

EASTERN RAILWAY

WORK STUDY REPORT ON

REVIEW OF RUNNING STAFF FOR ELECTRIC TRACTION OVER EASTERN RAILWAY

(STUDY NO. WSER – 01 / 2020- 21)

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BY

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C O N T E N T S

Sl. No.	Subject	Page Nos.
1.	Acknowledgement	3
	Authority	
	Terms of reference	
	Methodology	
	Summary of Recommendations	
2.	<u>CHAPTER-I</u> Introduction	4 - 5
3.	<u>CHAPTER-II</u> Existing Scenario & Critical Analysis	6 - 24
4.	<u>CHAPTER-III</u> Financial Appraisal	25
5.	ANNEXURES	A / 1 -- 18
		B / 1 -- 7
		C / 1 -- 45

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TERMS OF REFERENCE

The subject work-study has been conducted based on the following terms of references –

- i) Existing Sanctioned strength and MOR of Running staff for Electric traction.
- ii) Existing Link roster of Running Crew.
- iii) Existing Leave Reserve (LR) and Training reserve (TR) of running staff.

METHODOLOGY

In conducting the subject work study, the study team has applied the following methodology.

- i) The study team recorded the existing system of working.
- ii) Discussion was made with the supervisors and staff concerned.
- iii) Critically examine the existing link roster of running staff of electric traction.
- iv) Critically examine the existing Leave Reserve (LR) and Training reserve (TR) of running staff of electric traction.

SUMMARY OF RECOMMENDATION

Sl. No.	Recommendation	Para ref.
1	It is recommended by the study team that the Revised Sanctioned Strength of Power Running staff of Electric Traction over Eastern Railway would be 4505 Posts as against the Present Sanctioned Strength of 5311 Posts. Thus, the resulting (5311 – 4505) i.e. 806 Posts are identified as Surplus.	2.10

CHAPTER- I

1.0 Introduction

Indian Railways (IR) is India's national railway system operated by the Ministry of Railways. It is run by the government as a public good and manages the fourth largest railway network in the world by size, with a route length of 95,981 km (59,640 mi) as of March 2019. About 63% of all the routes are electrified with 25 kV 50 Hz AC electric traction.

- 1.1 Through the 1960s and early 1970s numerous studies were commissioned to investigate the question of which of diesel or electric traction was really more economical and better in the long run for IR. Most of these leaned towards electrification, especially for high-traffic sections. The rise in oil prices in the mid-1970s tilted the argument further in favour of electric traction as electricity generation in most of India is hydroelectric or coal-based.

- 1.2 As of March 2019, Indian Railways' rolling stock consisted of 289,185 freight wagons, 74,003 passenger coaches and 12,147 locomotives.

IR owns locomotive and coach-production facilities at several locations in India. Being the world's eighth-largest employer, it had 1.227 million employees as of March 2019.

The government has committed to electrify its entire rail network by 2023-24, and become a "net-zero railway" by 2030.

1.3 CURRENT STATUS OF TRACTION IN INDIA

Electrification is most important up gradation of Indian railway. But this increases the consumption electricity. There is most important to study traction system and its effect on power system. A total 39,866 (route) km was electrified by 31st March 2020 which is 58.49 % of the total Railway network. The detailed traction system can be described by dividing it into three sections such as three phase supply system, traction substation and locomotive system which is described as follows:

- A) Three phase supply system
- B) Traction substation
- C) Locomotive Subsystem

- 1.4 Electric traction is a specialized field. Efficient operation and maintenance of the traction installations and equipment is only possible if the staff concerned have acquired an intimate knowledge of the details of construction, adjustments and operation of the equipment. A thorough knowledge of the special rules and procedures on the part of the staff is also essential to ensure safety of equipment and personnel. These requirements call for a degree of specialized training for all

categories of staff before they can be safely entrusted with the responsibility for maintenance or operation.

- 1.5 Indian Railway is facing tremendous financial crunch after implementation of 7th Pay Commission. Operating ratio is gradually increasing. Though Indian Railway is not a business organization but to survive, it is always essential to make the organization in profit i.e. operating ratio should be less than 100. The “Operating Ratios” from 2016-17 to 2019-20 shown in the corporate plan booklet published by the Eastern Railway are given below –

Year	Operating Ratio
2016-2017	165.25
2017-2018	181.15
2018-2019	185.98
2019-2020	159.65 (Proposed)

- 1.6 In view of the above, Rly Board issued nos. of circulars, orders, etc to minimize expenses and increase earnings to Zonal Railways to achieve better Operating Ratio. The Zonal Railways also implement various measures for financial discipline.

