



SOUTH EASTERN RAILWAY

Review of Staff Strength in the Electrical(G) Wing of Adra Division



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STUDY NO. EFF/899.

SYNOPSIS

1.	Name of the work study	Review of Staff Strength in the Electrical (G) wing of ADA/Division.
2.	Terms of reference	Taken as one of the work-studies during year 2018-19.
3.	Aim	To analyze the present requirement of staff Electrical (G) wing of ADA/Divn after studying the various activities that have become redundant.
4.	Projected manpower surrender.	42‘vacant’ posts.
5	Anticipated/projected savings per annum	Rs.206 lakhs (approx)
6.	No of recommendations	One
7.	Critical analysis & observations	Modern electrical equipments with advanced and automatic technology make several activities easier. It requires minimum human intervention to operate these equipments. Hence, the requirement of man power automatically decreases. The Electrical (G) wing of Adra Division has adopted various new technologies like Automation of pumps in 9 locations, switching of tower light at various location through automatic timers, 75% by 25% station lighting arrangement with automatic switches, underground cabling, laminated cabling, use of LED lights in place of conventional lighting, replacing of glow sign board with retro reflective board, solar lighting arrangement at L/C Gates etc. In addition, miscellaneous activities have been arranged through contractual agreement at ADA, BKSC & BQA-BDR section.
8.	Brief note on recommendations	In view of modernization in technology including automation of switches, the requirement of man power in Electrical (G) wing may be reduced and 42 ‘vacant’ posts in lower (D/R) grade of Helper may be surrendered.
9.	Department/s concerned	Electrical

ACKNOWLEDGEMENT

Work Study Cell expresses its deep gratitude to the officials in the office of Sr.DEE (G)/ ADA including the various units therein & Sr. DPO's Office/ ADA who have rendered their valuable guidance and co-operation in completion of the report.

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CHAPTER – I

1.0 INTRODUCTION

The modernization of Indian Railways changes the working scenario in many areas. Electrical Works associated with the installation, modification, removal, inspection or testing of electrical systems & components, including works relating to mechanical, electrical or non-electrical components. Emergency maintenance includes emergency repair of electrical system that requires immediate action and take precedence over routine maintenance activities for the duration of the emergency. The department also maintains high mast lighting equipments on high mast poles complete with luminaries which includes raising and lowering devices consisting of ring assemblies and pole anchorage assemblies. The maintenance also includes both routine and non-routine maintenance work of regular electrical appliances.

In ADA Division several new steps have been taken by Electrical (G) wing for effective electrical usage with power saving and maintenance free equipments. System for automation of pumps installed at 9 locations, timers have been setup in tower lights in various locations which enable illumination and switching off of tower lights at different location at same time without manual intervention. Lighting arrangements at ADA station has been done with automatic switches that illuminate 75% by 25% as per arrival time of trains at stations. Similar programmed switches are in the process of being installed in other important stations. Conventional bulbs have been replaced by LED lights which are durable and energy efficient, glow sign boards have been replaced by retro reflective board at ADA, BQA, CDGR, GBA, BURN, PRR & BKSC yard. Solar panels have been installed for lighting in LC gates. In addition miscellaneous electrical works have been out sourced at ADA, BKSC and BQA-BDR section which consists of works like tree trimming, changing of HT-LT conductor, Re-wiring, cable lying, submersible pump repair, light/fan replacement, shifting of transformer, repair of switches and other work. The departmental vehicle is also under contractual hire. The Electrical (G) works at ADA division are being managed by supervisory posts like SSE & JE who are assisted by Sr. Technicians, Technician Gr.-I, Gr.-II, Gr.-III posts with the helping hands of Helper

The subjected study has been taken up as one of the studies in the year 2018-19.

