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

वी.जी .भूमा / **V.G. BHOOMA**
वरिष्ठ.उप महाप्रबंधक एवं मुख्य सतर्कता अधिकारी
SDGM/ CVO

प्रधान कार्यालय/ **Headquarters Office**
योजना शाखा / **Planning Branch**
चेन्नै/ **Chennai - 600 003**

D.O. No.G.275/WSSR-361920/2020-21 Dated: 13.07.2020

My dear Mahesh,

Sub: Work study to review the staff strength at SSE/Signal / W/ KPD of MAS Division.

Ref: (i) SDGM's D.O. letter No.G.275/ANNUAL PROG. /2019-20 dated 22.05.2019.

(ii) Sr.DPO/MAS's letter No. M/P(C&P)135/WSSR/18-19 dated 21.06.2019.

***

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

As the report is to be finalized within eight weeks, I request you to take expeditious action and advise action taken.

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

With Best wishes,

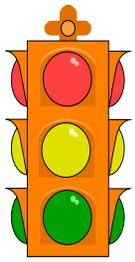
Yours sincerely,

(V.G. BHOOMA)
वी.जी .भूमा

Shri. **P. MAHESH,**
DRM / MAS

Copy to: PCSTE / 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/SIGNAL/WEST/KPD AT MAS DIVISION

SOUTHERN RAILWAY

PLANNING BRANCH

G. 275 / WSSR-361920/ 2019-20

WORK STUDY TO REVIEW THE STAFF STRENGTH OF SSE/SIGNAL/WEST/KPD AT MAS DIVISION

STUDIED BY

WORK STUDY TEAM
OF
PLANNING BRANCH

JULY 2020

(i)

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(i)
ACKNOWLEDGEMENT

The work study team acknowledges its gratitude to Sr.DSTE/MAS, ADSTE/KPD (Co-ordinating Officer), SSE/SIG/WEST/KPD (Coordinating Supervisor) and other signalling staff working under SSE/SIG/WEST/KPD 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 2019-20.

(iii)
TERMS OF REFERENCE

To review the staff strength at SSE/Signal/WEST/KPD section at MAS Division.

(iv)
METHODOLOGY

The following methodology has been adopted while conducting the study:

1) Collection of data
2) Discussion and interaction with officers and supervisors of the unit.
3) Field observation
4) The requirement of man power has been arrived on need base and application of benchmark norms.

(V)

SUMMARY OF RECOMMENDATIONS

RECOMMENDATION :

One vacant post of Tech.Gr.II in GP Rs.2400 /-, **Eight vacant posts** of Tech.Gr.III in GP Rs.1900 and **Thirteen posts** of Helper in GP Rs.1800/- are identified as surplus to the requirement , may be surrendered and credited to Bank of surplus posts.

(22 Posts)

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CHAPTER – I

1.0 INTRODUCTION

1.1 Signalling is an important requirement for the safe and punctual running of trains. It also helps to increase speed and frequency of operation and to reduce failures in human operations. The signalling system in Railways has undergone tremendous progress from the old semaphore signals with Kerosene lamps etc to the fully automatic signalling and looks forward to cab signalling now. The interlocking of the signals with points, level crossings, block instruments, track, wind, falling rocks etc makes it a ubiquitous arrangement in all walks of Railway operations.

The monitoring system like data loggers, BPAC, Computerised on line panel testing etc have made the maintenance and inspections more efficient and foolproof. Anti Collision Device (ACD), integrated power supply, LED lamps, PA / coach guidance / train display boards, integrated surveillance system etc have a big role in enhancing safety, security and customer help.

1.2 The signal department is headed by PCSTE in the zone and Member/Electrical at the Board Level. Sr.DSTE is the head of the department in the Division.

1.3 In addition to Signalling department, there are separate wings for construction and project for S&T Department. The Tele-communication wing is also separated in sections. The OFC Wing and the Railtel are also involved in the installation activities.

The Station Working Rules (SWR) of stations is prepared by operating department along with S&T Wing.

The signal manual, general rules, block working manual etc are the governing rules and instructions related to S&T Department.

There are many joint inspections with operating, engineering and electrical departments and maintenance works are to be carried out in liaison with these departments.

1.4 The Signal and Telecommunication Department is responsible for the installation and maintenance of the Signalling system essential for the safe and speedy movement of trains and the Telecommunication systems required for the effective utilisation of the large fleet of locomotives, other rolling stock and track as well as for the administration of the vast Railway Network.

In terms of the sophistication in Signalling and Telecommunication installations, Southern Railway occupies the place of pride among the various Indian Railway systems.

1.5 Keeping the above objectives in view, an analysis is made to study the present system of functioning in SSE/SIG/WEST/KPD Unit of MAS Division through Benchmarking and need basis as a means of reducing cost and improving productivity. It is the process of comparing the performance with the most successful competitor who is managing with optimum productivity level. With the increased DESUS and further scope of growing technology, the workload Vs requirement of the manpower is critically examined in the subsequent chapters.