At this juncture, the role of Railway Efficiency & Research Directorate is also very important in connection with the productivity without hampering normal progress and activity by employing technique of ‘Rationalizing/ Rightsizing of Man-Power’ and eliminating diminishing categories/redundant activities. The Railway has also invested huge amount in capital expenditure to improve its infrastructure by adopting new technology time to time.

1.7 **Scope of the study:**

As the main objective of Indian Railway is to improve the operating Ratio of railway, the GM's Efficiency Cell always pays attention to curtail manpower from different wings of different departments that are found excess in all respect based on the justification drawn by the study team during period of physical observation and as a result, the productivity is increased by decreasing the inputs i.e. by surrendering the excess manpower. The prime aim of conducting the subject work study is to assess the revised requirement of running staff for Electric traction consequent upon the changed scenario.

CHAPTER- II

2.0 Existing Scenario and Critical Analysis:

The Work study team of Eastern railway has undertaken the subject work study to ascertain the actual requirement of Running Crew of Electrical Stream to tackle the existing work load without compromising the facilities rendered to the passengers. In this connection, the enhanced work load due to increase of number of trains over Eastern Railway has also been taken into consideration while assessment is made.

The workload of the Running Crew of Electrical Stream are directly associated with the Electric Loco holding of the zone along with the traffic movement. Shed wise Electric loco Holding of Eastern Railway is tabulated underneath:

Loco shed	Type of Loco							<i>Total</i>
	WAP7	WAP5	WAP4	WAM4	WAG9	WAG7	WAG5	
HWH (HESH)	77	14	73					164
SDAH (SLSD)	10							10
ASN (AESA)			18	3		35	110	166
BWN (BDSD)					25			25
TOTAL	87	14	91	3	25	35	110	365

2.1 The Division wise summarize position of Sanctioned Strength and Men-on-Roll position of various categories of Running Crew of Electrical Stream is tabulated below:

Category	Division										Total		
	HWH		SDAH		ASN		MLDT		HQ				
	Sanctioned Strength	Men-on-roll	Sanctioned Strength	Men-on-roll	Sanctioned Strength	Men-on-roll	Sanctioned Strength	Men-on-roll	Sanctioned Strength	Men-on-roll	Sanctioned Strength	Men-on-roll	Vacancy
Loco Pilot Mail/Exp. (LPM)	56	47	55	55	93	56	0	0	0	0	204	158	46
Loco Pilot Passenger (Loco) [LPP (Loco)]	0	0	19	18	22	36	0	0	0	0	41	54	-13
Loco Pilot (Motorman) LP(MM)	363	269	630	484	64	31	0	0	0	0	1057	784	273
Loco Pilot Goods (LPG)	284	227	154	131	676	582	200	0	0	0	1314	940	374
Loco Pilot Shunting (LPS)	281	201	241	202	189	69	0	0	0	0	711	472	239
Asstt. Loco Pilot (ALP)	333	373	223	278	828	718	200	172	0	0	1584	1541	43
Chief Loco Inspector (CLI)	48	38	51	36	64	38	14	0	5	5	182	117	65
Drafted Supervisor	66	31	78	41	60	37	14	0	0	2	218	111	107
Total	1431	1186	1451	1245	1996	1567	428	172	5	7	5311	4177	1134

2.2 A Zero based review of Running Crew has been carried out in ongoing paragraphs considering the following points.

1) The requirement of Running crew for coaching services has been carried out based on crew links and for Freight services the requirement has been worked out @ 7.05 crew per Loco holding (DU) including Leave Reserve (LR) & Training Reserve (TR). For which, there is ample scope to reduce this yard stick from 7.05 crew per DU to 6.50 crew per DU which is followed everywhere in India. Though, presently it is not taken into consideration. Therefore, there is no change of Goods crew requirement and proposed Goods crew are kept as it is.

2) For coaching services like Mail / Express, Passengers, Shunter, Assistant. Driver, the Leave Reserve (LR) and Training Reserve (TR) reduced to 15% of the total Link Requirement from last year 43% [@ of 30% & 10% respectively] has been considered.

