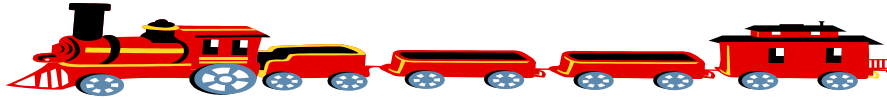


WORK STUDY TO REVIEW THE STAFF
STRENGTH OF SSE/POWER OVER PALAKKAD
DIVISION

No: G.275/WSSR – 311819/2019 - 20



SOUTHERN RAILWAY

PLANNING BRANCH

G.275 / WSSR- 311819 / 2019-20

WORK STUDY TO THE
STAFF STRENGTH OF
SSE/POWER OVER
PGT DIVISION

STUDIED BY

WORK STUDY TEAM
OF
PLANNING BRANCH

SEPTEMBER 2019



(i)
I N D E X

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(i)
ACKNOWLEDGEMENT

The work study teams convey its sincere thanks to DEE/G/PGT, ADEE/G/PGT, SSE/E/HQ/PGT and SSE's/Power of Electrical Department over PGT Division for their valuable guidance and co-operation for conducting and completing the work study in time.

(ii)
AUTHORITY

Annual programmed of work study for the year 2018 - 19.

(iii)
TERMS OF REFERENCE

Work Study to review the staff strength of Power units over PGT Division.

(iv)
METHODOLOGY

The following methodology has been adopted in conducting the above study.

1. Collection and compilation of data.
2. Interaction with field officials.
3. Based on Benchmark and need base.
4. Discussion with Officers.

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(v)

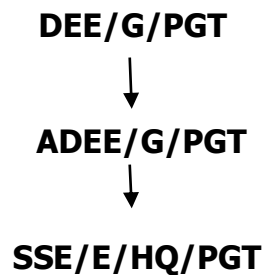
SUMMARY OF RECOMMENDATIONS**Recommendations :**

Sl no	Section	Designation	GP in Rs.	Surplus post
1	HQ/E/PGT	Helper	1800	02
2	SSE/P/PGT	SSE Sr.Tech Tech I Helper	4600 4200 2800 1800	01 02 02 05
3	SSE/P/SRR	SSE Tech I Helper	4600 2800 1800	01 01 02
4	SSE/P/CLT	SSE Tech I	4600 2800	01 02
5	SSE/P/MAQ	SSE Tech I Tech III Helper	4600 2800 1900 1800	01 02 01 04
			Total	27



CHAPTER- I**1.0 INTRODUCTION**

- 1.1 **PALAKAD DIVISION** is one of the six divisions in Southern Railway. Since it is the oldest division, number of trains are originating/terminating in this division. Due to this, the electrical maintenance activities like Primary, Secondary, Sick line attention of Air Conditioned Coaches, Non-Air Conditioned Coaches (Train lighting) and Power are also more in various depots.
- 1.2 Even though there are various wings in the electrical branch, this study is pertaining to the Power depots over PGT division.
- 1.3 Electrical power (General service) is a separate wing in Electrical Department of Railways, which deals with the arrangement of receiving electrical power from the State Electricity Boards and distribution up to the end user points.
- 1.4 The Electrical department (General Service) at PGT Division is presently headed by Divisional Electrical Engineer & assisted by ADEE's. The organizational set up is as below:-



- 1.5 An analysis is made, to study the present system of working and assess the manpower requirement for Power units over PGT Division for the present level of workload based on Bench mark and need basis.