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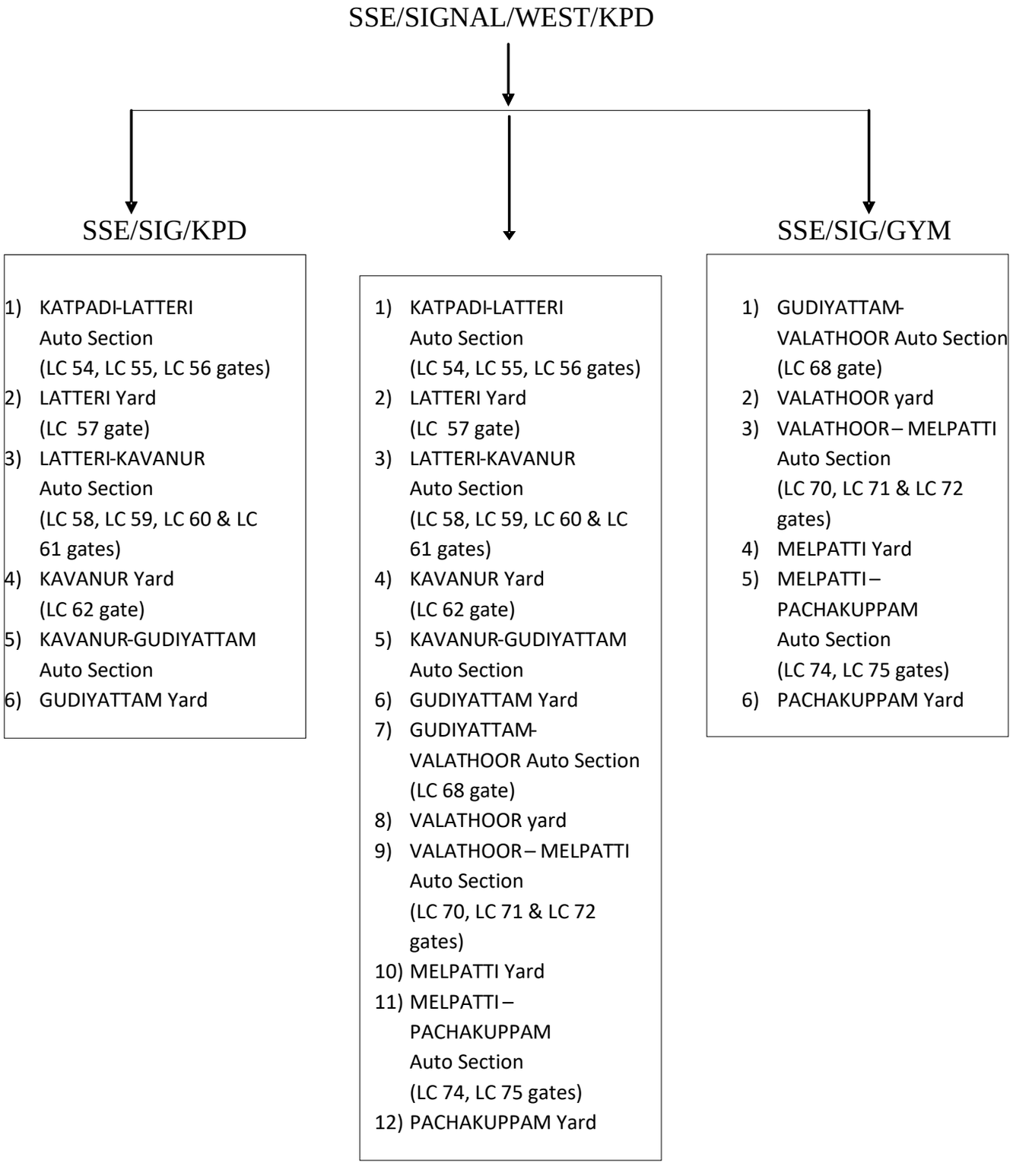
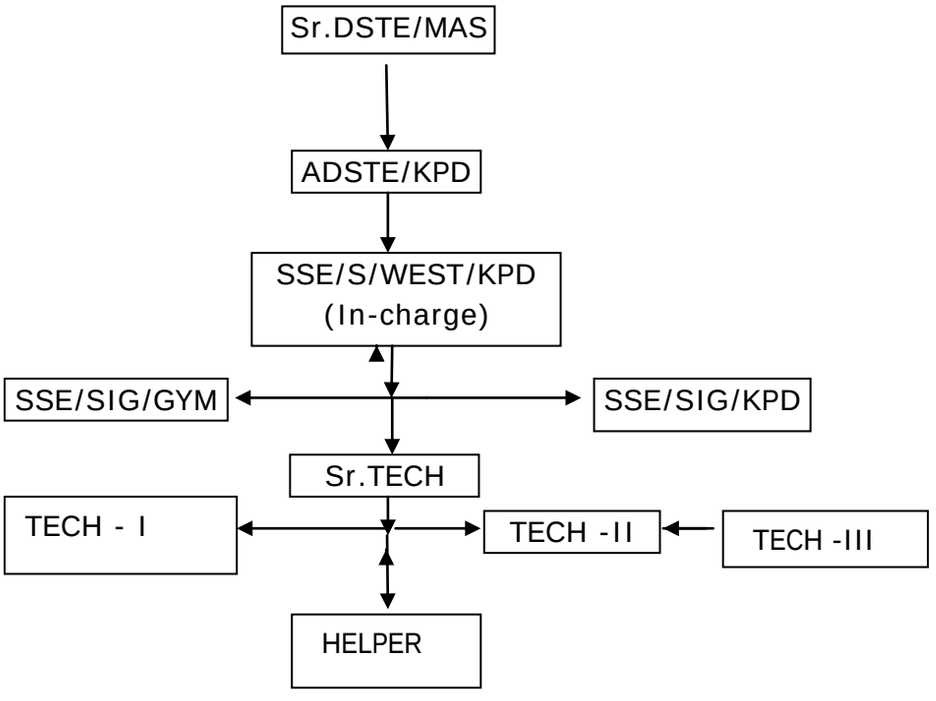
CHAPTER - II

2.0 PRESENT SCENERIO :

2.1 JURISDICTION OF SSE/SIGNAL/WEST/KPD



2.2. ORGANISATIONAL STRUCTURE:



2.3 DETAILS OF AUTO SECTIONS:

KPD-LTI AUTO SECTION

Sl.No.	Description		Nos	Details
1.	Date of commission		--	2006
2.	Std of interlocking		--	Std III
3.	Type of Signalling		--	AUTOMATIC SIGNALLING
4.	Route		--	B Route
5.	Number of Track circuit (AFTC make)		22	UM71-ANSALDO Make
6.	Number of Auto signals 4 Aspect		10	
7.	Signal provided with LED aspect		40	
8.	Number of L.C gates	Swing type	--	
		MLB	03	
		ELB	--	
9.	Double TLD boxes provided		--	YES Provided
10.	Axle counter SSDAC		--	NIL
11.	Number of Unmanned LC km		--	NIL
12.	Number of manned LC km		03	LC 54 Km 132/6-8 LC 55 Km 134/8-10 LC 56 Km 135/20-22
13.	Available of AT supply		02	UP AT/DN AT
14.	Number of HUTS for AFTC		--	NIL
15.	Inverter			In Progress

LTI-KVN AUTO SECTION

Sl.No.	Description		Nos	Details
1.	Date of commission		--	2006
2.	Std of interlocking		--	Std III
3.	Type of Signalling		--	AUTOMATIC SIGNALLING
4.	Route		--	B Route
5.	Number of Track circuit (AFTC make)		41	UM71-ANSALDO Make
6.	Number of Auto signals 4 Aspect		16	
7.	Signal provided with LED aspect		64	
8.	Number of L.C gates	Swing type	--	
		MLB	04	
		ELB	--	
9.	Double TLD boxes provided		--	YES Provided
10.	Axle counter SSDAC		--	NIL
11.	Number of Unmanned LC km		--	NIL
12.	Number of manned LC km		04	LC 58 Km 139/24-26 LC 59 Km 142/14-16 LC 60 Km 143/8-10 LC 61 Km 145/4-6
13.	Available of AT supply		02	UP AT/DN AT
14.	Number of HUTS for AFTC		--	NIL
15.	Inverter			Available at LC 58 gate

KVN-GYM AUTO SECTION

Sl.No.	Description		Nos	Details
1.	Date of commission		--	2006
2.	Std of interlocking		--	Std III
3.	Type of Signalling		--	AUTOMATIC SIGNALLING
4.	Route		--	B Route
5.	Number of Track circuit (AFTC make)		18	UM71-ANSALDO Make
6.	Number of Auto signals 4 Aspect		08	
7.	Signal provided with LED aspect		32	
8.	Number of L.C gates	Swing type	--	
		MLB	01	
		ELB	--	
9.	Double TLD boxes provided		--	YES Provided
10.	Axle counter SSDAC		--	NIL
11.	Number of Unmanned LC km		--	NIL
12.	Number of manned LC km		01	LC 63 Km 150/22-24
13.	Available of AT supply		02	UP AT/DN AT
14.	Number of HUTS for AFTC		--	NIL
15.	Inverter			Available at LC 63 gate, Gate was closed but separate inverter arrangement installed in separate room.