This has been done by taking into account of 30 days LAP, 10 days CL, 10 days HLAP and average 12 days refresher course in a year, which is equal to 62 days i.e. $62 / 365 = 16.9\%$.

However majority of the staff does not avail all the leaves i.e 30 days LAP, 10 days CL, 10 days HLAP in a year. Taken this into consideration, LR & TR @ 15% of the link requirement has been considered.

3) For Motorman LR and TR is considered as 20% of the link requirement. Since M/Exp. And Passenger trains can also be operated by selected LPG in case of emergency.

Considering the above mentioned points, the division – wise assessment for existing requirement of Running Crew of Electrical stream has been done in the paragraphs below.

2.3 **Howrah Division (HWH)**

The position of Sanctioned Strength and Men-on Roll of HWH division is shown in table under para 2.0. The revised link summary of Running Crew of HWH div. is attached as Annexure A / 1 - 18. The assessment for category-wise requirement of Running Crew of Electrical Stream has been done in paragraphs below.

2.3.1 **Loco Pilot Mail/Exp. (LPM)**

The bare requirement of LPM of HWH div. has been assessed in the table below.

Link No.	Crew Link during last review		Revised Crew Link		Remarks
	No. of Trains	Bare Crew required	No. of Trains	Bare Crew required	
1	31	27	28	28	Crew link of 13007/08 transfer to ASN and 12351/52 & 12333/34 taken from ASN
2	6	6	6	6	
3	12	6	10	4	
Total	43	39	44	38	

Thus, the requirement for Link Crew = 38 Nos.

Now, there is no cadre of LPP (Loco) in HWH division, so Leave Reserve (LR) & Training Reserve (TR) @15% for LPM is provided in LPG Cadre.

2.3.2 **Loco Pilot Passenger (LPP)**

2.3.2.1 **Motorman:**

The bare requirement of LPP (Motorman) of HWH has been assessed in the table below.

Lobby	Link No.	Crew Link during last review		Revised Crew Link		Remarks
		No. of Trains	Bare Crew required	No. of Trains	Bare Crew required	
BDC	1	62	38	99	41	
HWH	2	235	112	231	112	
BWN	3	100	41	71	48	
KWAE	4	60	29	59	28	
	New Train	9	5	10	4	New trains 1 pair HWH-TAK, 2 pairs TAK-SHE, 2 pairs TAK-AMBG.
Total		466	225	472	233	

Along with the requirement assessed in above table, the requirement of LPP (Motorman) for Special Train and Festival Sp. Train is assessed underneath:

	Revised Requirement	Remarks
For Special Train	2 nos.	(I/Car, Ticket check and E/EMU etc.)
For festival special Train	3 nos.	
Total	5 nos.	

Hence, total bare requirement of Motorman = 233 + 5 = 238 Nos.

2.3.2.2 **DSL Converttee Motorman:**

The assessment for DSL Converttee Motorman has been done in table below –

Lobby	Link No.	Crew Link during last review		Revised Crew Link	
		No. of Trains	Bare Crew required	No. of Trains	Bare Crew required
RPH	1	-	-	10	8
KWAE	2	-	-	4	3
Total				14	11

Bare requirement of DSL Converttee Motorman = 11

Now, total bare requirement of Motorman including DSL Converttee as per assessment = $238 + 11 = 249$ nos.

Thus, Total requirement of Motorman of HWH div, including LR & TR (@ 20%)
 $= 249 \times 1.20 = 298.8 = 299$ Nos.

Further, vide PCPO/ER's letter no. E839/LP/Elect/Metro Rly/induction/Loose dated 02.12.19, Motorman required for Metro Railway = 32 nos

Therefore, Total requirement of Motorman = $299 + 32 = 331$ nos.

2.3.3 **Loco Pilot Goods (LPG)**

Goods loco Driving Unit (DU) holding of HWH div. for the year 2019-20 = 40.28

Thus, requirement of LPG = $40.28 \times 7.05 = 283.97 = 284$ Nos.

Now, it was mentioned earlier in para 2.3.1 that there is no cadre of LPP (Loco) in HWH div, so the LR & TR of (LPM) (@ 15%) is provided in LPG Cadre
 $= 38 \times 0.15 = 5.7 = 6$ nos.

Hence, Total requirement of LPG of HWH div. = $284 + 6 = 290$ Nos.