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CHAPTER- II

2.0 PRESENT SCENARIO :

2.1 The sanctioned and actual staffs strength of Power units over PGT Division are furnished in **Annexure – I.**

2.2 The jurisdiction of Electrical power over PGT Division is as follows.

SSE/P/PGT : MDKI – OTP – PGT – POY – CNV covering 78 kms

SSE/P/SRR : MNUR – TIR – SRR - NIL covering 65 kms

SSE/P/CLT : TA – MAHE covering 99 kms

SSE/P/CAN : JGE – CHV covering 73 kms

SSE/P/MAQ : NLE – MAQ, MAQ – TOK – PNMB, MAQ – BUNDER covering 108 kms

SSE/E/HQ/PGT : General administration

2.3 The General activities of electrical power wing are

- Receiving power from Electricity Board
- Distribution of power to various points
- Recording the meter reading of High Tension (HT) and Low tension (LT) meters
- Collection of EB consumption cards from the consuming points
- Compare meter readings in EB cards with readings recorded by Electrical staff
- Calculating the electrical charges as per the tariff
- Passing of bills
- Preparation of Cheques for various EB offices
- Maintenance of power installation, like transformers, pumps, wirings, electrical fittings, AC plants etc
- Attending power line crossings (Over head lines and under ground cables)
- Installation and maintenance of earth pits
- Maintenance of Diesel generators and pumps
- Obtaining sanction from Electricity Board for supply to new installation whenever necessary
- Preparation of estimates for new works and execution of works
- Procurement of stores for departmental work

2.4 Other activities of Electrical power wing are

- Checking of UPS & Batteries at all PRS/UTS locations monthly
- Failure attention to Head quarters station & Colonies
- Extending supply to stalls and temporary supply to contractors for railway works
- Recording the Kilo watt meter reading
- Supply of energy bills to stalls and outsiders
- Joint inspection with other departments for relevant works
- Targeted works directed by Head quarters office
- Custody of stores, tools and plants, imprest, M & P Released
- Periodical disposal of released scrap and codal life expired/defective from stores
- Procurement of necessary stores materials by purchase order

- Recording of all maintenance activities and day to day correspondence work
- Supervision of outsourced works

2.5 In addition to the above work load other activities taken care by SSE/Power is here under

- New wiring provisions of gang rest rooms, staffs rest rooms, PF toilets, wiring of rooms during alteration/renovation by engineering department other than unplanned wiring works
- Replacement of old/defective LTUG cables
- Replacement of defective 3HP open well sub pump
- Replacement of defective UPS at various locations
- Replacement of LED light fittings
- Shifting and installation of AC plants
- Replacement of old neon name board to new LED name board
- Sub station switch room to RRI cabin & cable failure attention
- Escalator and pump automation
- Conversion of OH line in to UG cable

2.6 Section details of SSE/Power/PGT

POWER/PGT	
Head Qrts & Jurisdiction	PGT, PGT – OTP, PGT – MDKI, PGT – POY, POY - KNV
No of Stations	15
Category	A Category
No. of train stoppage	52 Pairs
No. of Platforms	5
FOB	FOB available connecting all platforms
No. of circulating area	02
Sub stations	PGT, Division office, RH/PGT
No of LC gates with solar and AT power	60
No of quarters	450
Lift & Escalators	Available on Pf 3 & 1
No of pump houses	2
No of High mass lights	2
DG sets for maintenance	PGT

Staff details				
Category	San	Act	Vac	Exc
SSE	04	04	--	--
JE	03	02	01	--
Sr.TECH	12	08	04	--
TECH I	23	23	--	--
TECH II	05	05	--	--
TECH III	06	06	--	--
HELPER	29	21	08	--
Total	82	69	13	--

2.7 Section details of SSE/Power/SRR

POWER/SRR	
Head Qrts & Jurisdiction No of Stations	SRR, MNUR – SRR – TIR & SRR – NIL 21
Category	A Category
No. of train stoppage	48 Pairs
No. of Platforms	5
FOB	FOB available connecting all platforms
No. of circulating area	01
Sub stations	River bed, Hill colony, SRR
No of LC gates	44
CLS Panels	14
No of quarters	270
Lift & Escalators	SRR
No of pump houses	41
No of High mass lights	2
No of gantry	2
DG sets for maintenance	4 no's in 5kva

Staff details				
Category	San	Act	Vac	Exc
SSE	02	01	01	--
JE	01	01	--	--
Sr.TECH	04	04	--	--
TECH I	08	06	02	--
TECH II	01	02	--	01
TECH III	02	--	02	--
HELPER	15	12	03	--
Total	33	26	08	01

2.8 Section details of SSE/Power/CLT

POWER/CLT	
Head Qrts & Jurisdiction No of Stations	CLT, TA – MAHE 20
Category	A Category
No. of train stoppage	45 Pairs
No. of Platforms	5
FOB	FOB available connecting all platforms
No. of circulating area	02
Sub stations	CLT station
No of LC gates	37
CLS Panels	25
No of quarters	240
Lift & Escalators	CLT & BDJ
No of pump houses	31
No of High mass lights	02
DG sets for maintenance	5 no's in 5kva
Water cooler tank wash outs	20 every month

