credited to the Vacancy bank.

(TOTAL-11 Posts)

CHAPTER – I

1.0 INTRODUCTION

1.1 SSE/PWay/SVKS is a field Unit of Civil Engineering Department to look after the maintenance of track and other allied works.

1.2 CONTROL: This unit is under the overall control of Sr.DEN/Co-ord/MDU and under the direct supervision of ADEN/S/MDU.

1.3 Permanent Way is the major activity of the Engineering branch which is entrusted with the periodical maintenance of tracks, bridges, LC gates and other assets. A well maintained track is very essential for speedy, safety and efficient operation of trains. Continuous monitoring and Inspection is warranted daily in ensuring a reliable permanent way.

1.4 The modern technologies led the track maintenance techniques from the era of pick axe & shovel to the era of modern mechanized Track maintenance. The interconnection with S&T and TRD branches is a new development in the team work. The equipments for testing the track have become sophisticated not only in detecting the failures but also in preventive check. It will be worth mentioning the use of Ultrasonic Flaw Detector (USFD) equipment which detects even the minute air crack and blowholes in the rail which might develop into a rail crack leading to derailments.

1.5 The magnitude of outsource in maintenance activities paved way for a meticulous calculation to arrive at the manpower requirement in commensurate with the major developments taken place in the field of track maintenance.

1.6 The manpower requirements of SSE/PWI/SVKS is arrived based on the TRMS formula of CMCNTM, approved by Railway Board vide letter No.95/CE-1/CWS/2/ Vol.II/ Pt.II dt. 06.03.2006 which recommends incorporating the effects of Modernization once in 5 years such as introduction of more number of shoulder ballast cleaners, improving rail-weld technology, better design of SEJs, maintenance free level crossing track structure.

1.7 Substantial investments on Track machines over the years to improve the quality of Track structure and curtailment in the need of its annual maintenance led to the reduction in the number of staff deployed on the track maintenance activities.

1.8 **JURISDICTION**: SSE/P.Way/SVKS unit covers a total track length of 84.50 kms. The jurisdiction is from VPT (Ex) – SNKL (Ex) – Km 538.700 to Km 623.200. The break-up is given below.

Gang No	Jurisdiction		Length Kms
	From (Km)	To (Km)	
Gang 1	538.70	544.80	6.10
Gang 2	544.80	551.90	7.10
Gang 3	551.90	558.40	6.50
Gang 4	558.40	564.80	6.40
Gang 5	564.80	571.40	6.60
Gang 6	571.40	577.70	6.30
Gang 7	577.70	584.20	6.50
Gang 8	584.20	590.10	5.90
Gang 9	590.10	596.90	6.80
Gang 10	596.90	603.40	6.50
Gang 11	603.40	609.80	6.40
Gang 12	609.80	616.20	6.40
Gang 13	616.20	623.20	7.00
Total			84.50

1.9 **VARIOUS TYPES OF TRACK MACHINES:**

UNIMAT - Used for tamping all plain track including points and crossings. (Points & crossings tamping machine)

BCM - Used for deep screening of the ballast in the track. (Ballast cleaning machine)

CSM - Used for tamping all plain track excerpt points and crossing. (Continuous tamping machine)

TRT - Used to replace the complete track with new rails and sleepers. (Track relaying train)

BRM - Used to regulate the ballast available in the track. (Ballast regulating machine)

T-28 - Used to replace the existing points and crossing portion

with new assembled points and crossings.

UTV - Used to pick up the released sleeper & rails lying side of the Track and unload the same for further disposal. (Utility track vehicle)

DTS - Used to consolidate the track. (Dynamic track stabiliser)

SBCM - Used to clean the ballast in the shoulder area. (Shoulder ballast cleaning machine)

1.10 The Jurisdiction is managed by the following men as on October 2020 as per Sr/DPO/MDU.

Sl No	Designation	Pay Level	Sanction	Actual	Vacancy	Excess
1	SSE/P.Way/SVKS	7	1	1	0	0
2	SSE/P.WAY/VPT	7	0	1	0	1
3	SSE/P.WAY/RJPM	7	0	1	0	1
4	JE/P.Way	6	4	1	3	0
5	Clerk/ Works	2	1	1	0	0
6	OS / PB	6	1	1	0	0
7	Tech I / Smithy	5	1	0	1	0
8	Tech II / BS	3	0	2	0	2
9	Tech I / Carpenter	5	1	0	1	0
10	Tech I/ STM	5	0	1	0	1
12	Substitutes	1	0	1	0	1
13	Track Maintainer / I	5	17	14	3	0
14	Track Maintainer / II	4	34	8	26	0
15	Track Maintainer / III	2	34	35	0	1
16	Track Maintainer / IV	1	73	86	0	13
Total			**167**	**153**	**34**	**20**

1.11 The main components of permanent way or track are rails, sleepers, ballast, formation and fittings & fastenings.

- ✓ **Rails** act as girders to transmit the wheel loads of trains to the sleepers.
- ✓ **Sleeper**s hold the rails in proper position and provide the correct gauge with the help of fittings and fastenings and transfer the load to the ballast.
- ✓ **Ballast** is placed on prepared ground known as formation, which gives a uniform level surface, provide drainage and transfers the load to larger area of formation.
- ✓ **Formation** gives a surface, where the ballast rests and transmits the total load of the track and that of the trains moving on it to the ground below.

1.12 **Characteristics of a good Track:**

(i) Sound condition of rails, sleepers and fittings.

(ii) All fittings are available and properly tightened.

(iii) Adequate good quality and clean ballast under the sleepers and also around it with full shoulder width.

(iv) Wear in rails, horizontal or vertical should be within limits.

(v) Alignment of rails should be perfect and other defects should be within permissible limits.

(vi) Longitudinal and cross levels should be in good condition and within allowable limits.

1.13 Annual programme of track maintenance

The following programme is normally followed annually on Indian Railways for systematic maintenance of track as per IRPWM.

Period	Work
1. Post-monsoon attention. For about six months after end of monsoon.	a) Attention to run down length in the entire gang beat to restore section to good shape.
	b) One cycle of through packing from one end of the gang beat to the other end including overhauling of 1/3 to ¼ of the beat.
	c) Attention during the monsoon; For about 4 months cleaning of side drains, catch water drains, repairs to bank and picking up of slacks.
2. Pre-monsoon attention: for about 2 months prior to break monsoon.	a) Attention to track as required; picking up of slacks.
	b) Attention to side drains, catch water drains and water ways.
3. Lubrication of rail joints, gap adjustment and curve re-alignment	Patrolling of track during heavy rains.

1.14 Need for Mechanized Maintenance:

The mechanized maintenance of track implies the deployment of track machines for day to day track maintenance works which are otherwise done by manual labour. The need for mechanized maintenance of track is felt due to the following reasons.

(i) With the introduction of concrete sleepers, the track structure has become very heavy therefore it becomes difficult for the gang men to lift the track.

(ii) There are chances of breakage of concrete sleepers if the same are hit by gang man using the beaters.

(iii) Manual packing is very hard and strenuous job. It is not possible with manual maintenance to get good quality track which is essential for high speed operations.