GYM-VLT AUTO SECTION

Sl.No.	Description		Nos	Details
1.	Date of commission		--	2006
2.	Std of interlocking		--	Std III
3.	Type of Signalling		--	AUTOMATIC SIGNALLING
4.	Route		--	B Route
5.	Number of Track circuit (AFTC make)		34	ABB Make
6.	Number of Auto signals 4 Aspect		14	
7.	Signal provided with LED aspect		56	
8.	Number of L.C gates	Swing type	--	
		MLB	03	
		ELB	--	
9.	Double TLD boxes provided		--	YES Provided
10.	Axle counter SSDAC		--	NIL
11.	Number of Unmanned LC km		--	NIL
12.	Number of manned LC km		01	LC 68 Km 161/18-20
13.	Available of AT supply		02	UP AT/DN AT
14.	Number of HUTS for AFTC		--	NIL
15.	Inverter			Available at LC 68 gate,

VLT-MPI AUTO SECTION

Sl.No.	Description		Nos	Details
1.	Date of commission		--	2006
2.	Std of interlocking		--	Std III
3.	Type of Signalling		--	AUTOMATIC SIGNALLING
4.	Route		--	B Route
5.	Number of Track circuit (AFTC make)		18	ABB Make
6.	Number of Auto signals 4 Aspect		06	
7.	Signal provided with LED aspect		24	
8.	Number of L.C gates	Swing type	--	
		MLB	03	
		ELB	--	
9.	Double TLD boxes provided		--	YES Provided
10.	Axle counter SSDAC		--	NIL
11.	Number of Unmanned LC km		--	NIL
12.	Number of manned LC km		03	LC 70 Km 165/16-18 LC 71 Km 166/30-167/2 LC 72 Km 168/31-11
13.	Available of AT supply		02	UP AT/DN AT
14.	Number of HUTS for AFTC		--	NIL
15.	Inverter			Available at LC 71 gate,

MPI-PCKM AUTO SECTION

Sl.No.	Description		Nos	Details
1.	Date of commission		--	2006
2.	Std of interlocking		--	Std III
3.	Type of Signalling		--	AUTOMATIC SIGNALLING
4.	Route		--	B Route
5.	Number of Track circuit (AFTC make)		18	ABB Make
6.	Number of Auto signals 4 Aspect		07	
7.	Signal provided with LED aspect		28	
8.	Number of L.C gates	Swing type	--	
		MLB	02	
		ELB	--	
9.	Double TLD boxes provided		--	YES Provided
10.	Axle counter SSDAC		--	NIL
11.	Number of Unmanned LC km		--	NIL
12.	Number of manned LC km		02	LC 74 KM 172/8-10 LC 75 Km 173/8-10
13.	Available of AT supply		02	UP AT/DN AT
14.	Number of HUTS for AFTC		--	NIL
15.	Inverter			Available at LC 74 gate,

2.4 Staff strength:-

The details of the Sanction, Actual, Vacancy and Excess staff strength is given in **Annexure – I.** The sanction strength furnished by Sr. DPO/MAS vide his letter No. M/P(S&T)535/IX/Misc dated 25.07.2019 and the actual staff working at SSE/S/West/KPD are given below:

S.No	Designation	Sanction	Actual	Vacancy
1.	SSE	3	3	0
2.	JE	3	0	3
3.	Sr.Tech(MCM)	8	4	4
4.	Tech-I	20	9	11
5.	Tech-II	4	2	2
6.	Tech-III	11	0	11
7.	Helper	28	25	3
8.	B.Smith (MCM)	1	1	0
9.	B.Smith - I	1	0	1
Total		**79**	**44**	**35**

2.5 Station wise Distribution and Deployment of Staffs in SSE/Signal/KPD (West) section KPD Head quarters Staff

BATCH	Name of Staff	Section	Weekly rest
BATCH – I	R. Ravi Sr.Tech/KPD R.Arumugam, Tech/Gr I/KPD T. Ananthan, Helper/KPD Arun Mohanan, Helper/KPD P.P. Aparna, Helper/KPD	Latteri yard. Katpadi-Latteri Auto Section	Monday
BATCH – II	N. Murugan, Sr.Tech/KPD K. Thandapani, Tech/Gr I/KPD M. Seenu, Helper/KPD Vikas Kumar, Helper/KPD	Latteri Kavanur Auto Section	Wednesday
BATCH – III	S. Govindasamy, Sr.Tech/KPD J. Sathiya, Tech/Gr I/KPD Y. Praveen, Helper/KPD L. Lakshmi, Helper/KPD G. Selvi, Helper/KPD	Kavanur Yard, Kavanur-Gudiyattam Auto Section.	Sunday
BATCH – IV	A.Vijayakumar, Sr.Tech/BS/KPD K. Sigamani, Helper/KPD M. ranganathan, Helper/KPD	All LC gates and Black smith works	Sunday
BATCH – V	G. palanivel, Tech/Gr II/KPD Om Prakash Meena, Tech/Gr III/KPD G. Sekar, Helper/KPD C. Sudhakar, Helper/KPD	LR/RG – Special works, Collection of materials and other office correspondence since ministerial staff not available.	Sunday

Station wise Distribution and Deployment of Staff in SSE/Signal/KPD (West)section GYM & AB Head quarters Staff			
BATCH – I	Ganeshwar Singh Badra Tech/Gr I/GYM G. Murugananthan, Tech/Gr I/GYM Amit Kumar Pandey, Helper/GYM Shankar Kumar, Helper/KPD	Gudiyattam Yard, Melalathoor-Valathoor Auto Section	Wednesday
BATCH – II	T.Sankar, Tech/Gr I/GYM Abinash Tiu, Tech/Gr I/GYM Ujjawal Kumar, Helpar/GYM C. Baskar, Helper/GYM	Valathoor Yard, Melalathoor-Gudiyattam Auto Section.	Sunday
BATCH – III	C. Sanjay Bharathi, Tech/Gr I/GYM Kailash Chand Meena Tech/Gr II/AB Md.Belal Hussain, Helper/GYM Karn Kumar Kashyap Helper/GYM	Melpatti yard, Melpatti-Valathoor Auto Section.	Friday
BATCH – IV	A.Venkittu, Sr.Tech/GYM N.K. Roopesh Helper/AB Yashwant Kumar Singh Helper/GYM V. Sylaja Helper/GYM	Pachakuppam yard Melpatti-Pachakuppam Auto Section.	Thursday
BATCH – V	C. Vivek, Tech/Gr I/AB V. Etheyavannan Helper/GYM K.P.Pranav Helper/GYM C. Parthasarathy Helper/GYM	LR/RG – Special works and attend inspections	Sunday.

2.6 SECTION WISE DISTRIBUTION STAFF

Sl. No	Section	SSE	Sr.Tech	Tech-I	Tech-II	Tech-III	Helper	Total
1	KPD	2	3+1*	3	1	-	12	22
2	GYM	1	1	5	-	-	12	19
3	AB	-	-	1	1	-	1	3
TOTAL		**3**	**5**	**9**	**2**	**-**	**25**	**44**

2.7 DUTIES OF SUPERVISORS:

DUTIES OF SSE/SIGNAL/KATPADI/WEST (In-charge)	
1.	Carry out Quarterly inspection from KPD(Excl) to PCKM(Incl) section including 15 LC gates a. Latteri yard b. Kavanur Yard c. Gudiyattam Yard d. Valathoor yard e. Melpatti yard f. Pachakuppam yard g. Katpadi - Latteri Auto Section h. Latteri – Kavanur Auto Section i. Kavanur – Gudiyattam Auto j. Gudiyattam – Valathoor Auto k. Valathoor – Melpatti Auto Section L. Melpatti – Pachakuppam Auto
	Maintain and account stores regularly a. Collection of materials from SSE/Sig/SRM/PER and other depots b. Sending unusable released materials to DS8 c. Intending materials in online using digital key
3.	Issue Pass & PTOs to staffs
4.	Accompany with officers during surprise/annual inspections
5.	Carry out Joint Foot plate inspection with TI & LI for sighting committee
6.	Carry out joint inspection of points and crossings with P.Way department
7.	Carry out joint inspection of Track circuits with P.ay department
8.	Carry out joint inspection of Track circuits with OHE department
9.	Carry out special works
10.	Attend failures during day and night

11.	Attend meeting at Sr.DSTE/MAS office
12.	Carry out all the office correspondence
13.	Staff welfare
14.	Conducting safety seminars and project shaksham for staffs.