CHAPTER – II

2.0 **STAFF STRENGTH OF ELECTRICAL (GENERAL) CATEGORY IN ADA DIVN**

S1	Category PL Gr	GP	Sanct	Act	Vac	Excess
1	Sr. Tech	4200	77	70	7	0
2	Tech-I	2800	134	89	45	0
3	Tech-II	2400	18	34	0	-16
4	Tech-III	1900	37	59	0	-22
5	Helper	1800	173	131	42	0
	TOTAL		439	383	94	-38

CHAPTER – III

3.0 EXISTING SYSTEM OF WORKING :

Electrical Work means work associated with the installation, modification, removal, inspection, maintenance or testing of electrical system components, including works relating to mechanical, electrical or non-electrical components required for the work. Emergency maintenance includes emergency repair of electrical equipments/ circuits that requires immediate action and takes precedence over routine maintenance activities for the duration of the emergency, till rectified. This wing also maintains high mast lighting equipment on high mast poles complete with luminaries, raising and lowering devices consisting of ring assemblies and pole anchorage assemblies. The maintenance includes both routine and non-routine maintenance work of installed electrical appliances.

The Electrical (G) wing functioning at ADA division is managed by supervisory posts like SSE & JE who are assisted by Sr. Technician, Technician Gr.-I, Gr.-II, Gr.-III posts with the helping hands of Helper.

Modern technology has been introduced in various activities that were earlier managed manually. System for automation of pumps installed at 9 locations, timers have been setup in tower lights in various locations which enable illumination and switching off of tower lights at different location at same time without manual intervention. Lighting arrangements at ADA station has been done with automatic switches that illuminate 75% by 25% as per arrival time of trains at platforms. Similar programmed switches are in the process of being installed in other important stations. Conventional bulbs have been replaced by LED lights which are durable and energy efficient, glow sign boards have been replaced by retro reflective board at ADA, BQA, CDGR, GBA, BURN, PRR & BKSC yard. Solar panels have been installed for lighting in LC gates. In addition miscellaneous electrical works have been out sourced at ADA, BKSC and BQA-BDR section which consists of works like tree trimming, changing of HT-LT conductor, Re-wiring, cable lying, submersible pump repair, light/fan replacement, shifting of transformer, repair of switches and other work. The departmental vehicle is also under contractual hire.

CHAPTER – IV

4. CRITICAL ANALYSIS AND RECOMENDATION

Modern electrical equipments with advanced and automatic technology makes several jobs easier and without manual observation. It requires minimum human intervention to operate these equipments. Hence logically, there is a lesser requirement of man power. The Electrical (G) Department of Adra Division has adopted various new technologies like Automation of pumps in 9 locations, switching of tower lights at various location through automatic timers, 75% by 25% station lighting arrangement with automatic switches, underground cabling, laminated cabling, use of LED lights in place of conventional lights, replacing of glow sign board with retro-reflective boards, solar light panels for lighting in L/C Gates etc. In addition to that miscellaneous activities have been outsourced through contractual agreement at ADA, BKSC & BQA-BDR section.

The MPR for ADRA division is 0.21 men per '000 units against the IR benchmark average of 0.18 men per '000 units for an average consumption above 2300,000 units implying an excess of manpower utilization in the division.

.4.1 RECOMMENDATIONS

Recommendation – I : In view of modernization in technology including automation of switches in Electrical (G) wing, 42 'vacant' posts of Helper, in the DRQ is recommended for surrender.