1.15 Inspection of track:

Purpose of Inspection:

With the running trains, there is continuous degradation of track due to vibrations. The packing of sleeper gets disturbed, the fastenings become loose or some time come out of sleepers and there is general wear and tear in rails and sleepers.

The purpose of inspection of track is to detect various flaws such as

- looseness of packing,
- loose or missing fittings,
- wear in rail,
- disturbance in cross levels and versions in curves,
- deficiency of ballast,
- unusual movements in long welded rails,
- inadequate or excessive gaps at joints,
- defects at level crossings such as inadequate gap at check rail and
- condition of track and bridges in general.

  In IRPWM it is explained in detail, the inspection schedules for each Railway officials, supervisors and maintenance staff.

1.16 **Methods of Inspections:**

Various methods adopted for inspection are as under:

(a) By Push Trolley/ Motor Trolley

(b) By Engine of a fast train

(c) By rear most vehicle of a train and

(d) By Track recording Car.

1.17 **Latest implementation of track improvements:**

Track Monitoring:

Monitoring of track is carried out periodically using RDSO's track recording cars and Oscillograph cars and portable **Oscillation monitoring system** (OMS 2000) at regular intervals to assess the condition of the track in good fettle and safe for passage of trains. PC based OMS systems are being used as part of modernization. Detailed analysis of results of these runs has enabled this Railway to progressively improve the quality of track. Computer program has been developed to generate exception reports to enable field staff for early identification of location for planning maintenance.

Track Management System (TMS)

A web based Track Management System is implemented in all divisions as part of e-Governance and inspections of field staff are made in e-form and computer based monitoring of various track maintenance activities is introduced. Staffs are provided with note books and Data card upto field level and necessary training is imparted.

Indian Railways Projects sanctions and Management (IRPSM):

A web based IRPSM is implemented to process for works programme for all plan heads including Track Renewals as part of e-Governance. This facilitates access of data at all levels and progress monitoring of various sanctioned works/sanction of works.

1.18 The magnitude of outsource in maintenance activities paved way for a meticulous calculation to arrive at the manpower requirement in commensurate with the major developments taken place in the field of track maintenance.

The manpower requirement of this unit is arrived at, based on

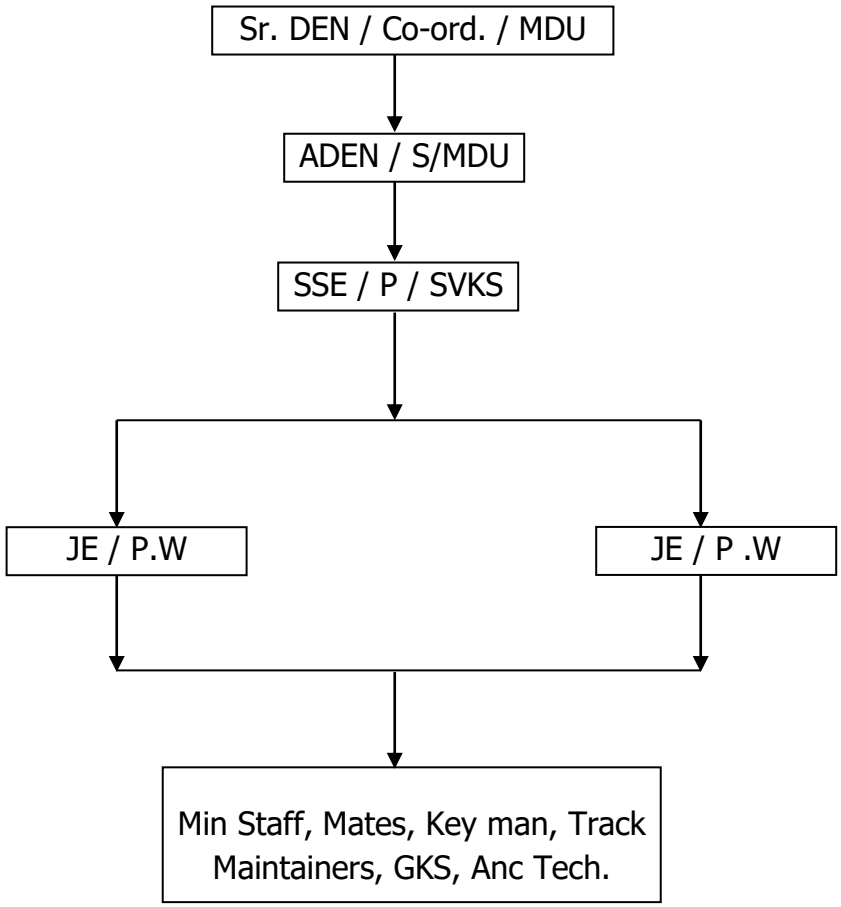
- The Rationalized formula, which was approved by Railway Board Order No. 95/CE-1/CWS/2/Vol.II/Pt.11 dt.06.03.06 in case of trackmen.
- Yard sticks / need basis in case of other category of staff.
- Revision of yardstick/normsof various O&M activities on the railways issued by Additional member (planning) Railway board vide letter No. 11-02019/SPMPS/Yardstick/2 dated 30.06.2020.

CHAPTER – II

2.0 PRESENT SCENARIO

2.1 Organization:

The Engineering department of MDU division is under the control of Sr.DEN (Co-ord)/MDU. The Permanent Way section of SVKS which is managed by SSE/PWAY/SVKS is under the direct & general control of ADEN/S/MDU.



2.2 The duties of Supervisors and Technical staff in P. Way section are:

i. Duties of SSE/P.way [prescribed in para118 -135 of Part-B of IRPWM]

- Responsible for maintenance and inspection of track and safe condition for traffic.
- Execution of all works incidental to track maintenance including track relaying works.
- Accountal and periodical verification of stores and tools.
- Maintenance of land boundary between stations and at unimportant stations.

- Co-ordination with the works, Bridge, Signaling and Electrical staff.
- Accompanying on Inspection with higher officials.
- 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.
- 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.

ii. Duties of JE/P.way: [prescribed in para136 -145 of Part-B of IRPWM]

- 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 crossings, Curves, foot plate inspection, rear vehicle inspection and foot inspection.

iii. P.Way Mistry /Track mate: [prescribed in para136-166 of Part- B of IRPWM]

- Knowledge of Rules and Signal
- Safety of the Track
- Equipments at site of work
- Muster and Gang Charts/Diary Books
- 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 Tress pass and theft of P.way fittings
- ❖ Relief arrangements in emergencies
- ❖ Assistance to S&T staff
- ❖ Assistance in protection of train and Assistance in placing fog signals
- ❖ Responsibilities of the mate in LWR track

iv. Duties of Key-man: [prescribed in para167 -170 of Part-B 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.

2.3 Track Maintenance Methods:

The para 228 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.

They are -

1. On track machines (OMU)
2. Mobile Maintenance unit (MMU)
3. Sectional gangs

The mobile maintenance units shall comprise of two groups:-

MMU-1:- One for each PWI section

MMU-2:- One for each Sub-division

MMU-1 shall be a Rail cum road vehicle with a PWI in-charge with a jurisdiction of 40-50 Kms. In double line and 90-100Km for single line for various works including need based spot tamping and rail welding.