DUTIES OF SSE/SIGNAL/GYM

1.	Carry out monthly inspection from GYM(Excl) to PCKM(Incl) section including 06 gates a. Valathoor yard b. Melpatti yard c. Pachakuppam yard. d. Gudiyattam – Valathoor Auto Section e. Valathoor – Melpatti Auto Section F. Melpatti – Pachakuppam Auto Section
2.	Accompany with officers during surprise/annual inspections
3.	Attend failures during day and night
4.	Carry out Foot plate inspection
5.	Carry out special works
6.	Carry out periodical cable meggering
7.	Updating all the registers regularly

DUTIES OF SSE/SIGNAL/KPD

1.	Carry out monthly inspection from KPD(Excl) to GYM(Incl) section including 06 gates a. Latteri yard b. Kavanur Yard c. Gudiyattam Yard d. Katpadi - Latteri Auto e. Latteri – Kavanur Auto f. Kavanur – Gudiyattam Auto
2.	Accompany with officers during surprise/annual inspections
3.	Attend failures during day and night
4.	Carry out Foot plate inspection
5.	Carry out special works
6.	Carry out periodical cable meggering
7.	Updating all the registers regularly

2.8 DUTIES OF TECHNICIANS

1. Maintain the following signal gears once in 15 days

Yard:

i) Signals
ii) Points
iii) Locations
iv) DC Track Circuits
v) Integrated power supply (IPS)
vi) Relay Room
vii) Earth
viii) LC gates
viii) Axle Counter (HASSDAC)

AUTO SECTION:

i) Signals
ii) Locations
iii) ABB/UM71 Track Circuits
iv) Remote Terminal Unit (RTU)
v) Inverter
vi) Earth
vii) LC gates

2. Works other than Regular maintenance
   a. Attend monthly, quarterly and annual inspections
   b. Attend joint inspection by SSE/Signal with other depots
   c. Attend joint inspection pending notes

3. Works with other department
   a. Rail renewal with Engineering department
   b. Manual and machine packing at point zones and plain track
   c. DFDR, MFBW and other Engineering machine works
   d. Attend joint inspection pending notes.

4. Attend failure during duty hours

5. Carry out special works
   a. Circuit alteration works
   b. LED renewal work
   c. Lead wire renewal/replacement and etc..

6. Other documentary works
   a. Issue S&T NM during normal maintenance
   b. Issue Disconnection/Reconnection (T/351) during special works and failures

7. Attend training at Training Centre/PTJ

8. Attend Safety seminars conducted by SSEs and other officers

2.9 DUTIES OF BLACK SMITH

a. Overhauling of LC gate locks regularly

b. Making chisel, bars, punches and other mechanical tools for technicians

c. Making wooden boxes and other wooden materials for LC gates and offices

d. Attend point machine installation work

2.10 DUTIES OF HELPERS – ASSISTANT SIGNAL

- Accompany with SSEs and Technicians during inspection and maintenance
- Carry tool bags of Technicians
- Collecting materials from SSE/Sig/SRM/PER and other depots
- Load and unload materials for DS-8 purpose
- Accompany with SSEs and Technicians during inspection and maintenance
- Carry tool bags of Technicians.
- Collecting materials from SSE/Sig/SRM/PER and other depots
- Load and unload materials for DS-8 purpose
- Accompany with SSEs and Technicians during inspection and maintenance
- Carry tool bags of Technicians.
- Collecting materials from SSE/Sig/SRM/PER and other depots.
- Load and unload materials for DS-8 purpose.

2.11 SIGNAL FAILURES AT SSE/SIG/WEST/KPD

Sl. No	Description	YARD FAILURES			
		2017	2018	2019(Upto 14.11.2019)	Total
1	Signal	8	8	9	25
2	Point	4	7	4	15
3	Track	8	10	7	25
4	LC gates	2	1	1	4
Total		**22**	**26**	**21**	**69**

2.12 AUTO SECTION FAILURES AT SSE/SIG/WEST/KPD

Sl. No	Description	AUTO SECTION FAILURES			
		2017	2018	2019(Upto 14.11.2019)	Total
1	Signal	27	20	22	69
2	Operating	1	1	0	2
3	Engineering	1	2	2	5
Total		**29**	**23**	**24**	**76**

2.13 GATE PARTICULARS :-

PARTICULARS OF LC GATES IN SSE/SIG/KPD/WEST SECTION.

S. No	L.C-Gate No.	At KM	Block Section	Nearest Station	Department	Remarks	
1	**54**	132/6-8	KPD-LTI	KPD	Engg	**SSE/S/ KPD (West) Total-19 LCs; 4-LCs closed 63-ROB 64-ROB 66-RUB 69-ROB**	
2	**55**	134/8-10		LTI			AT-Supply
3	**56**	135/20-22					
4	**57**	136/32-34	LTI		Traffic		
5	**58**	139/24-26	LTI-KVN		Engg		
6	**59**	142/14-16			Traffic		AT-Supply
7	**60**	143/8-10	LTI-KVN	KVN			
8	**61**	145/4-6			Engg		
9	**62**	147/30-32	KVN		Traffic		
10	**68**	161/18-20	MEH-VLT	VLT	Engg		AT Supply
11	**70**	165/16-18	VLT-MPI				
12	**71**	166/30-167/2		MPI	Engg		
13	**72**	168/12-14			Traffic		
14	**74**	172/8-10	MPI-PCKM		Engg		
15	**75**	173/8-10		PCKM			

Of the 19 LC gates, 4 gates have been closed for traffic. Out of remaining 15 gates, 9 LC gates are under the control of engineering department and 6 LC gates are under the control of Traffic department.

2.14 As per the details submitted by SSE/Signal/West/KPD, the details of signal assets at SSE/Signal/West/KPD, has shown as 3794.5 (details enclosed as Annexure II).