Staff details				
Category	San	Act	Vac	Exc
SSE	02	02	--	--
JE	01	--	01	--
Sr.TECH	06	06	--	--
TECH I	06	02	04	--
TECH II	01	02	--	01
TECH III	02	02	--	--
HELPER	09	08	01	--
Total	27	22	06	01

2.9 Section details of SSE/Power/CAN

POWER/CAN	
Head Qrts & Jurisdiction	CAN, JGE - CHV
No of Stations	21
Category	A Category
No. of train stoppage	34 Pairs
No. of Platforms	4
FOB	FOB available connecting all platforms
No. of circulating area	02
Sub stations	CAN behind SSE/Office
No of LC gates	38
CLS Panels	21
No of quarters	203
Lift & Escalators	CAN & TLY
No of pump houses	20
No of High mass lights	01
Water cooler tank wash outs	20 every month

Staff details				
Category	San	Act	Vac	Exc
SSE	01	01	--	--
JE	--	--	--	--
Sr.TECH	02	06	--	04
TECH I	08	04	04	--
TECH II	01	02	--	01
TECH III	02	02	--	--
HELPER	06	13	--	07
Total	20	28	04	12

2.10 Section details of SSE/Power/MAQ

POWER/MAQ	
Head Qrts & Jurisdiction	MAQ, ULL – NLE & MAQ – PNMB
No of Stations	14
Category	A Category
No. of train stoppage	25 Pairs
No. of Platforms	5
FOB	FOB available connecting all platforms
No. of circulating area	02
Sub stations	MAQ & MAJN station
No of LC gates	32
CLS Panels	17
No of quarters	300
Lift & Escalators	MAQ
No of pump houses	06 around MAQ
No of High mass lights	02
DG sets for maintenance	5 no's in 5kva

Staff details				
Category	San	Act	Vac	Exc
SSE	03	01	02	--
JE	02	01	01	--
Sr.TECH	05	08	--	03
TECH I	12	03	09	--
TECH II	01	04	--	03
TECH III	04	01	03	--
HELPER	19	19	--	--
Total	46	37	15	06

2.11 SSE/Electrical /HQ/PGT :

Staff details				
Category	San	Act	Vac	Exc
SSE	02	01	01	--
JE	--	01	--	01
HELPER	04	04	--	--
Total	06	06	01	01

General Administration and Miscellaneous activities



3.0 CRITICAL ANALYSIS

3.1 The Power staff gives attention to power stations and calculation of power consumption in stations and other railway premises in their jurisdiction.

3.2 The working hours of power office over division

General duty : 08.00 to 12.00 hrs & 13.00 to 17.00 hrs

But substation and pump duty staff have to perform round the clock duties.

Right sizing of manpower in railways is being achieved through conventional studies by efficiency cell in Zonal Railways. But of late, Railway have started adopting bench mark concept for right sizing the staff strength. Bench marking is very useful to manage efficient deployment of staff and monitor effects of improvement in working practices, use of new technologies and level of outsourcing.

The Railway Board has identified benchmark for Electrical power staff over the Indian Railways. The Bench marking of PGT division is 0.14. The work study team adopted Indian Railway Average 0.22 as ideal Bench marking during April 2019 for the calculation purpose and assessment of manpower requirement for the electrical power unit over PGT division.

3.3 Energy Consumption for the Electrical power unit over PGT division including the jurisdiction stations, Quarters, Hospitals, Railway administration office and coaching depots for three years is as follows.