2.3.4 **Drafted Supervisor**

The bare requirement of Drafted Supervisor has been assessed in the table below.

Place	Requirement	Remarks
Divisional TLC Control	8	TLC/P-4, TLC/G-4
HWH Lobby	8	CCNL/HWH-4, CCNL/BMG-4
BWN Lobby	8	CCNL -4, CCNL/Outdoor & Shed notice-4
BDC Lobby	5	CCNL - 5
KWAE Lobby	5	CCNL - 5
Running Room	2	BWN & TAK
HQ TLC Control	6	
Total	42	

Bare requirement of Drafted Supervisor = 42

Hence, Total requirement of Drafted Supervisor of HWH div. including LR & TR @ 12.5% = $42 \times 1.125 = 47.25 = 48$ Nos.

2.3.5 Loco Pilot Shunting (LPS)

The requirement of LPS for HWH div. has been assessed in table below.

Point	Requirement
HWH point	88
BDC point	24
BWN point	32
KWAE point	8
RPH point	13
AZ point	9
Total	174

Total bare requirement of LPS = 174

Hence, Total Requirement of LPS including LR & TR (@ 15%) = $174 \times 1.15 = 200.1 = 200$ Nos.

Further, vide PCPO/ER's letter no. E839/LP/Elect/Metro Rly/induction/Loose dated 02.12.19, LPS required for Metro Railway = 5 nos

Hence, Total requirement of LPS of HWH div. = $200 + 5 = 205$ Nos.

2.3.6 Asstt. Loco Pilot (ALP)

The requirement of ALP of HWH div. has been assessed in the table below.

	Assessed Requirement
<u>For Electric M/Exp.</u> Bare requirement = 32 (6 LPM are utilised in high speed trains) [ref para 2.3.1] Requirement including LR & TR (@ 15%) = $32 \times 1.15 =$	37
<u>For Goods service</u> [ref para 2.3.3]	290
<u>For walkie talkie distribution</u> (HWH & BWN Lobby 4 each)	8
<u>For ATLC/HWH</u>	4
For CMS operation at HWH & BWN (@4 per Lobby)	8
Total ALPs required	347
Requirement of extra 10% is to be considered as ALP is feeding category (vide Member Staff D.O. Letter No.E(MPP)2016/1/8 dated 21.04.2016)	34.7
Total requirement of ALP =	381.7 = 382 Nos

Hence, Total requirement of ALP of HWH div. = 382 Nos.

2.3.7 **Chief Loco Inspector (CLI)**

The requirement of CLI of HWH div. has been assessed in the table below.

	Assessed Requirement
For LP (@ 1 for 25) i.e (38 LPM + 299 LPP + 290 LPG) / 25 = 627 / 25 =	25.08
For LPS & ALP (@ 1 for 50) i.e (200 LPS + 382 ALP) / 50 = 582 / 50 =	11.64
For CCNL (@ 1/Depot) (HWH & BWN)	2
For CTLC @ 1/CNL (HWH)	1
For Sr.DEE(OP)/HWH	1
For Safety Counselor under Sr.DSO	1
Running Room In-Charge (BWN & TAK)	1
For Counseling to Tower Wagon LPs	1
Total	43.72

Total bare requirement of CLI = 43.72

Hence, Total Requirement of CLI including LR & TR (@5%) = $43.72 \times 1.05 = 45.9$ = 46 Nos.

Hence, Total requirement of CLI of HWH div. = 382 Nos.

2.3.8 Thus, the assessed requirement of Running Crew of Electrical Stream of HWH div. is as follows:

Designation		Revised Sanction	Reference para
LPM		38	2.3.1
LPP	Motorman	$331 = 299 + 32^*$	2.3.2.2
	Loco	0	--
LPG		290	2.3.3
LPS		$205 = 200 + 5^*$	2.3.5
ALP		382	2.3.6
CLI		46	2.3.7
D/R/Sup		$48 = 42 + 6$ (HQ)	2.3.4
Total		$1340 = 1303 + 37^*$	

* LPP- 32 nos. & LPS - 5 nos. working for Metro Railway,
6 nos. D/R/Sup working for HQ

2.4 **Asansol Division (ASN)**

The position of Sanctioned Strength and Men-on Roll of ASN division is shown in table under para 2.0. The revised link summary of Running Crew of ASN div. is attached as Annexure B / 1 – 7. The assessment for category-wise requirement of Running Crew of Electrical Stream has been done in paragraphs below.