MMU-2 shall be a road vehicle based unit with each sub-division for reconditioning of turnout and minor repairs to the equipments of MMU.

2.4 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.

2.5 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.

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

- The high safety standards that can be achieved
- The capability for higher axle load, speed etc.,
- The overall economy in cost of maintenance
- The accuracy in testing, checking and inspections that can be achieved through mechanization.
- The necessity to avoid harsh physical work under inclement weather and isolated locations.
- The speed of maintenance
- The need to carry out the maintenance works within the constraints of time for line block etc.,

2.6 The provisions of "Small Track Machines Manual":-

The para1.3.2 says that the "Requirement of Manpower doesn't include 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 Gang man /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.

2.7 The present deployment of Gang mates, Key men and Trackmen is given below.

Gang No	STN	Jurisdiction			Sanction				Actual			
		From	To	Length in Kms	Gang mate	Key man	Trackmen+ GK	Total	Gang mate	Key man	Trackmen +GK	Total
1	VPT	538/700	544/800	6.1	1	1	8	**10**	1	1	9	**11**
2	SLGM	544/800	551/900	7.1	1	1	8	**10**	1	1	5	**7**
3	TTL	551/900	558/400	6.5	1	1	8	**10**	1	1	3	**5**
4	SVKS	558/400	564/800	6.4	1	1	8	**10**	1	1	13	**15**
5	SVKS	564/800	571/400	6.6	1	1	8	**10**	1	0	7	**8**
6	SVPR	571/400	577/700	6.3	1	1	8	**10**	1	0	8	**9**
7	SVPR	577/700	584/200	6.5	1	1	8	**10**	1	0	11	**12**
8	RJPM	584/200	590/100	5.9	1	1	8	**10**	1	1	7	**9**
9	RJPM	590/100	596/900	6.8	1	1	8	**10**	1	1	10	**12**
10	CPM	596/900	603/400	6.5	1	1	8	**10**	1	1	7	**9**
11	CPM	603/400	609/800	6.4	1	1	8	**10**	1	1	10	**12**
12	KVNR	609/800	616/200	6.4	1	1	8	**10**	1	1	10	**12**
13	SNKL	616/200	623/200	7.0	1	1	8	**10**	1	0	6	**7**
TOTAL				**84.5**	**13**	**13**	**104**	**130**	**13**	**9**	**106**	**128**

2.8 SVKS SECTION FEATURES:

S. No	SVKS Section Features	
1	Route	VPT-SNKL (BG)
2	Total length of section	84.500 kms
3	Sub Section Jurisdiction:	
	SSE/PWAY/VPT@ SVKS (Gang No 1 to 7)	538/700 to 584/200
	SSE/PWAY/RJPM (Gang No 8 to 13)	584/200 to 623/200
4	No of crossing sections	3
5	Track Structure	52 kg rails; LWR: PSC Sleeper
6	Depth of ballast cushion	250 mm
7	Ruling Gradient	1 in 150
8	Total No of bridges	198 (Major 16 & Minor 180)
9	Total No of points & crossings	22
10	Total No of curves	29
11	Total No of SEJ & LWR	SEJ 12 & LWR 6
12	No of FOB	2
13	No of limited user subway	16
14	No of ROB	2
15	No of Level Crossing	27 (VPT-SVPR 16 & SVPR-SNKL 11) Tfc :5 & Engg : 22
16	Manned inter locked LC	Tfc:5 & Engg: 5
17	Manned Non interlocked LC	17
18	Maximum depth of cutting	1.35 m
19	Maximum permissible speed	100 KMPH
20	Cause way in this section	NIL
21	No of beats available	19
22	No of patrol men required	26

2.9 The 49 Trackmen are utilized to man 22 Engineering LC gates:

Sl no	LC no	Location	Between	Class	Interlocked / Non Interlocked	Number of Shifts
1	407	541/200-300	VPT – SVKS	A	Interlocked	3
2	410	544/400-500		C	Non Interlocked	2
3	417	550/800-900		C		2
4	423	559/100-200		C		2
5	424	559/700-800		SPL	Interlocked	3
6	425	560/800-900		C	Non Interlocked	2
7	428	565/100-200	SVKS – SVPR	C	Non Interlocked	2
8	431	570/000-100		C		2
9	434	573/100-200		C		2
10	435	573/700-800		C		2
11	436	575/800-900		C		2
12	442	582/300-400	SVPR - RJPM	C	Non Interlocked	2
13	444	583/800-900		B2		2
14	447	588/600-700		A	Interlocked	3
15	449	591/900-592/000		SPL	Interlocked	3

16	450	596/600-700	RJPM - SNKL	C	Non Interlocked	2
17	451	598/700-800		C		2
18	453	602/400-500		C		2
19	456	605/800-900		C		2
20	458	608/800-900		C		2
21	462	612/500-600		C		2
22	472	622/000-100		SPL	Interlocked	3

NOTE: For LC No 449 between RJPM-SNKL, provision for ROB is in process.

For LC No 424 between VPT-SVKS, proposal for ROB is in survey level.

2.10 Artisan staff:

Trade	San	Act	Remarks
Tech /I/Smithy	1	0	For routine maintenance of lifting barriers and Points and crossings, reconditioning of gang tools, opening and examination of manned and unmanned LCs, maintenance of SEJs, casual renewal of Rails / glued joints, defective welds.
Tech-II-BS	0	2	
Tech/I/Painter	0	0	For various kinds of painting works
Tech/I/Carpenter	1	0	For maintenance of wooden sleepers in girder bridge, Winch platforms in LCs (Manned) and PF struts in stations.
Tech/I/STM	0	1	For Maintenance and operation of small track machines.
Total	2	3	

2.11 Other staff:

Sl no	Designation	San	Act
1	OS / PB	1	1
2	CLERK / WB	1	1
3	Lascar	0	2
4	Peon	0	1
Total		2	5

2.12 As per executive summary of the said MCNTM report para 0.13, 12.5 % LR is allowed for all non-supervisory and non-secretarial category staff. The Rational formula covers all activities as per para 0.14 of the report.

As per para 0.20 Annual Review of gang strength is to be conducted on every 1st of April continuously. IRICEN will be custodian of software for calculating man power.

EMKM (Equated Man power Kilometre) will replace ETKM (Equated Track Kilometre) as performance unit.

Equated Cost Kilometre (ECKM) can be evolved as performance unit in future.

EMKM is defined as numerically equal to 0.6 times of the number of track men required for the section for all the activities T, R, M & S as per rational formula.

2.13 TRACK MAINTENANCE ACTIVITIES

The whole activities connected to Track Maintenance are clubbed under four main categories under CMCNTM studies. They are:

a) Activity 'T' – Affected by Traffic Density
b) Activity 'R' – Not affected by Traffic Density } Primary activities
c) Activity 'M' – Miscellaneous
d) Activity 'S' – Site specific } Auxiliary activities

2.14 ACTIVITY 'T' – AFFECTED BY TRAFFIC DENSITY

T_1	-	Slack attention to	a) Bad spots b) Low joints (FishPlate, 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	

2.15 ACTIVITY 'R' – Not affected by Traffic Density

R_1 - Lubrication of Elastomeric Rail Clips
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 removal 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.