The data collected from Sr.DSTE/O/MAS on 20.12.2019, the consolidated Signal units/KPD (West) DESUs as on 01.04.2019 is as follows:

Section Name	**Total Units**
KPD-LTI	626
LTI	573
LTI-KVN	1163
KVN	554
KVN-GYM	517
GYM	533
GYM-VLT	866
VLT	475
VLT-MPI	597
MPI	562
MPI-PCKM	595
PCKM	479
TOTAL	**7540**

It is seen from the data of DESUs submitted by SSE/Sig/West/KPD is differ from the data collected from Sr.DSTE/O/MAS. The DESUs submitted by Sr.DSTE/O/MAS is higher than the data submitted by SSE/Sig/West/KPD. For this study purpose, the data of DESUs submitted by Sr.DSTE/O/MAS has been taken to arrive the man power requirement for SSE/S/West/KPD unit**.**

2.15 LIST OF T&P MATERIALS DEALT IN SSE/SIGNAL/KPD (WEST) SECTION

Sl. No.	L/Folio Number	Item Description	Book Balance		Office	Staffs
			Unit	Quantity		
01	T&P/01	Anvil	No	01	01	
02	T&P/01	Auger Carpentry of size	No	07	07	
03	T&P/01	Adjustable Screw Spanner	No	10	04	SG-01,RR-01,TS-02, CV-01,KCM-01
04	T&P/01	Angle Grinder	No	01	02	
05	T&P/01	Bar Tommy	No	05	04	AVR-01
06	T&P/01	Bench Vice	No	01	01	
07	T&P/01	Bench Grinder	No	01	01	
08	T&P/01	Block Counter	No	01	01	
09	T&P/01	Blower Electric portable with dust pipes col bags	No	01	--	GYM-01
10	T&P/01	Box office Tin with Tray	No	01	01	
11	T&P/02	Brass ratchood Engg 18”	No	01	--	AVR-01
12	T&P/02	Chair T.W with arm	No	01	---	GYM-01
13	T&P/02	Chair Tubular steel with arm	No	15	06	GYM-02,TS-02,KPD-05
14	T&P/02	Chair Moulded PVC	No	06	05	GYM-01
15	T&P/02	Chisel Carpentary	No	02	02	
16	T&P/02	Chisel Cross cut	No	02	02	
17	T&P/02	Chisel Flat Fitter	No	18	16	AVR-02
18	T&P/03	Chisel Round Nose cut	No	01	01	
19	T&P/03	Clip on meter	No	08	06	SSE/KPD-01,SSE/GYM-01
20	T&P/03	Clamp Rail Drilling	No	01	---	AVR-01
21	T&P/03	Crow Bar Plain	No	08	06	KVN-01,LTI-01
22	T&P/03	Cuboard Steel Industrial Hocker	No	04		KD-01,SSE/KPD-01,SSE/GYM-01
23	T&P/03	Crimping Tool	No	08	05	GSB-01,TS-01,SSE/KPD-01
24	T&P/03	Computer with Accessories	No	03	02	DS8-01
25	T&P/04	Centre Zero Ammeter Voltmeter	No	05	04	TS-01
26	T&P/04	Computer Table	No	02	---	SSE IC-01,SSE/GYM-01
27	T&P/04	Drilling M/C track	No	04	03	GSB-01
28	T&P/04	Drilling M/C Electric Baby	No	09	04	GSB-01,TS-01,SG-01,KD-02
29	T&P/04	Drilling M/C Hammer	No	01	01	

30	T&P/04	Drill Twist of size	No	54	--	
31	T&P/04	Deminiration Plant	No	02	---	KPD-01, GYM-01
32	T&P/05	Digital Infra Red Thermometer	No	01	01	
33	T&P/05	Earth Tester	No	03	02	GYM-01
34	T&P/05	Emergency Scarch Light	No	01	01	
35	T&P/05	Extension Rod	No	02	---	AVR-01,TS-01
36	T&P/05	Earth Tool for B/Smith	No	01	---	AVR-01
37	T&P/05	File Flat of size	No	02	01	TS-01
38	T&P/05	File Half Round of size	No	01		AVR-01
39	T&P/05	File Round of size	No	01		TS-01
40	T&P/06	Feeder Oil	No	03	02	TS-01
41	T&P/06	Flag Hand Green	No	07	07	
42	T&P/06	Fire Bucket	No	02	02	
43	T&P/06	Fire Extinguisher Cooing Mount	No	01	01	
44	T&P/06	Fire Extinguisher Cleaning agent	No	02	02	
45	T&P/06	Fire Extinguisher Chemical powder	No	02	02	
46	T&P/06	Forge Rotary	No	01		AVR-01
47	T&P/06	Fuse Puller	No	01	01	
48	T&P/06	Frequency Meter AFTC	No	04	02	SSE/GYM-01, TS-01
49	T&P/07	Gauge Point Testing	No	14	03	AV-01,GSB-01,SB-01,TS-01,CV-01,RS-01,KCM-01,AT-01,NM-01,JS-01
50	T&P/07	Grease Gun type nipple	No	08	07	GYM-01
51	T&P/07	Hammer Hand Ballpane	No	17	07	SSE/KPD-01, SG-01,KD-01, AV-01,TS-03,RA-01,CV-01,AVR-01
52	T&P/07	Hammer Sledge	No	01		AVR-01
53	T&P/07	HackSaw Frame	No	14	05	RR-01,AV-02,TS-02,GSB-01,AVR-01,CV-01,KD-01
54	T&P/07	Industrial Safety Belt	No	01	01	
55	T&P/07	Ladder Aluminium 12 Steps	No	01	01	
56	T&P/07	Lamp Holdam	No	09	07	SG-01,AV-01
57	T&P/08	Lock pad GI of sizes	No	06	05	TS-01
58	T&P/08	Lock Pad Navtal of sizes	No	20	01	KPD-11, GYM-01-ADSTE-02,KD-01, TS-02,
59	T&P/08	Momitties	No	02	02	
60	T&P/08	Magnifying glass	No	06	---	GYM-03, KD-01, SG-01, RR-01

61	T&P/08	Mirror With frame	No	01	01	
62	T&P/08	Megger	No	11	06	AV-01,TS-01,SSE/KPD-01 SSE/GYM-01 SSE IC-01
63	T&P/08	Multieter digital	No	66	37	
64	T&P/09	Multimeter Analog	No	06	06	
65	T&P/09	Multimeter EBM	No	01	01	
66	T&P/09	Nipple F&M	No	02	02	
67	T&P/09	Notice board	No	02	02	
68	T&P/09	Punch Centre	No	09	05	SSEGYM-01,TS-01,AVR-01,KD-01
69	T&P/09	Punch Steel	No	08	07	AVR-01
70	T&P/09	Plier Sealing	No	13	05	SG-01,RR-01,NM-01,KD-01,AV-01,TS-01,RA-01,CV-01
71	T&P/09	Plier Side Cutting	No	03	02	TS-01,CV-01,AT-01
72	T&P/09	Plier Nose of sizes	No	14	06	SSE KPD-01,SG-01,AV-01,KD-01,TS-03,CV-01
73	T&P/09	Plier Cutting of sizes	No	13	02	SG-01,RR-01,AV-01,KD-01,RA-01,AVR-01,TS-03,KCM-01,CV-01
74	T&P/10	Pen Drive 2GB	No	05	05	
75	T&P/10	Portable Digital Oscilloscope	No	02	02	
76	T&P/10	Printer off set	No	02	02	
77	T&P/10	Rack Wooden with 36 Holes	No	01	01	
78	T&P/10	Rack Iron made of release sheet	No	04	01	ER-02, NT-01
79	T&P/10	Reamer 1”	No	02	02	
80	T&P/10	Rechargeable Emergency portable	No	01	01	
81	T&P/10	Reflective Safety Guard	No	05	05	
82	T&P/11	Reflective Hand Band	No	10	10	
83	T&P/11	Reflective Jacket	No	10	02	
84	T&P/11	Roller Carpentary	No	01	01	
85	T&P/11	Roller Steel ½ Feet	No	08	03	SG-01,RA-01,GSB-01, TS-01,CV-01