2.4.1 **Loco Pilot Mail/Exp. (LPM)**

The bare requirement of LPM of ASN div. has been assessed in the table below.

Link No.	Crew Link during last review		Revised Crew Link		Remarks
	No. of Trains	Bare Crew required	No. of Trains	Bare Crew required	
1	24	28	40	45	Crew link of 12351/52 & 12333/34 transfer to HWH 13007/08 taken from HWH
2	16	26			
3	21	8	21	8	
3A	2	1	2	1	
4	30	7	30	6	
4A	--	--	2	2	
7	4	5	4	4	13054/53 operated by DSL converttee LPM
Total	97	65	99	66	

Thus, the bare requirement for Link Crew = 66 Nos.

Leave Reserve (LR) & Training Reserve (TR) @15% for LPM is provided in LPP Cadre.

2.4.2 **Loco Pilot Passenger (LPP)**

2.4.2.1 **Motorman:**

The bare requirement of LPP (Motorman) of ASN has been assessed in the table below.

Link No.	Crew Link during last review		Revised Crew Link	
	No. of Trains	Bare Crew required	No. of Trains	Bare Crew required
5	58	31	59	32
8	10	7	10	7
Total	68	38	69	39

In addition to this, 2 motorman is required on an average for movement of Empty/MEMU & Spl, Train.

Thus, bare requirement of Motorman for ASN div is $39+2 = 41$

The requirement of LPP (Motorman) including LR & TR (@%20)
 $= 41 \times 1.20 = 49.20 = 50$ Nos.

Further, Motorman working in Metro Railway = 2 Nos.

Therefore, Total Requirement of Motorman of ASN div. = $50 + 2 = 52$ Nos.

2.4.2.2 **LPP (Loco hauled):**

The bare requirement of LPP (Loco) has been assessed in the table below.

Link No.	Crew Link during last review		Revised Crew Link		Remarks
	No. of Trains	Bare Crew required	No. of Trains	Bare Crew required	
6	8	15	4	8	

Bare Requirement = 8

Total Requirement of LPP (Loco hauled) including LR & TR (@ 15%)
 $= 8 \times 1.15 = 9.2$

Now, it was mentioned earlier in para 2.4.1 that LR & TR of LPM (@ 15%) is provided in LPP Cadre. So, LR & TR of LPM = $66 \times 0.15 = 9.9$

Hence, Total requirement of LPP (Loco hauled) = $9.2 + 9.9 = 19.1 = 20$ Nos.

Further, additional 5 LPP is considered for ongoing electrification by the department.

Hence, Total requirement of LPP of ASN div. = $20 + 5 = 25$ Nos.

2.4.3 **Loco Pilot Goods (LPG)**

Goods loco Driving Unit (DU) holding of ASN div. for the year 2019-20 = 95.0

Thus, requirement of LPG = $95 \times 7.05 = 669.75 = 670$ Nos.

Further, requirement of LPG for Metro railway = 6 Nos.

Thus requirement of LPG = $95 \times 7.05 = 669.75 = 670$

Therefore, Total Requirement of LPG of ASN div. = $670 + 6 = 676$ Nos.

2.4.4 **Drafted Supervisor**

The bare requirement of Drafted Supervisor has been assessed in the table below.

Place	Requirement	Remarks
Divisional TLC Control	13	TLC/P&G-8, TLC/G-4, KM-1
ASN Lobby	8	ATFR & CNL – 7 & S/notice-1
UDL Lobby	5	CCNL-4 & S/notice-1
HQ TLC Control	3	TLC
Running Room ASN & UDL	2	
Total	31	

Bare requirement of Drafted Supervisor = 31

Hence, Total requirement of Drafted Supervisor of ASN div. including LR & TR @ 12.5% = $31 \times 1.125 = 34.8 = 35$ Nos.

2.4.5 **Loco Pilot Shunting (LPS)**

Shunting operation has increased after electrification of UDL-TOP-BBI-STN section. The requirement of LPS is as under:

Place		Per shift		Total per day
At ASN	ASN Loco/ MEMU Shed	7	12	12 X 3 = 36
	ASN PF/ Yd	5		
At UDL	UDL Yd & PF	12		12 X 3 = 36
LPS required per day				72
Rest Giver RG @6				12
Total				84

In addition, requirement of LPS at JSME = 3 nos.