2.16 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

2.17 ACTIVITY 'S' – Miscellaneous

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

(T.R.M.S details are enclosed as Annexure – III)

CHAPTER – III

3.0 CRITICAL ANALYSIS

3.1 The laying and maintenance of P.Way is a laborious task right from survey, sanction of funds, acquisition of land, construction through undulated and difficult terrains of mountains, rivers, ravines etc. Bridges, tunnels cuttings, gradients, curves, draining of water etc., pose big challenges not only for construction but also for maintenance.

3.2 Engineering Branch in Indian Railways has progressed by leaps and bounds from the time of Clark and Robert Stephenson. Bridges and tunnels running to a length of even 7 kilometres and 350m height, underground track running for long stretches etc., has become the order of the day. The gruesome manual maintenance of the track has given way to highly mechanized maintenance practices.

3.3 TROLLEY MOVEMENTS:

The details of Trolley inspections conducted during the last one year is as per schedule.

1	SSE/P.WAY/SVKS in charge	Monthly once between VPT (excl)--SNKL
2	SSE/P.WAY/VPT sub section	Monthly twice between VPT(excl)--SVPR
3	SSE/P.WAY/RJPM sub section	Monthly once between SVPR—SNKL(excl)

3.4 SOME REFERENCES FROM MCNTM REPORT 2000

(a) The MCNTM Committee recommends that the effort to improved rail welds should receive adequate thought and that a review should made after 5 years from now, so as to avoid reduction factors to be applied for the yard stick of man power requirement for SWR/LWR track (Para 0.4).

(b) Rational formula can be amended easily by recasting the relevant tables. The Committee recommends that the Rational Formula can be reviewed once in five years and amended (Para 0.8 & 4.15)

(c) Possible man power savings by deploying on track tampers for machine packing on BG

(d) The Pilot study has given confidence that the implementation of Rationalized formula will only result in savings in manpower and expenditure, at the same time ensuring equitable distribution of manpower in accordance with workload (Para 9.5 to 9.7 of MCNTM).

(e) As and when modernization in various sub-activities progresses, some of the sub-activities may reduce in part or vanish, or these many require less man power (Para 4.13 of MCNTM).

(f) The Committee recommended the Railway Board may order review of the Rational formula once in 5 years to incorporate the effects of modernization , such as introduction of more number of shoulder ballast cleaners, improving Rail weld technology, maintenance free level crossing track structures etc. (para 4.15 of MCNTM).

(g) **Hot Weather patrolling**

In zones of less temperature variation and in the case of track structure with adequate lateral strength, hot weather patrolling can be dispersed with as decided by CTE (Para 6.2.2 of MCNTM)

(h) **Cold weather patrolling**

CTE should authorize the need for this activity (Para 6.2.3 of MCNTM).

(i) **Gate keepers**

Only RG need be given from Trackman (para 6.2.5 of MCNTM)

3.5 The MCNTM Committee had not differentiated the requirements for SWR and LWR due to the problems then experienced in SEJ (Switch Expansion Joints) on account of poor welding technology. But the situation has now improved, and a distinction is warranted now between SW & LW track.

3.6 MCNTM & TRMS FORMULA

The report of MCNTM & TRMS Formula will convince us the need for rightsizing the manpower for track maintenance. It should be kept in mind that the very TRMS formula was evolved by studying the conditions existed during 1996 – 2000 period ie., when the mechanization was only in the experimental stage and when a good portion of the lines were in MG. Though the report was accepted in 2006 only, the basic points in the report are drawn from the above period.

3.7 INFERENCES :

a) The TRMS formula was approved in 2006 and it should have been implemented everywhere now.

b) The TRMS formula itself is 16 years old and requires periodical review.

c) The CMCNTM REPORT itself calls for annual review of staff strength based on the progressive mechanization and new technologies.

d) The very discarding of basic unit of the ETKM (Equated Track Kilometre) and the replacement of the same by Equated Manpower Kilometre (EMKM) and suggestions to transform it on Equated Cost Kilometre (ECKM) underscores the stress on manpower economy and cost economy in this field. So the work study is supposed to exercise a review on the TRMS formulae itself.

3.8 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, WILD (wheel impact load detector)etc.,
d) The longevity ensured due to mechanized laying of track and construction / inspection methods.
e) The supervisory element of work in the contracts.

3.9 Observation during the field study:

The work study team conducted a field study at SSE/P.WAY/SVKS.

During the interaction with the SSE/P.WAY/SVKS, it was stated that about 13 Track Women are available in this unit. They are utilized as Key women, for patrolling or any Track repair works and as gate keepers.

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
5. Heavy repairs to track, including lifting
6. Complete realignment of curved track
7. Through renewal of rails, Sleepers and fosterers
8. Complete renewal of points and crossings, SEJs, traps etc
9. Resurfacing of crossings and switch rails
10. Loading and unloading of P.Way materials is bulk
11. Loading out of P.Way materials for other than casual renewal
12. Security of materials kin a depot which is closed and locked
13. Painting of Rails and weld collars
14. Painting of bridge girders
15. Heavy repairs(Measurable) to formation cutting bides drains and catch water
16. Heavy repairs (measurable) to bridges, bridge protection works, river training works and tunnels.
17. Removal of major sand breaches
18. Works arising due to restoration following breach or accident
19. 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 depts.

As per TRMS formula, the following are Man days worked out for T & R activities.

T Activity	-	10470.65 Man days *(Without shallow screening it is 8045.29)
R Activity	-	14073.48 Man days
Total	**-**	**24544.13 Man days**

***This includes Man days for Shallow screen activities.**

"T" Activity:

Under `T` activity, almost all the activities has already been carried out by the Track machines. Out of the total 11 activities under "T" the four activities (T_{2a}: Pre-tamping operations $_{3a:}$ Casual renewal of rails, T_{3b}: Casual renewal of sleepers &$T_{4:}$ Repair welding) are the major activities that require more man power comparing the other

minor activities. These activities constitute more than 50% of the total work load under T activity. The other sub activities under T also do not arise often since the entire line is laid with a 60 kgs / 52 kgs rails.

"R" Activity: The following sub activities have been suggested for outsourcing;

1. R_1 - Greasing of ERCs
2. R_3 - Loading, Leading & Unloading
3. R_4 - Overhauling of LCs (suggested by CTE)
4. R_6 - Tree cutting for visibility (suggested by CTE)
5. R_7 - Lubrication of Rails in curves (suggested by CTE)
6. R_{10} - Pre-monsoon attention (suggested by CTE)
7. R_{11} - Creep pulling (suggested by Rly. Board).

Out of the total 12 activities under "R" these 7 activities listed above are the major ones that have the potential for outsourcing. . These activities constitute more than 60% of the total workload under "R" activity.