Bench mark norms over Indian Railways : 0.22 per 1000 units

a) **Power consumption units over PGT division for the last three years**

Sl no	Months	Consumption of units		
		2016 – 17	2017 – 18	2018 – 19
1	Apr	1006174	902911	822649
2	May	1047091	868072	828038
3	June	1077474	961634	743334
4	July	1077474	961634	802005
5	Aug	947091	844196	705443
6	Sep	976366	803976	665046
7	Oct	914739	811346	715108
8	Nov	927479	828711	753768
9	Dec	929276	829789	750142
10	Jan	906422	784226	733572
11	Feb	926256	817841	754819
12	Mar	821759	744482	748620
	Total	11557601	10158818	9022544

Three years consumption of units = 11557601+10158818+9022544
= 30738963/36 months

Average consumption of units per month = 853860.08 say 853861 units

Therefore the total staff requirement is worked out to be

as per IR average : $[(853861 / 1000) \times 0.22] = 187.84$ **Say 188**

As per bench marking of IR average is only 188 staffs arrives. During field visit it was observed the work load of power section is more such as Preventive maintenance, Failure attention, Safety check of all electrical items of individual section, Reading of electrical and Miscellaneous works. Presently helpers working in power section of PGT, SRR, CLT & CAN section is also looking after both Train lighting & AC of stabled coach in above said stations. Hence additional 29 staffs is allowed on need basis for smooth running of power section and total requirement of power staffs over PGT division is 217.

The section wise requirement and distribution of staffs is here under

1) SSE/HQ/E/PGT

Designation	Sanction	Actual	Requirement	Surplus
SSE	02	01	02	--
JE	--	01	--	--
Helper	04	04	02	02
Total	06	06	04	02

2) SSE/P/PGT

Designation	Sanction	Actual	Requirement	Surplus	Remarks
SSE	04	04	03	01	*The requirement of helper is 24 it includes 4 staffs working in TL & AC at PGT station as per SSE/P/PGT statement
JE	03	02	03	--	
Sr.Tech	12	08	10	02	
Tech I	23	19	21	02	
Tech II	05	05	05	--	
Tech III	06	06	06	--	
Helper	29	21	24*	05	
Total	82	65	72	10	

3) SSE/P/SRR

Designation	Sanction	Actual	Requirement	Surplus	Remarks
SSE	02	01	01	01	* The requirement of helper is 20 it includes 06 staffs working in TL & AC and 06 staffs working in IOH as per SSE/P/SRR statement
JE	01	01	01	--	
Sr.Tech	04	04	04	--	
Tech I	08	06	07	01	
Tech II	01	02	01	--	
Tech III	02	--	02	--	
Helper	22	15	20*	02	
Total	40	29	36	04	

4) SSE/P/CLT

Designation	Sanction	Actual	Requirement	Surplus	Remarks
SSE	02	02	01	01	* The requirement of helper is 09 it includes 02 staffs working in TL as per SSE/P/CLT statement
JE	01	--	01	--	
Sr.Tech	06	06	06	--	
Tech I	06	02	04	02	
Tech II	01	02	01	--	
Tech III	02	02	02	--	
Helper	09	08	09*	--	
Total	27	22	24	03	

5) SSE/P/CAN

Designation	Sanction	Actual	Requirement	Surplus	Remarks
SSE	01	01	01	--	Nil
JE	--	--	--	--	
Sr.Tech	02	06	02	--	
Tech I	08	04	08	--	
Tech II	01	02	01	--	
Tech III	02	02	02	--	
Helper	06	13	06	--	
Total	20	28	20	--	

6) SSE/P/MAQ

Designation	Sanction	Actual	Requirement	Surplus	Remarks
SSE	03	01	02	01	* The requirement of helper is 38 it includes 23 staffs working in TL & AC as per SSE/P/MAQ statement
JE	02	01	02	--	
Sr.Tech	05	08	05	--	
Tech I	12	03	10	02	
Tech II	01	04	01	--	
Tech III	04	01	03	01	
Helper	42	42	38*	04	
Total	69	60	61	08	

Requirement of Power staffs over PGT division in various section is here under :

Sl. No	Section	Sanction	Actual	Requirement	Surplus
1	HQ/E/PGT	06	06	04	02
2	SSE/P/PGT	82	65	72	10
3	SSE/P/SRR	40	29	36	04
4	SSE/P/CLT	27	22	24	03
5	SSE/P/CAN	20	28	20	--
6	SSE/P/MAQ	69	60	61	08
	Total	244	210	217	27

Recommendations :

Sl no	Section	Designation	GP in Rs.	Surplus post
1	HQ/E/PGT	Helper	1800	02
2	SSE/P/PGT	SSE Sr.Tech Tech I Helper	4600 4200 2800 1800	01 02 02 05
3	SSE/P/SRR	SSE Tech I Helper	4600 2800 1800	01 01 02
4	SSE/P/CLT	SSE Tech I	4600 2800	01 02
5	SSE/P/MAQ	SSE Tech I Tech III Helper	4600 2800 1900 1800	01 02 01 04
			Total	27