Total bare requirement of LPS = $84 + 3 = 87$

**Thus, Total LPS required at ASN div. including LR & TR (@%15)
= $87 \times 1.15 = 100$ Nos.**

2.4.6 **Asstt. Loco Pilot (ALP)**

The requirement of ALP of ASN div. has been assessed in the table below.

	Assessed Requirement
<u>For Electric M/Exp.</u> [ref para 2.4.1]	66
<u>For Passenger Trains</u> [ref para 2.4.2.2]	25
<u>For Goods service</u> [ref para 2.4.3]	670
<u>For walkie talkie, CMS operation & Booking Supervisor</u> (ASN - 12, UDL – 12)	24
<u>For ATLC/ASN and ASN HQ/CNL</u>	4
Total ALPs required	789
Requirement of extra 10% is to be considered as ALP is feeding category (vide Member Staff D.O. Letter No.E(MPP)2016/1/8 dated 21.04.2016)	78.9
Total requirement of ALP =	867.9 = 868 Nos

Hence, Total requirement of ALP of ASN div. = 868 Nos.

2.4.7 **Chief Loco Inspector (CLI)**

The requirement of CLI of ASN div. has been assessed in the table below.

	Assessed Requirement
<u>For LP</u> (@ 1 for 25) i.e (66 LPM + 50 Motorman + 25 LPP + 670 LPG) / 25 = 811 / 25 =	32.44
<u>For LPS & ALP</u> (@ 1 for 50) i.e (100 LPS + 868 ALP) / 50 = 968 / 50 =	19.36
<u>For CCNL</u> (@ 1/Depot) (ASN & UDL)	2
<u>For CTLC @ 1/CNL</u> (ASN)	1
Running Room In-Charge (ASN & UDL)	1
For Sr.DEE(OP) / ASN	1
For Safety Counselor under Sr.DSO	1
For Counseling to Tower Wagon LPs	1
Total	59.8

Total bare requirement of CLI = 59.8

**Hence, Total Requirement of CLI including LR & TR (@5%) = 59.8 X 1.05 = 62.79
= 63 Nos.**

2.4.8 Thus, the assessed requirement of Running Crew of Electrical Stream of ASN div. is as follows:

Designation		Revised Sanction	Reference para
LPM		66	2.4.1
LPP	Motorman	$52 = 50 + 2^*$	2.4.2.1
	Loco	25	2.4.2.2
LPG	Electric	$676 = 670 + 6^*$	2.4.3
LPS		100	2.4.5
ALP		868	2.4.6
CLI		63	2.4.7
D/R/Sup		$35 = 32 + 3(\text{HQ})$	2.4.4
Total		$1885 = 1877 + 8^*$	

* Motorman - 02 nos. & LPG - 6 nos. working for Metro Railway,
3 nos. D/R/Sup working for HQ

2.5 **Sealdah Division (SDAH)**

The position of Sanctioned Strength and Men-on Roll of SDAH division is shown in table under para 2.0. The revised link summary of Running Crew of SDAH div. is attached as Annexure from C / 1 -- 45. The assessment for category-wise requirement of Running Crew of Electrical Stream has been done in paragraphs below.

2.5.1 **Loco Pilot Mail/Exp. (LPM)**

The bare requirement of LPM of SDAH div. has been assessed in the table below.

Link No.	Crew link during last review		Revised crew link	
	No. of Trains	Bare Crew required	No. of Trains	Bare Crew required
1	6	7	12	9
2	4	2		
3	6(H/S)	12	6(H/S)	12
4	4	6	10	9
5	32	11	37	10
Total	52	38	65	40

Thus, the bare requirement for Link Crew = 40 Nos.

Leave Reserve (LR) & Training Reserve (TR) @15% for LPM is provided in LPP Cadre.

2.5.2 **Loco Pilot Passenger (LPP)**

2.5.2.1 **Motorman:**

The bare requirement of LPP (Motorman) of SDAH has been assessed in the table below.