CHAPTER – V

5 FINANCIAL EVALUATION

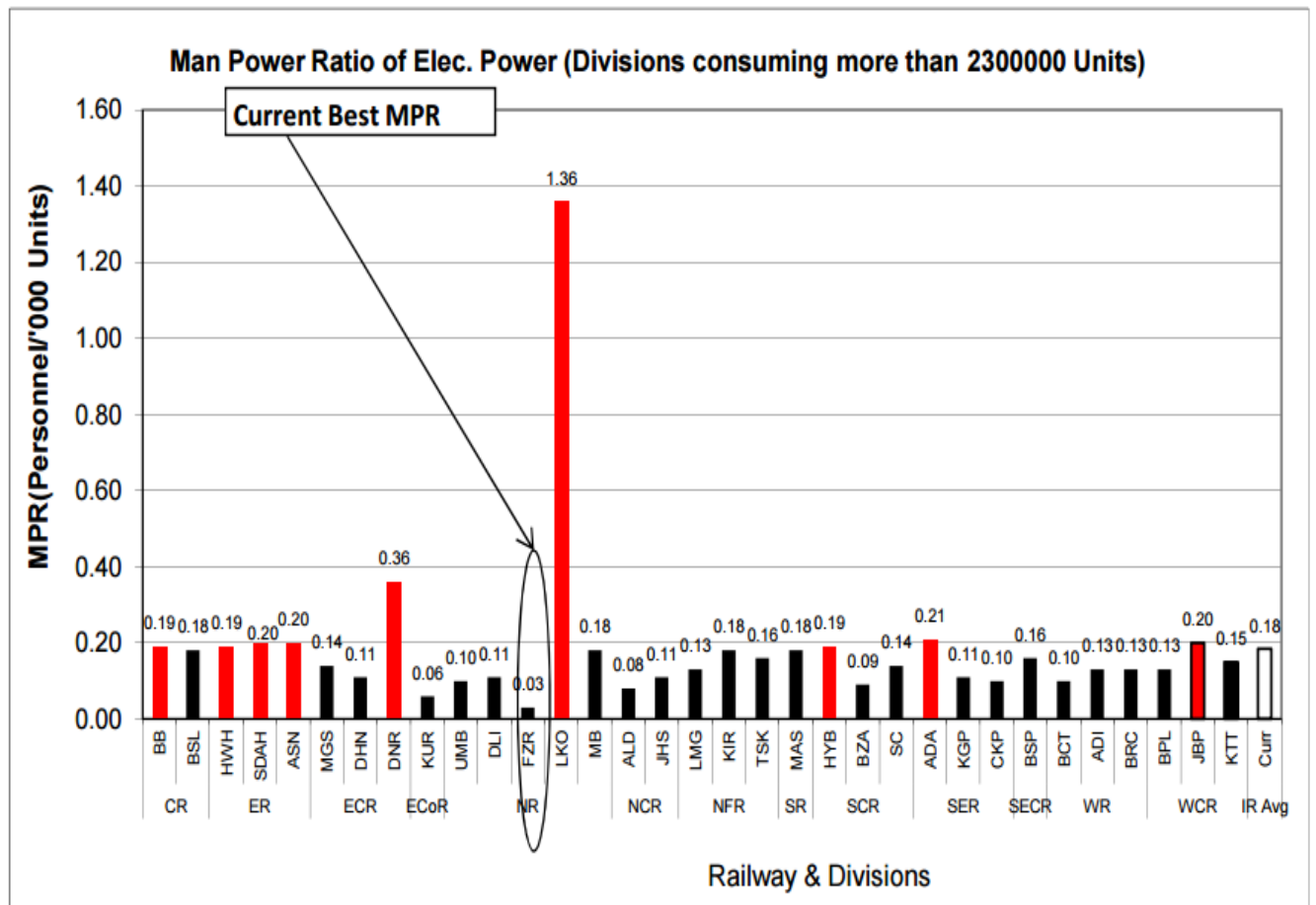
In reference to the recommendations made in the study report the financial evaluation on the basis of surrender of 42 'vacant' posts is as under:-

Sl	Desgn	No. of posts	Level	Pay	Avg. Pay	DA @ 9%	Monthly cost per staff	Total cost per month
1	Helper	42	1	18000-56900	37450	3370	40820	1714440
TOTAL		42						17,14,440

The annual savings due to surrender of 42 'vacant' posts= Rs. 1714440 x12
= Rs. 205,73,280/-
Say 206 lakhs per annum

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ELEC. POWER STAFF IN DIVISIONS



CURRENT IR AVERAGE: 0.18 Men per '000 Units.

CURRENT Man Power Ratio: Firozpur division of NR is at 0.03

EXCEEDING THE AVERAGE: 09 Divisions are above the current IR average.