86	T&P/11	Rolling Chair	No	02	02	
88	T&P/11	Relay test Kit for Q series	No	01	01	
89	T&P/11	Scribers	No	04	03	AVR-01
90	T&P/11	Set of cold	No	01		AVR-01
91	T&P/12	Shear Tin Smith	No	01		AVR-01
92	T&P/12	Shunt resistance Track	No	17	05	SSE KPD-02,SG-02,RR-01,KD-01,RA-01,AV-01,GSB-01,SB-01,TS-02
93	T&P/12	Soldering Iron Electric 12V	No	01		TS-01
94	T&P/12	Soldering Iron Electric 230V	No	11	02	SSE KPD-01,SG-01,RR-01,AV-01,TS-04,CV-01
95	T&P/12	Straight Edge Steel	No	01		AVR-01
96	T&P/12	Swage Top and Bottom	No	05	04	AVR-01
97	T&P/12	Stool Steel	No	02		TS-02(MPI & PCKM)
98	T&P/13	Screwdriver of sizes	No	06	03	TS-02,AVR-01
99	T&P/13	Screwdriver set of 6 Nos	No	01		AT-01
100	T&P/13	Screwdriver set of 5 Nos	No	09	02	SSE KPD-01,SG-01,RR-01,KD-01,TS-02,CV-01
101	T&P/13	Spanner S End of sizes	No	11	11	
102	T&P/13	Spanner D/End of sizes	No	38	19	SG-01,AV-03,KD-02,TS-04,CV-03,AVR-06
103	T&P/13	Spanner D/E 34 x 38	No	02	01	CV-01
104	T&P/13	Spanner D/E 3/8 x ½	No	05	04	KCM-01
105	T&P/13	Spanner D/End 5/8 x ¾	No	04	01	RR-01,CV-01,RA-01
106	T&P/14	Spanner D/End 7/8 x 1	No	06	---	RA-01,RR-01,AV-01,AT-01,KCM-01,KD-01
107	T&P/14	Spanner D/End 24 x 26	No	04	03	SG-01
108	T&P/14	Spanner D/End 18 x 19	No	05	04	KCM-01
109	T&P/14	Spanner D/End set of 9 Nos	No	11	09	TS-01,KCM-01

110	T&P/14	Spanner D/End set of 12 Nos	No	02		SSE KPD-01,TS-01
111	T&P/14	Spanner ring of sizes	No	21	17	SG-01,RR-01,TS-02
112	T&P/14	Spanner ring of sizes 24 x 26	No	25	17	SSE KPD-01,SG-02,RR-01,RA-01,KD-01,CV-01,JS-01
113	T&P/14	Spanner D/End ring open 33 mm	No	03	02	AV-01
114	T&P/15	Spanner Box SE of size	No	07	07	
115	T&P/15	Spanner Box OBA	No	04	02	SG-01,TS-01
116	T&P/15	Spanner Cly burn	No	03	03	
117	T&P/15	Spanner stilson	No	01	01	
118	T&P/15	Spanner combination 13 mm	No	04	03	TS-01
119	T&P/15	Socket 19 mm	No	02	01	TS-01
120	T&P/15	Spanner L 19 mm	No	04	01	SSE GYM-01,SG-01,RR-01
121	T&P/15	Spanner D/End 30x 32	No	20	10	SSE KPD-01,SG-01,RR-01,CV-01,RA-01,KCM-02,AT-01,KD-01,SB-01
122	T&P/15	Spanner ring 30 x 32	No	20	10	SG-01,RR-01,RA-01,CV-01,KCM-02,AT-01,KDU-01,KD-01, SB-01
123	T&P/16	Table Steel Tubular with 2 drawer	No	02		TS-01, KPD-01
124	T&P/16	Table Office TW 4 x 2 ½ x 2 ½	No	01	01	
125	T&P/16	Table Office TW 4 x 2 x 2 ½	No	01		VJ-01
126	T&P/16	Table Office TW 4 x 3 x 2 ½	No	01		GYM-01
127	T&P/16	Table Office TW with two drawer 1200 x 750	No	01		KPD-01
128	T&P/16	Table Office TW 1.45 x 0.70 x 0.75	No	01		MPI-01 (TS)
129	T&P/16	Tape measuring Steel 3 mtrs	No	05		TS-01,CV-01,AVR-01,KD-02
130	T&P/17	Tool Box GK with One tray	No	04		TS-01, SSE KPD-01, ER-01,NR-01
131	T&P/17	Tool Box GK large	No	03	01	GYM-01, AVR-01
132	T&P/17	Tool Box TW Small	No	02	01	TS-01

133	T&P/17	Tool Box TW 3 x 2	No	01		GYM-01 (AV)
134	T&P/17	Tool Box TW 100 x 750	No	02		ER-02
135	T&P/17	Tool kit containing 11 items	No	01		RA-01
136	T&P/17	Tongue Smith Hollow	No	01		AVR-01
137	T&P/17	Tongue Smith Country	No	01		AVR-01
138	T&P/19	Tongue Smith Chisel	No	02	01	AVR-01
139	T&P/19	Tongue Smith flat	No	01		AVR-01
140	T&P/19	Torch light 3 cell	No	11	09	SSE KPD-01,RR-01
141	T&P/19	Torch light Chargeable	No	06	04	SSE GYM-01, SG-01
142	T&P/19	T Handle	No	01		TS-01
143	T&P/19	Tramel 2” Iron	No	01		AVR-01
144	T&P/19	Table steel with two drawer 6 x 4	No	01	01	
145	T&P/19	Tool kit for IRS Point Machine	No	15	07	TS-01,SG-01,AV-01,RA-01,GSB-01,SB-01, CV-01,KCM-01
146	T&P/20	Vaccum Cleaner	No	01	01	
147	T&P/20	Wall Clock	No	01	01	
148	T&P/20	Whistel Guard	No	14	12	KD-01, TS-01
149	T&P/20	Wrench Monkey	No	02	02	
150	T&P/20	Walkie Talkie	No	12	08	KD-01,RA-01,AV-01,TS-01
151	T&P/20	Walkie Talkie Charger	No	15	10	SSE GYM-01,TS-01,KD-01,RA-01,SG-02
152	T&P/20	UPS For PC	No	NIL	NIL	
153	T&P/21	Battery Cell Tester	No	02	02	
154	T&P/21	Cable Fault Locator	No	02	02	
155	T&P/21	Box Spanner T Handle for AFTC	No	05		SSE GYM-01, RR-01,SG-01,KD-01,RA-01
156	T&P/21	Stool Country Wood 45 x 45 x 50	No	01	01	
157	T&P/21	Water Purifier Plant	No	05		KPD-03, GYM-02

2.16 DETAILS OF MAINTENANCE SCHEDULE OF SIGNALLING ASSETS

Every fortnight, the following signalling gears, parameters are checked, cleaned and readings are recorded in the prescribed format given by the Head quarters.