Lobby	Link No.	Crew link during last review		Revised crew link	
		No. of Trains	Bare Crew required	No. of Trains	Bare Crew required
SDAH/N	1	118	53	118	53
	2	107	46	107	46
	3	97	44	97	44
SDAH/S	4	132	54	132	55
	5	74	29	79	30
	6	132	50	129	49
NH	7	95	41	95	41
	8	50	19	52	21
	9	44	18	45	20
BT	10	129	48	135	51
Total		978	402	989	380

Bare LPP (Motorman) required = 380 Nos.

LPP (Motorman) required including LR & TR (@20%) = $380 \times 1.20 = 456$ nos.

In addition, requirement of Motorman for Metro railway (*Vide PCPO/ ER 's letter no. E839/ LP/Elect/Metro Rly/ induction/Loose, dtd – 02.12.2019*) = 68 nos.

Therefore, total requirement of Motorman of SDAH div. = $456 + 68 = 524$ nos.

2.5.2.2 **Loco Pilot Passenger LPP (Loco),**

The bare requirement of LPP (Loco) has been assessed in the table below.

Lobby	Link No.	Crew link during last review		Revised crew link		Remarks
		No. of Trains	Bare Crew required	No. of Trains	Bare Crew required	
	7	10	13	8	10	2 trains changed to MEMU
Total		10	13	8	10	

Bare requirement of LPP (Loco) = 10 Nos.

Total requirement of LPP (Loco) including LR & TR (@15%) = $10 \times 1.15 = 11.5$ nos.

Now, it was mentioned earlier in para 2.5.1 that LR & TR of LPM (@ 15%) is provided in LPP Cadre. So, LR & TR of LPM = $40 \times 0.15 = 6$

Hence, Total requirement of LPP in SDAH div. = $11.5 + 6 = 17.5 = 18$ Nos.

2.5.3 Loco Pilot Goods (LPG)

Goods loco Driving Unit (DU) holding of SDAH div. for the year 2019-20 = 21.84

Thus, requirement of LPG = $21.84 \times 7.05 = 153.97 = 154$ Nos.

2.5.4 Drafted Supervisor

The bare requirement of Drafted Supervisor has been assessed in the table below.

Place	Requirement	Remarks
Divisional TLC Control	8	TLC/P – 4, TLC/G - 4
SDAH/N lobby	5	ATFR - 4, & S/notice - 1
SDAH/S lobby	4	ATFR - 4
KOAA lobby	4	ATFR - 4
DDJ lobby	4	ATFR - 4
BT lobby	4	ATFR - 4
NH lobby	4	ATFR - 4
RHA lobby	4	ATFR - 4
R/Room supervisor	10	ATFR - 4
HQ TLC control	4	HQ/TLC
Total	51	

Bare requirement of Drafted Supervisor = 51

Hence, Total requirement of Drafted Supervisor of SDAH div. including LR & TR @ 12.5% = $51 \times 1.125 = 57.37 = 58$ Nos.

2.5.5 **Loco Pilot Shunting (LPS)**

The point-wise requirement of LPS for SDAH div. has been assessed in table below underneath.

Point	Requirement
SDAH North Point	40
SDAH South Point	30
KOAA terminal	27
BT Point	26
NH Point	27
KRP Point	6
Total	156

Total bare requirement of LPS = 156

Hence, Total Requirement of LPS including LR & TR (@ 15%) = $156 \times 1.15 = 179.45 = 180$ Nos.

2.5.6 **Asstt. Loco Pilot (ALP)**

The requirement of ALP of SDAH div. has been assessed in the table below.

	Assessed Requirement
<u>For Electric M/Exp.</u> Bare requirement = 28 [ref para 2.5.1] Requirement including LR & TR (@ 15%) = $28 \times 1.15 = 32.2 =$	33
<u>For Passenger Trains (LPP)</u> [ref para 2.5.2.2]	18
<u>For Goods service</u> [ref para 2.5.3]	154
<u>For ATLC/SDAH</u>	4
<u>Booking supervisor at lobby</u> [SDAH, DDJ, NH, KOAA (@4) per Lobby] = $4 \times 4 =$	16
For CMS operation at SDAH (@4 per Lobby)	4
Total ALPs required	229
Requirement of extra 10% is to be considered as ALP is feeding category (vide Member Staff D.O. Letter No.E(MPP)2016/1/8 dated 21.04.2016)	22.9
Total requirement of ALP =	251 Nos

Hence, Total requirement of ALP of SDAH div. = 251 Nos.

2.5.7 **Chief Loco Inspector (CLI)**

The requirement of CLI of SDAH div. has been assessed in the table below.