M – Activity:

Monsoon patrolling	-	2684.00	Man days
Hot weather patrolling	-	2391.00	Man days
Cold weather patrolling	-	956.40	Man days
Vulnerable locations	-	000.00	Man days
Gate keeping	-	782.00	Man days
RG for key men	-	923.00	Man days
Waterman	-	3822.00	Man days
Store watchman	-	1095.00	Man days
Total Man days	**-**	**12653.40**	**Man days**
Less: Waterman Man days & Gate keeping (3822+782)	**-**	**4604.00**	**Man days****
		8049.40	**Man days**
Less: Extra Monsoon patrolling (3 beats extra as per TRMS)	**-**	**366.00**	
Net M--: activity		**7683.40**	**Man days**

** In the present changed scenario, waterman duty is no longer in existence anywhere in Southern Railway and as such there are 5 railway stations in this section with an inter distance

of 4.5 Kms on an average, where sufficient water is available. Hence the man days allotted for waterman duty are found excess and the same has been deducted from the total man days. The requirement of man power for gate keeping is worked out separately.

S – Activity:

- Bridge structure maintenance - 381.15 Man days
- Long Grider Maintenance - 000.00 Man days
- Extra for very sharp curves - 000.00 Man days
- Extreme bad formation - 8160.00 Man days
- Lookout man Man days - 496.02 Man days
- Filth removal - 1764.00 Man days
- Security Patrolling - 270.00 Man days
- Fog signal man - 240.00 Man days
- **Total** **11311.17 Man days**

Less: Filth Removal : 1764.00 Man days

9547.17 Man days

3.10 DISALLOWED MAN DAYS IN T ACTIVITY:

(As per the recommendations of CMCNTM for outsourcing)

ACTIVITY		T activity man days	DISALLOWED MAN DAYS (Due to outsourcing)	
Slack attention to:		8045.29		
T-1(a)	Bad spots		35x8045.29/126	2235
1(b)	Low joints, glued joints		16x8045.29/126	1022
T-2(a)	Pre tamping operations		10x805.29 /126	639
2(b)	Along with tamper		3x8045.29/126	192
2(c)	Post tamping operations		14x8045.29/126	894
T-3 (a)	Casual renewal of rails		6x8045.29/126	383
T-4	Repair welding		12x8045.29/126	766
Total disallowed man days				**6131**

T activity after disallowed man days: 8045.29-6131 = 1914.29

3.11 DISALLOWED MAN DAYS IN R ACTIVITY:

(As per the recommendations of CMCNTM for outsourcing)

ACTIVITY	R activity man days	DISALLOWED MAN DAYS (Due to outsourcing)	
R(1): Lubrication of ERCs	14073.48	2x14073.48/159	177
R(2): Shallow screening		55x14073.48/159	4868
R(3):Loading, leading & unloading		20x14073.48/159	1770
R(4):Overhauling of level crossing		13x14073.48/159	1151
R(11):Creep pulling		5x14073.48/159	443
Total disallowed man days			**8409**

R activity after disallowed man days: 14073.48-8409 = 5664.48

3.12 Gang strength:

Total Route Km - 84.50 Kms

Man days 'T' - 1914.29 Man days

Man days 'R' - 5664.48 Man days

Man days 'M' - 7683.40 Man days

Man days 'S' - 9547.17 Man days

Total T+R+M+S - 24809.34 Man days

3.13 **CALCULATION OF REQUIREMENT OF TRACK MEN:**

No. of working days : 291

Total Man days required as T, R, and M & S for Performing Track maintenance duties : 24809.34 Man days

No. of staff required as per T, R, M & S : 24809.34 / 291

: 85.25 Staff or say 85 staff

LR @ 12.5% : 10.66 say 11 Staff

Total gang strength : 85 + 11 = 96

Total staff requirement of trackmen = 96
Requirement of Gate keepers (including RG (4x3 &17x2) + 16.66% of46 (46+8) = 54
Gang man & key man = 26

Requirement of Ministerial staff	**=**	**2**
Requirement of Artisan staff	**=**	**2**
SSE+JE (1+3)	**=**	**4**

TOTAL	**=**	**184**
Less: 15% standard deduction as per RB letters No 11-2019/SPMPS /yardstick/2 Dated 30.06.2020.	=	**28**
		----------
		156 staff

The requirement of SSE/PWAY/SVKS is 156 which will lead to surplus of 11.

3.14 SANCTION VS REQUIREMENT:

SL No	CATEGORY	LEVEL	SAN	ACT	Requirement	Surplus
1	SSE/PWAY/SVKS	7	1	1	1	-
	SSE/PWAY/VPT	7	0	1	0	-
	SSE/PWAY/RJPM	7	0	1	0	-
2	JE/PWAY/SVKS	6	4	1	3	1
3	Tech-I Carpenter	5	1	0	1	-
4	Tech- I Smithy	5	1	0	1	-
5	Tech-I STM	5	0	1	0	-
6	Tech-II Black smith	3	0	2	0	-
7	OS/PB	6	1	1	1	-
8	Clerk/Works	2	1	1	1	-
9	Track Maintainer-I	5	17	14	17	-
10	Track Maintainer-II	4	34	8	34	-
11	Track Maintainer-III	2	34	35	34	-
12	Track Maintainer-IV	1	73	86	63	10
13	Substitutes	1	0	1	0	-
TOTAL			**167**	**153**	**156**	**11**

Recommendation-I:

One vacant JE post is identified as surplus which may be surrendered and credited to the Vacancy bank.

Recommendation-II:

Ten posts of Track Maintainer-IV are identified as surplus which may be surrendered and credited to the Vacancy bank.

(TOTAL-11 Posts)

CHAPTER -IV

4.0 PLANNING BRANCH'S REMARKS ON CO-ORDINATING OFFICER'S VIEWS

The remarks from the coordinating officer is received on 8.1.21 vide letter No

ADEN/S/S/16 is reproduced below with the remarks of the planning branch.

1. Coordinating officer's remarks:

In para 3.3 the trolley inspection of sub-section SSE of SVKS section at VPT has been mentioned as monthly twice but the same of sub-section SSE of SVKS section at RJPM has been mentioned as monthly once erroneously instead of monthly twice.

Planning Branch remarks:

Noted. As per the data given by the SSE/PWAY/SVKS, it has been mentioned once in a month. However, it has been changed as per the remarks of the coordinating officer.

The details of Trolley inspections conducted during the last one year is given below.

1	SSE/P.WAY/SVKS in charge	Monthly once between VPT (excl)--SNKL
2	SSE/P.WAY/VPT sub section	Monthly twice between VPT(excl)--SVPR
3	SSE/P.WAY/RJPM sub section	Monthly twice between SVPR—SNKL(excl)

2. Coordinating officer's remarks:

In para 3.9, it has been mentioned that about 13 Track Women are available in this unit and they are utilized as Key women, for patrolling or any Track repair works and as gate keepers is not correct. Reality is some of them who are permanently working in the track cannot be utilised for track activities like transporting of Rails, switches and crossings in case of requirement of renewals. So also in the case of any Rail/weld failures they are not in a position to carryout laborious works like transporting and renewing of Rails and related welding works is required to be noted by the study team.

Planning Branch remarks:

Noted. During the interaction with the SSE/P.WAY/SVKS, it was stated that about

13 Track Women are available in this unit. They are utilized as Key women,

for patrolling or any Track repair works and as gate keepers.

3. Coordinating officer's remarks:

Also in the same para while analyzing T activity, it has been observed that the works to be done 'During tamping works and Post tamping works' are erroneously omitted since these activities are compulsorily being done by the gangs only and there is no alternate available for these activities and the man days reduced for these to be necessarily added for calculation.