1. Point Machines
2. Signals (Main & Shunt, SPI, Route Indicators & C-On)
3. Locations, Cable HUT, Gate Lodge
4. Track circuits
5. Batteries
6. SPT
7. Renewals of lead wires
8. LC gate maintenance
9. IPS
10. Generators
11. COA
12. Data Logger
13. Relay Room
14. Panel
15. SM's VDU
16. MT VDU
17. Block Instruments
18. Axle Counters
19. Changeover of EI Systems
20. Cleaning of Vegetation around the locations & Signalling gears

2.17 SPECIAL WORKS IN SSE/SIG/KPD(W) SECTION

1. IPS provided in LTI, KVN & GYM stations.
2. Old IPS replaced in VLT, MPI & PCKM stations.
3. RTU installed in Auto Sections
4. Inverter commissioned at following auto sections
   i) KVN-GYM A/S,
   ii) GYM-VLT A/S,
   iii) VLT-MPI A/S
   iv) MPI-PCKM A/S
5. Inverter commissioning is in progress in the following auto sections
   i) KPD-LTI A/S
   ii) LTI-KVN A/S
6. Defective power cables replaced.
7. Sent 25 tons of released signal materials for DS8.
8. Replaced all the Shunt bulbs and 'A' marker bulbs with LEDs
9. Replaced defective point machine (No: 65A) at PCKM yard.
10. Shifting of starter signals is in progress.
11. Location boxes were lifted in the following stations in connection with Platform extension work.

i) LTI Yard
ii) VJ station at LTI – KVN A/S
iii) KVN yard-work is in progress.
iv) VLT yard.

12. At LC 57 (LTI yard) & LC 58 (LTI-KVN A/S), rope operation changed to rod operation and the same work is in progress in all the LC gates.
13. SM panel at LTI lifted in connection with platform extension work.

14. Periodical cable testing being carried out in all the sections.
15. 'R' Relay circuit alteration work carried in VLT, MPI & PCKM yard.
16. Large sized Emergency Key Box replaced with Small size Emergency Key Box at LC 54, LC 55, LC 56, LC 57, LC 58, Lc 59, LC 60 and LC 61 gates.
17. At LTI, siding point No: 102 & 103 attended and Fit for normal working.
18. At LTI Old CHR termination board replaced with new wirings and new board.
19. All the Track Lead 8 SWGI wires replaced with Fit & Forget cables.
20. Magneto Telephone at SPT in LTI yard and KVN yard was replaced with Talk Back Type SPT.
21. Shifting of Gate lodge from centre of the track to UP line side is in progress at following gates
    i) LC 62 Gate at KVN yard.
    ii) LC 74 Gate at MPI-PCKM A/S.

CHAPTER – III

3.0 CRITICAL ANALYSIS

3.1 Right sizing 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.

3.2 A work study has to consider not only the yardstick and benchmarks but also the scope for revising the yardsticks and for attaining or even excelling the benchmarks. Certain macro factors are also to be considered, though the work study is basically a micro study of various activities, processes and time. Though the quantum of idle man power may not be linear across the departments or divisions, every unit has to strive hard to achieve the common target. This is especially so in Southern Railway since our productivity per employee ratio is less than the whole IR average. The magnitude of pending projects also demands such savings.

3.3 The failure analysis shown in para No.2.11 & 2.12 does not provide any perfect guidance or norms for the arrival of man power requirement. Apart from attending failures, signal maintainer has to perform the routine, preventive check and maintenance. Also in changing scenario of signaling ie., Electronic Signaling system, warrants outsourcing of certain activities such as maintenance activities through OEM/AMC contracts for the electronic items like charger inverter, CVT, IPS, Data logger, AFTC, Digital Axle Counter etc.

Therefore the study team has adopted benchmarking methodology to arrive the man power requirement for rightsizing the man power to improve the efficiency coupled with productivity.

3.4 DESU Based Calculation:

Divisional Equated Signal Units (DESU) is a derived unit from signal units after the addition of many other factors and constants like annual train kms, route kms etc., the abbreviations in the formula are as under:-

I.	**A 1**	**=**	**Total No. of Signal Units at KPD(W)**	**= 3794.5**
II.	**F**	**=**	**Annual trains kms**	
ii)	H	=	Passenger & Proportion of Mixed trains	= 12725.729
i)	J	=	Goods including goods portion of Mixed trains	= 3957.040
ii)	K	=	Department trains	= 128.631
iii)	L	=	EMU/MEMU/DEMU trains	= 10643.541
iv)	**Total F=**		**H + J + K + L**	**= 27454.941**

III. **Calculation of A2**

i)	G	=	Total route KMs	= 697.000
ii)	Z	=	F/G - 7.3	= 32.090
iii)	**A2 =**		**A 1 (F / G - 7.3) 3.42 / 100**	**=156179.577**

IV. **Calculation of A3**

i)	A3	=A1 /G(Signal Units/Route kms)	= 204.171
ii)	**value of Y**		**= 0.000**

V. **Calculation of A4**

i)	Z = F/G		= 39.39
ii)	**A4 =**	**A1 X Z X 0.94 / 100**	**= 52691.657**

VI. **Calculation of A5**

A5 =	**G X 1.67**	**= 1163.990**

DESU = A1 + A2 + A3 + A4 + A5 = 352342.224 (say 352342) for SSE/S/West/KPD

3.5 **Requirement of man power for SSE/S/West/KPD:**

The bench mark ratio of signalling divisions having more than 120 Divisional Integrated Signalling & Telecom units (DISTUs) and the current bench mark man power ratio as on Oct '2019 published by Railway Board is as follows:

1. Current IR average B/M : 2.59 men per thousand DESU. (Copy enclosed)
2. Least Man Power Ratio : 0.55 AGC of NC Rly.
3. MAS Division Man Power Ratio : 2.46 men per thousand DESU

As per the above, the current bench mark man power ratio of Indian Railway, MAS division stands at 2.46 men to maintain the Signalling units having more than 120 DISTUs. As per the Benchmarking report of October 2019, the current Man Power Ratio is 0.55 (AGC of NCR) whereas the IR average is 2.59. By adopting the current MPR at 0.55, the working of the unit will adversely affect. Hence, the work study team has adopted the average man power ratio of 2.59 (IR average) to arrive at the man power requirement for SSE/S/West/KPD.

1. DESU of MAS division = 352342
2. Total Signal units at MAS division = 142307
3. Total number of Signal Units at SSE/S/West/KPD = 7540 (As per the data collected from Sr.DSTE/O/MAS on 20.12.2019)
4. Total number of Signal Units at SSE/S/West/KPD = 3794.5(As per the data collected from SSE/S/West/KPD on 27.11.2019)
5. The ratio of DESU = 352342/142307= 2.48
5. DESU for SSE/S/West/KPD = 7540 X 2.48 = 18699
7. Requirement of man power for current DESU = 18699/1000 X 2.59 **= 48.43 say 49 staff**

In addition to above staff, three SSEs are allowed to act as over all in-charge for office as well as to sections. To assist the SSEs, on his absence, three more JEs are allowed to look after the sectional duties. (Total – 6)

At present one B/Smith Gr.I (MCM) and one B/Smith Gr.I (Total -2) are sanctioned. These two B/Smiths posts are allowed on need base as they have to do the welding works at LC gates etc.