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CHAPTER IV**4.0 CO – ORDINAING OFFICER VIEWS AND PLANNING BRNACH REMARKS**

The draft work study report for this study was handed over to ADEE/G/PGT Co-ordinating Officer on 17/07/2019 to offer his remarks. A remainder letter was also sent on 08/08/19 & 26/08/19 for remarks on or before 19/08/2019 & 04/09/19. Normally a period of 15 days is allowed to offer Co – ordinating officer remarks. In this case even after 68 days the remarks have not been received. Hence the work study report is released without the remarks of Co – ordinating officer.



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.	Section	Category	Level	No of Posts	Money value/ month (Rs.)	Annual Financial savings (Rs.)
1	HQ/E/PGT	Helper	1800	02	41949	1006656
2	SSE/P/PGT	SSE	4600	01	104888	1258656
		Sr.TECH	4200	02	82768	1986432
		TECH I	2800	02	68040	1632960
		HELPER	1800	05	41949	2516640
3	SSE/P/SRR	SSE	4600	01	104888	1258656
		TECH I	2800	01	68040	816480
		HELPER	1800	02	41949	1006656
4	SSE/P/CLT	SSE	4600	01	104888	1258656
		TECH I	2800	02	68040	1632960
5	SSE/P/MAQ	SSE	4600	01	104888	1258656
		TECH I	2800	02	68040	1632960
		TECH III	1900	01	46536	558432
		HELPER	1800	04	41949	2013312
Total				27		1,98,38,112

Scale Check Statement of SSE/POWER over PGT Division

	Sl.No	Designation	G.P in Rs.	S	A	V	E
POWER/PG	1	SSE	4600	04	04	--	--
	2	JE	4200	03	02	01	--
	3	Sr.Tech	4200	12	08	04	--
	4	Tech. I	2800	23	19	04	--
	5	Tech. II	2400	05	05	--	--
	6	Tech.III	1900	06	06	--	--
	7	Helper	1800	29	21	08	--
	Total			82	65	17	--
POWER/SRR	1	SSE	4600	02	01	01	--
	2	JE	4200	01	01	--	--
	3	Sr.Tech	4200	04	04	--	--
	4	Tech. I	2800	08	06	02	--
	5	Tech. II	2400	01	02	--	01
	6	Tech.III	1900	02	--	02	--
	7	Helper	1800	22	15	07	--
	Total			40	29	12	01
POWER/CLT	1	SSE	4600	02	02	--	--
	2	JE	4200	01	--	01	--
	3	Sr.Tech	4200	06	06	--	--
	4	Tech. I	2800	06	02	04	--
	5	Tech. II	2400	01	02	--	01
	6	Tech.III	1900	02	02	--	--
	7	Helper	1800	09	08	01	--
	Total			27	22	06	01
POWER/CAN	1	SSE	4600	01	01	--	--
	2	JE	4200	--	--	--	--
	3	Sr.Tech	4200	02	06	--	04
	4	Tech. I	2800	08	04	04	--
	5	Tech. II	2400	01	02	--	01
	6	Tech.III	1900	02	02	--	--
	7	Helper	1800	06	13	--	07
	Total			20	28	04	12

POWER/MAQ	1	SSE	4600	03	01	02	--
	2	JE	4200	02	01	01	--
	3	Sr.Tech	4200	05	08	--	03
	4	Tech. I	2800	12	03	09	--
	5	Tech. II	2400	01	04	--	03
	6	Tech.III	1900	04	01	03	--
	7	Helper	1800	42	42	--	--
	Total			69	60	15	06
HQ/PGT	1	SSE	4600	02	01	01	--
	2	JE	4200	--	01	--	01
	3	Sr.Tech	4200	--	--	--	--
	4	Tech. I	2800	--	--	--	--
	5	Tech. II	2400	--	--	--	--
	6	Tech.III	1900	--	--	--	--
	7	Helper	1800	04	04	--	--
	Total			06	06	01	01
	Grant total			244	210	55	21

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