Planning Branch remarks:

Noted. As per the MCNTM report, these activities are potential for outsourcing and administration may initiate steps for outsourcing and if it is outsourced the man power may be withdrawn for these activities.

4. Coordinating officer's remarks:

Also it has been observed in M activity that,

'** In the present changed scenario, waterman duty is no longer in existence anywhere in Southern Railway and as such there are 5 railway stations in this section with an inter distance of 4.5 Kms on an average, where sufficient water is available. Hence the man days allotted for waterman duty are found excess and the same has been deducted from the total man days – this is not correct and wherever the gang work in the mid section, one man is detailed for this duty as it has been strongly objected by organized labour and it is still continuing. Hence the man days under this cannot be eliminated.

Similarly, even though the requirement of man power for gate keeping is worked out separately, the actual man days lost due to the manpower deputed to LC gates for RG and LR is more and hence requires revision before elimination of man days.

Planning Branch remarks:

The jurisdiction is not isolated open area and also the whole section stations all have water facility including most of the LC gates in between the stations. Also to carry required water, individual water bottles (Milton made- 2 litres) was supplied to every track man by the department. Hence, the work study team is not able to consider allowing water man days duties.

Hence, the remark of CO is not agreed to.

Regarding, the manpower for gate duties is allotted based on the classification of the gates. Moreover, the required LR&RG (12.5% &16.6%)is provided separately and so, there is no need for any revision as per requirement of the coordinating officer.

5. Coordinating officer's remarks:

In para no 3.10 it has been mentioned in the tabular column that for about seven works under T activities man days of 6131 has been disallowed which is totally not correct as all the 7 works are being carried out by the sectional gangs only and none of the work has since been outsourced in this section. Also it is pertinent to mention here that since the welds in the track have attained an age of about 18 years lot of welds have been found worn-out and cupping of welds is noticed in more length resulted in disturbance to packing and requires repeated manual

packing at welds. In fact a work of through weld renewal was sanctioned at these locations but due to various Administrative reasons the work was dropped. Hence these man days should not be eliminated from the manpower calculation.

Planning Branch remarks:

Noted. As per the MCNTM report, these activities are potential for outsourcing and administration may initiate steps for outsourcing and if it is outsourced the man power may be withdrawn for these activities.

6.Coordinating officer's remarks:

Similarly in para 3.11, except shallow screening work all the other 4 works are being carried out by sectional gangs and these relevant man days should also be included for man power calculation compulsorily.

Planning Branch remarks:

Noted. As per the MCNTM report, these activities are potential for outsourcing and administration may initiate steps for outsourcing and if it is outsourced the man power may be withdrawn for these activities.

7.Coordinating officer's remarks:

Also it is requested that the standard deduction of 15% should not be considered for this section as most of the track attention is still being carried out manually only, since none of the track machine is detailed to this section as discussed in the study. Lot of machines have been discussed in the study but the deployment of machine to this section is very rare as there is a huge demand available always for track machines in other main line sections of the division. More length of track has since been gauge converted but the availability and supply of track machines do not match with the length of BG track available after gauge conversion and doubling. Some more length of track is under doubling and going to be added to division on main lines. So the non availability of track machine to this section will be very limited than the present situation is also an important point to be mentioned here. Hence elimination of man days under certain works even before actual outsourcing is not a correct one so far as this section is concerned.

Planning Branch remarks:

Deduction of 15% standard deduction is done as per RB letter No 11-2019/SPMPS /yardstick/2 dated 30.06.2020 in order to reduce man power in all departments as an interim measure w.e.f 01.07.2020. The interim reduction will automatically get superseded once the final revision of Yardstick/Norms are issued.

CHAPTER – V

5.0 FINANCIAL SAVINGS

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

Sl. No.	Category	Grade pay (Rs.)	No. of posts	Money Value (Rs.)	Annual Financial savings (Rs.)
1	JE	4200	1	86463	10,37,556
2	Track Maintainer-IV	1800	10	43817	52,58,040
TOTAL			**11**		**62,95,596**

MANPOWER

MANDAYS T,R

AS ON: 31/03/2019

DIV : MDU

Senior Section Engineer Unit : SVKS

Segment No.	Gauge	Segment Name	GMT	Maintenance Type	Track km of Segment	Length of LWR in the Segment	Composite Factor 1+A+B+C	Mandays Required for T Activities	Mandays Required for R Activities	Mandays for T+R
A	B	C	D	E	F	G	H	I	J	K
1	BG	SL	3.3	MECHANISED	86.62	79.70	1.0618	8045.29	13772.58	21817.87
2	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
3	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
4		0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
5		0	0.0	0	0.00		1.0000	0.00	0.00	0.00
6	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
7	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
8	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
9	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
10	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
11	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
12	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
13	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
14	0	0	0.0	0	0.00	0.00	1.0000	0.00	0.00	0.00
15	0	0	0.0	0	0.00		1.0000	0.00	0.00	0.00
16		0	0.0	0	0.00		1.0000	0.00	0.00	0.00
17		0	0.0	0	0.00		1.0000	0.00	0.00	0.00
18		0	0.0	0	0.00		1.0000	0.00	0.00	0.00
19		0	0.0	0	0.00		1.0000	0.00	0.00	0.00
20		0	0.0	0	0.00		1.0000	0.00	0.00	0.00
Total					86.62	79.70		8045.29	14073.48	22118.77

Summary Mandays T,R	Activity T	Activity R	Total Mandays
BG	10470.65 Mandays*	14073.48 Mandays	24544.13

MANDAYS M

DIV : **MDU**

Senior Section Engineer Unit Name : SVKS

AS ON: 31/03/2019

Gauge	Monsoon Patrolling		Hot/Cold Weather Patrolling of LWR					Vulnerable Locations		Gate Keeping			Rest Giver for Keymen		Waterman		Store Watchman		Total
	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 Cadre of Gatemen	Mandays Required	No of Keymen	Mandays Required	No of Gangs	Mandays Required	No of Site Stores	Mandays Required	Total Mandays Required For M Activities
	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
A	22	2684.00	79.70	79.70	79.70	2391.00	956.40	0	0.00	20	47	782.00	13	923.00	13	3822.00	1	1095.00	12653.40
BG	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
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	22	2684.00	79.70	79.70	79.70	2391.00	956.40	0	0.00	20	47	782.00	13	923.00	13	3822.00	1	1095.00	12653.40

MANDAYS S

AS ON 31/03/2019

DIV: MDU

Senior Section Engineer Unit Name : SVKS

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	1176.57	381.15	0	0.00	0.00	0.00	0.00	13600.00	8160.00	496.02	360	240	120	240.00	6	1764.00	405	270	135	270.00	11311.17
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	1176.57	381.15	0	0.00	0.00	0.00	0.00	13600.00	8160.00	496.02	360	240	120	240.00	6	1764.00	405	270	135	270.00	11311.17