3.6 The **Net requirement of staff for SSE/S/West/KPD** is tabulated below:

Sanction Vs Requirement :

Sl. No	Category	Sanction	Actual	Requirement	Surplus
Supervisors					
1	SSE	3	3	3	0
2	JE	3	0	3	0
Total					
Technicians/Helpers					
3	Sr. Technician(MCM)	8	5	8	0
4	Technician – Gr.I	20	9	20	0
5	Technician – Gr.II	4	2	3	1
6	Technician – Gr.III	11	0	3	8
7	Helper	28	25	15	13
8.	B/Smith(MCM)	1	0	1	0
9.	B/Smith – I	1	0	1	0
Total		**79**	**44**	**57**	**22**

Recommendation No.1

One vacant post of Tech.Gr.II in GP Rs.2400 /-, **Eight vacant posts** of Tech.Gr.III in GP Rs.1900 and **Thirteen posts** of Helper in GP Rs.1800/- are identified as surplus to the requirement , may be surrendered and credited to Vacancy Bank**.**

(22 Posts)

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CHAPTER – IV

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

4.1 The draft work study report was handed over to the Co-ordinating Officer (ADSTE/KPD) on 17.01.2020 and a reminder also sent on 18.02.2020. But, so far, no reply has been received. The time limit allowed for the Co-ordinating Officer to respond is only 15 days.

In this connection, the Co-ordinating officer has not responded even after 176 days, from the date submission of the draft report.

Hence, the report is released without the remarks of the Co-ordinating Officer.

CHAPTER – V

5.0 FINANCIAL SAVINGS / TPJ

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

Sl. No.	Category	Grade pay (Rs.)	No.of post	Money Value (Rs.)	Annual Financial savings (Rs.)
1	Technician – Gr.II	2400	1	62,361	7,48,332
2.	Technician – Gr.III	1900	8	48,614	46,66,944
3	Helper	1800	13	43,817	68,35,452
Total			**22**		**1,22,50,728**

ANNEXURE – I

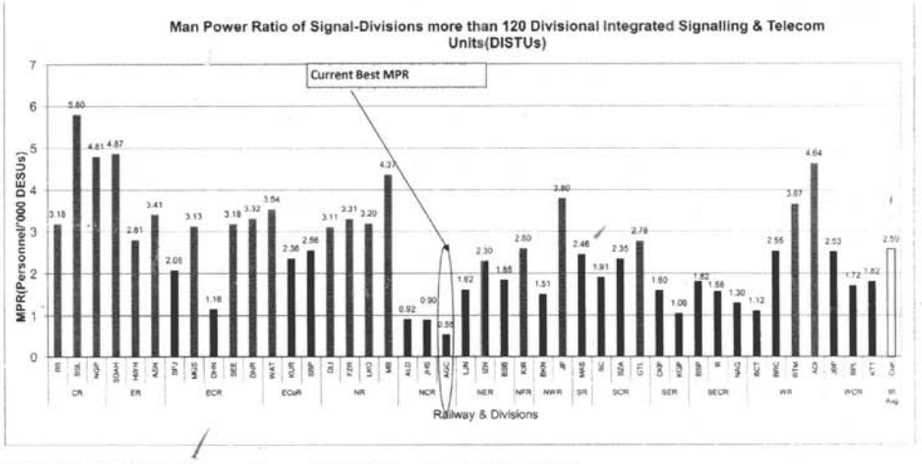
SCALE CHECK OF SSE/S/RRI/TPJ

Sl. No.	Category	GP Rs.	Sanction	Actual	Vacancy
1.	SSE	4600	3	3	0
2.	JE	4200	3	0	3
3.	Sr. Technician(MCM)	4200	8	4	4
4.	Technician – Gr.I	2800	20	9	11
5.	Technician – Gr.II	2400	4	2	2
6.	Technician – Gr.III	1900	11	0	11
7.	Helper	1800	28	25	3
8.	B/Smith –MCM	4200	1	1	0
9.	B/Smith –Gr.I	2800	1	0	1
Total			**79**	**44**	**35**

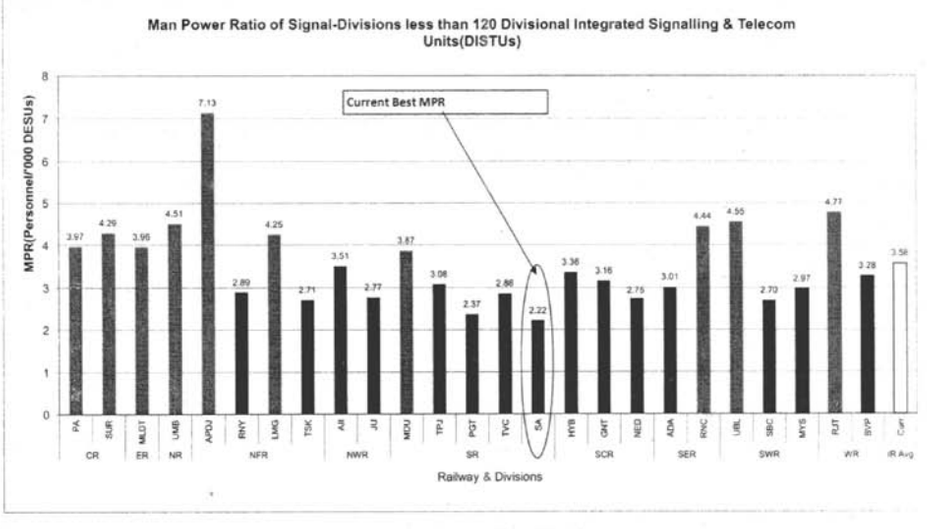
DETAILS OF SIGNAL ASSETS SSE/ Katpadi/West/SECTION

	KVN-LTI A/S		Kavanur Total		KVN-GYM A/S		Gudiyattam Total		GYM-VLT A/S		Valathoor Total		VLT-MPI A/S		Melpatti Total		MPI-PCKM A/S		Pachakuppam Total	
Unit	Qty	Unit	Qty	Unit	Qty	Unit	Qty	Unit	Qty	Unit	Qty	Unit	Qty	Unit	Qty	Unit	Qty	Unit	Qty	Unit
15			3	15			3	15			3	15			2	10			3	15
24	16	96	4	24	8	48	4	24	14	84	4	24	6	36	4	24	7	42	4	24
15			2	10			3	15			3	15			2	10	1		3	15
0			0	0			0	0			0	0			0	0			0	0
1			2	1			2	1			2	1			2	1			2	1
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
90			17	85			21	105			16	75			19	95			18	90
0			0	0			0	0			0	0			0	0			0	0
0	41	246	0	0	18	108	0	0	34	204	0	0	18	108	0	0	18	108	0	0
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			1	5			0	0
0			0	0			0	0			0	0			1	5			0	0
12			4	12			7	21			4	12			0	0			4	12
6			2	6			2	6			2	6			0	0			2	6
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
72			12	72			12	72			12	72			10	60			12	72
0			0	0			0	0			0	0			0	0			0	0
2			1	2			0	0			0	0			0	0			0	0
40			2	20			0	0			2	20			2	20			2	20
0			0	0			0	0			0	0			0	0			0	0
4			1	4			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
	4	80	1	20					1	20			3	60			2	40	2	40
0			0	0			0	0			0	0			0	0			0	0
0			0	0			0	0			0	0			0	0			0	0
															0	0			0	0

SIGNALLING STAFF IN DIVISIONS



CURRENT IR AVERAGE: 2.59 Men per thousand DESU(Divisional Equated Signal Units).
CURRENT Man Power Ratio: Agra cantt (AGC) of NCR at 0.55
EXCEEDING THE AVERAGE: 19 Divisions are above the current IR average.



CURRENT IR AVERAGE: 3.58 Men per thousand DESU(Divisional Equated Signal Units).
CURRENT Man Power Ratio: SA of SR is at 2.22
EXCEEDING THE AVERAGE: 10 Divisions are above the current IR average.