GANG STRENGTH

DIV: MDU

Senior Section Engineer Unit Name: SVKS

AS ON : 31/03/2019

Sr. No.	Gauge	Total Track KM	Mandays T	Mandays R	Mandays M	Mandays S	Total Mandays T+R+M+S	No of Mates & Keyman	Leave Reserve	Calculated Gang Strength	Sanctioned Gang Strength Excluding Mate, Keymen and DC Gangmen	Sanctioned Decasualised Gangmen Posts	Excess(+) Shortage(-)	Available Manpower
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	BG	86.62	10470.65	14073.48	12653.40	11311.17	48508.70	26	24	189	158		-31	62
2	MG	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0			0	
3	NG	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0			0	
Total		86.62	10470.65	14073.48	12653.40	11311.17	48508.70	26	24	189	158	0	-31	62

THE PRESENT DEPLOYMENT OF GANG MATES,KEYMAN AND TRACKMAINTAINER OF SSE/PWAY/SVKS SECTION

GANG NO	STN	JURISDICTION			SANCTION				ACTUAL			
		FROM	TO	LENGTH IN kms	GANG MATE	KEYMAN	TRACK MAINTAINER+ GK	TOTAL	GANG MATE	KEYMAN	TRACK MAINTAINER+ GK	TOTAL
1	VPT	538/700	544/800	6.1	1	1	8	10	1	1	9	11
2	SLGM	544/800	551/900	7.1	1	1	8	10	1	1	5	7
3	TTL	551/900	558/400	6.5	1	1	8	10	1	1	3	5
4	SVKS	558/400	564/800	6.4	1	1	8	10	1	1	13	15
5	SVKS	564/800	571/400	6.6	1	1	8	10	1	0	7	8
6	SVPR	571/400	577/700	6.3	1	1	8	10	1	0	8	9
7	SVPR	577/700	584/200	6.5	1	1	8	10	1	0	11	12
8	RJPM	584/200	590/100	5.9	1	1	8	10	1	1	7	9
9	RJPM	590/100	596/900	6.8	1	1	8	10	1	1	10	12
10	CPM	596/900	603/400	6.5	1	1	8	10	1	1	7	9
11	CPM	603/400	609/800	6.4	1	1	8	10	1	1	10	12
12	KVNR	609/800	616/200	6.4	1	1	8	10	1	1	10	12
13	SNKL	616/200	623/200	7	1	1	8	10	1	0	6	7
		TOTAL kms		84.5	13	13	104	130	13	9	106	128

SSE/PWAY/SVKS

SOUTHERN RAILWAY						
SCALE CHECK STATEMENT OF SSE/P.WAY/SVKS SECTION						
Bill Unit No. 0604085			October-2020			
Sl.No.	Catgeory	Pay Level	Sanction	Actual	Vacancy	Remarks
1	SSE/P.WAY/SVKS	7	1	1	*	
2	SSE/P.WAY/VPT	7	*	1	*	Excess-1
3	SSE/P.WAY/RJPM	7	*	1	*	Excess-1
4	JE/P.WAY	6	4	1	3	
5	OS/PB	6	1	1	*	
6	Clerk/Works	2	1	1	*	
7	Tech/1/Smithy	5	1	*	1	
8	Tech/I/ Carpenter	5	1	*	1	
9	Tech/I/STM	5	*	1	*	Excess-1
10	Tech/II/BS	3	*	2	*	Excess-2
11	Track Maintainer-I	5	17	14	3	
12	Track Maintainer-II	4	34	8	26	
13	Track Maintainer-III	2	34	35	*	
14	Track Maintainer-IV	1	73	84	*	
15	Lascar	1	*	2	*	Excess-2
16	General Assistant	1	*	1	*	Excess-1
	Total		167	153	34	

(48)

RAIL/WELD FAILURE FOR 2012-20

YEAR	Failure No.	DATE	LOCATION	BETWEEN STATIONS	WF/RF	REMARKS
2012	1	15/12/2012	554/900-555/000	VPT-SVKS	WF	
2013	1	13/9/2013	597/600-700	RJPM-SNKL	WF	
	2	11-04-2013	615/700-800	RJPM-SNKL	WF	
2014	1	02-06-2014	614/900-615/000	RJPM-SNKL	WF	
	2	06-07-2014	553/400-500	VPT-SVKS	SEJ	
	3	22/08/2014	584/400-500	SVPR-RJPM	WF	
2015	NIL					
2016	NIL					
2017	NIL					
2018	1	13/08/2018	573/300-400	SVKS-SVPR	WF	
	2	16/08/2018	571/300-400	SVKS-SVPR	WF	
	3	11-03-2018	619/700-800	RJPM-SNKL	WF	
2019	1	24.02.2019	615/700-800	RJPM-SNKL	WF	
	2	28.7.2019	617/000-100	RJPM-SNKL	WF	

No of Trolley Available in SSE/P.WAY/SVKS Section.

S.No	Types of Trolley	Nos	Remarks
1	Push Trolley	3	
2	Moped Trolley	1	
3	Dip Lorry	1	

List of Level Crossings in SSE/P.WAY/SVKS section

ABSTRACT

Total No of LCs	27	Number of Non-Interlocked LCs - 17	
Manned Engg LCs	22	Number of Interlocked Engg LCs - 5	
Manned Traffic LCs	5	Number of Interlocked Traffic LCs - 5	

SL No.	LC No	KM / TP	Between stations	Class	Manned	Traffic/ Engg	Interlocked Non-Interlocked	Date of O & E	TVU	Census Taken MM/YY
1	407	541/200-300	VPT-SVKS	A	Manned	Engg	Interlocked	08/11/19	46,349	02/2019
2	410	544/400-500	VPT-SVKS	C	Manned	Engg	Non-Interlocked	15/05/18	3.873	02/2019
3	417	550/800-900	VPT-SVKS	C	Manned	Engg	Non-Interlocked	17/05/18	4,983	03/2019
4	423	559/100-200	VPT-SVKS	C	Manned	Engg	Non-Interlocked	09/10/17	19393	03/2019
5	424	559/700-800	VPT-SVKS	SPL	Manned	Engg	Interlocked	10/10/17	125829	02/2019
6	425	560/800-900	VPT-SVKS	C	Manned	Engg	Non-Interlocked	19/05/18	5038	02/2019
7	426	562/100-200	VPT-SVKS	B	Manned	Traffic	Interlocked	21/08/18	52.910	02/2019
8	427	563/100-200	SVKS-SVPR	SPL	Manned	Traffic	Interlocked	22/08/18	1,33,212	03/2019
9	428	565/100-200	SVKS-SVPR	C	Manned	Engg	Non-Interlocked	20/05/18	10,389	03/2019
10	431	570/000-100	SVKS-SVPR	C	Manned	Engg	Non-Interlocked	21/05/18	2,871	02/2019
11	434	573/100-200	SVKS-SVPR	C	Manned	Engg	Non-Interlocked	22/05/18	6,952	02/2019
12	435	573/700-800	SVKS-SVPR	C	Manned	Engg	Non-Interlocked	22/05/18	3597	02/2019
13	436	575/800-900	SVKS-SVPR	C	Manned	Engg	Non-Interlocked	23/05/18	1,771	03/2019
14	441	579/900-580/000	SVPR-RJPM	B1	Manned	Traffic	Interlocked	24/08/18	31,416	03/2019
15	442	582/300-400	SVPR-RJPM	C	Manned	Engg	Non-Interlocked	24/05/18	17,468	03/2019
16	444	583/800-900	SVPR-RJPM	B2	Manned	Engg	Non-Interlocked	25/08/18	20262	03/2019
17	447	588/600-700	SVPR-RJPM	A	Manned	Engg	Interlocked	09/10/17	41,206	03/2019
18	448	590/100-200	SVPR-RJPM	SPL	Manned	Traffic	Interlocked	29/08/18	74,855	02/2019
19	449	591/900-592/000	RJPM-SNKL	SPL	Manned	Engg	Interlocked	10/10/17	52,910	02/2019
20	450	596/600-700	RJPM-SNKL	C	Manned	Engg	Non-Interlocked	05/05/18	6,116	02/2019
21	451	598/700-800	RJPM-SNKL	C	Manned	Engg	Non-Interlocked	06/05/18	5,158	03/2019
22	453	602/400-500	RJPM-SNKL	C	Manned	Engg	Non-Interlocked	07/05/18	12,265	02/2019
23	456	605/800-900	RJPM-SNKL	C	Manned	Engg	Non-Interlocked	03/05/18	2,420	02/2019
24	458	608/800-900	RJPM-SNKL	C	Manned	Engg	Non-Interlocked	22/03/18	19,965	02/2019
25	462	612/500-600	RJPM-SNKL	C	Manned	Engg	Non-Interlocked	27/05/18	7,590	03/2019
26	472	622/000-100	RJPM-SNKL	SPL	Manned	Engg	Interlocked	10/05/18	91,828	03/2019
27	473	623/100-200	RJPM-SNKL	C	Manned	Traffic	Interlocked	11/05/18	7,931	03/2019

GANG DETAILS OF SSE/P.WAY/SVKS SECTION					
Sl No	Gang No	Jurisdiction of Gangs		Tool Box KM	Remarks
		From	To		
1	1/Virudunagar	538/700	544/800	541/200-300	VPT
2	2/Sankaralingapuram	544/800	551/900	550/800-900	SLGM
3	3/Tiruthangal	551/900	558/400	559/100-200	TTL
4	4/Sivakasi	558/400	564/800	SVKS Station	SVKS
5	5/Sivakasi	564/800	571/400	565/100-200	SVKS
6	6/Srivilliputtur	571/400	577/700	573/100-200	SVPR
7	7/Srivilliputtur	577/700	584/200	SVPR Station	SVPR
8	8/Rajapalayam	584/200	590/100	588/600-700	RJPM
9	9/Rajapalayam	590/100	596/900	RJPM Station	RJPM
10	10/Cholapuram	596/900	603/400	602/400-500	CPM
11	11/Cholapuram	603/400	609/800	605/800-900	CPM
12	12/Karivalamvantha nallur	609/800	616/200	612/500-600	KVNR
13	13/Sankarankovil	616/200	623/200	622/000-100	SNKL

Section wise Engineering Department BOS as on 01.04.2020.

SL_NO	OLD SL_NO	SECTION	CATEGORY CODE	CATEGORY	B_NO	PAYBAND	Level	2018-2019						2019-2020								
								Sanc- Per	SANC_TY	SNP	SANC_WC	SANC_TOT	ONROLL	SANC	SANC_TY	SNP	SANC_WC	SANC_TOT	ONROLL	Ty. Post convert into Per.	No. of surrendered
232	231	PW/SVKS	0558	JE/SE/SSE(PERMANENT W	85	9300-348	7	1	0	0	0	1	2	1	0	0	0	1	3	0	0
233	230 & 232	PW/SVKS	0558	JE/SE/SSE(PERMANENT W	85	9300-348	6	4	0	0	0	4	3	4	0	0	0	4	1	0	0
234	227	PW/SVKS	0508	TECHNICIAN(SMITHY)	85	5200-202	5	1	0	0	0	1	1	1	0	0	0	1	0	0	0
235		PW/SVKS	0508	TECHNICIAN(SMITHY)	85	5200-202	4	0	0	0	0	0	0	0	0	0	0	0	2	0	0
236	228	PW/SVKS	0550	TECHNICIAN(CARPENTER)	85	5200-202	5	1	0	0	0	1	0	1	0	0	0	1	0	0	0
237		PW/SVKS		TECHNICIAN (STM)	86	5200-202	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0
238	233	PW/SVKS		TRACK MAINTAINER I	85	5200-202	5	11	0	0	0	11	11	17	0	0	0	17	14	0	-6
239	234	PW/SVKS		TRACK MAINTAINER II	85	5200-202	4	21	0	0	0	21	6	34	0	0	0	34	8	0	-13
240	235	PW/SVKS		TRACK MAINTAINER III	85	5200-202	2	38	0	0	0	38	34	34	0	0	0	34	35	0	4
241	236	PW/SVKS		TRACK MAINTAINER IV	85	5200-202	1	97	4	0	0	101	97	69	4	0	0	73	86	0	28
242		PW/SVKS		Substitute	85	5200-202	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
		PW/SVKS			Total			174	4	0	0	178	154	161	4	0	0	165	151	0	13

Please issue - 1/7/2020

SN-2

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.11-2019/SPMPS/Yardstick/2 New Delhi, dated 30.06.2020

General Managers,
All Indian Railways/ PUs

Sub: Revision of Yardsticks/ Norms of various O&M activities on the Railways

Ref: Resolution of full Board Meeting dated

Consequent upon the directive from CRB in December, 2017, a comprehensive "Manpower Strategy Note" was issued to all Zonal Railways in May, 2018. Key component of this strategy was the revision of Yardsticks/Norms of various activities on the Railways. Board in its Meeting held on 28.12.2017 decided that manpower yardsticks for various O&M activities of all departments may be reviewed on account of technological inputs, outsourcing, changes in maintenance practices.

2.0 Accordingly, in May, 2019 Zonal Railways were advised to undertake a Zero Based Review of yardsticks for all O&M activities. Based on the inputs, the detailed views were given for concluding the revision of Yardsticks. Final view has already been given on Yardsticks for Civil Engg (Trackmen), Medical, Accounts and Commercial Departments. However, the same in r/o Civil Engg.(Bridge & Works), S&T, Security, Stores, Operating, Personnel and other Miscellaneous Departments have not yet been finalized.

3.0 Pursuant to the decision taken by the Board in its meeting held on 29.06.2020, it has been decided that the Yardsticks/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. This will however not be applicable to Electrical, Mechanical and Accounts Departments where the revised Yardsticks have already been issued in September 2019.

4.0 The final Yardsticks/Norms for each discipline will be communicated subsequently with the approval of Board on case to case basis. This interim reduction will automatically get superseded once the final revision of Yardsticks/ Norms are issued.

5.0 The PCPO and PFA of concerned Zonal Railway/PU may accordingly revise the Yardsticks/Norms of various O&M activities across all Departments (except Electrical, Mechanical and Accounts) and communicate compliance to Planning Directorate.

This issues with the approval of full Board (ME,MTR,MRS/MMM,MST,MT,FC&CRB).

30/6/2020

(Sudheer Kumar)
Additional Member (Planning)
Railway Board

Copy - CRB, ME,MT,MTR,MRS/MMM,MST,FC,DG/IIR, Secy/RB,AM/Revenue

Civil Bridges Works

S&T