	Assessed Requirement
For LP (@ 1 for 25) i.e (40 LPM + 456 Motorman + 18 LPP + 154 LPG) / 25 = 668 / 25 =	26.72
For LPS & ALP (@ 1 for 50) i.e (180 LPS + 251 ALP) / 50 = 431 / 50 =	8.62
For CCNL (@ 1/Depot) (SDAH & DDJ)	2
For CTLC @ 1/CNL (SDAH)	1
For Sr.DEE(OP) / SDAH	1
For MLDT div (temporary)	1
For GM/ER	1
Running Room In-Charge	2
For Safety Counselor with Sr.DSO	1
For Counseling Tower Wagon Drivers (total 42 Tower wagon LPS)	2
Total	46.34

Total bare requirement of CLI = 46.34

Hence, Total Requirement of CLI including LR & TR (@5%) = 46.34 X 1.05 = 48.66 = 49 nos.

2.5.8 Thus, the assessed requirement of Running Crew of Electrical Stream of SDAH div. is as follows:

Designation		Revised Sanction	Reference para
LPM		40	2.5.1
LPP	Motorman	525=456+68*	2.5.2.1
	Loco	18	2.5.2.2
LPG		154	2.5.3
LPS		180	2.5.5
ALP		251	2.5.6
CLI		49	2.5.7
D/R/Supervisor		58=54+4(HQ)	2.5.4
Total		1275=1207+68*	

* Motorman - 68 nos. working for Metro Railway,
4 nos. D/R/Sup working for HQ

2.6 **Malda Division (MLDT)**

2.6.1 Earlier MLDT division was completely non-electrified division and all the traffic movements were managed by Diesel traction operated by Running crew of Diesel stream.

2.6.2 With the electrification in some sections of MLDT division, Electric traction were operated for hauling Goods trains in MLDT division for which LPG and ALP of Electrical stream were inducted in divisional cadre (*shown in table under para 2.0*).

This has resulted in existence of both Diesel stream Running crew and Electric stream Running crew for operating same Goods trains in MLDT div.

2.6.3 The electrification of MLDT division is in progress and will likely to be completed very soon. Thus, in near future the requirement of Running crew for operating Diesel traction will decrease and gradually the requirement of Running crew for operating Electrical traction will increase.

Keeping this in consideration, and also to optimize the available manpower the concerned department has decided to create a common cadre of Running Crew in MLDT division as earlier done in several other zones of Indian Railways.

2.6.4 Consequently, the existing Running crew of Diesel stream of MLDT division are been given training in a phase-wise manner to operate Electric traction. A considerable nos. of Running crew of Diesel stream has already completed the training and are being presently utilized in running Electric Traction which has resulted in surplus of Running Crew of Electric stream inducted in MLDT div.
Thus, the requirement of Running Crew of Electric stream in MLDL div. is NIL.

2.6.5 In consideration of the discussion mentioned in para 2.6.4, the assessed requirement of Running Crew of Electrical stream of MLDT division is tabulated underneath.

Designation		Present Sanction (from para 2.0)	Revised Sanction	Surplus
LPM		0	0	
LPP	Loco	0	0	
LPG		200	0	-200
D/R/Sup.		14	0	-14
LPS		0	0	
ALP		200	0	-200
CLI		14	0	-14
Total		428	0	-428

2.7. **Head Quarter (HQ)**

The requirement of Running Crew at Head Quarter has been assessed in the table below. Basically, there are skeleton structure of Supervisor category of Running staff i.e CLI and Drafted Supervisor deployed at HQ. It has been observed that the Sanctioned strength is CLI is present at HQ but the Sanctioned Strength of 'Drafted Supervisor' are present at HWH, SDAH and ASN divisions (*mentioned in tables under paras 2.3.4, 2.4.4 and 2.5.4*).

On scrutiny, study team recommends for keeping the existing strength of staff at HQ. Thus, the Revised requirement is :

	<i>Designation</i>	<i>Present Sanction</i>	<i>Revised Sanction</i>	<i>Remarks</i>
Head Qr. FP	<i>Drafted Supervisor</i>	13	13	HWH – 6, SDAH – 4 & ASN – 3
	<i>CLI</i>	05	05	

- 2.8 From paras. 2.3.8, 2.4.8, 2.5.8, 2.6.5 & 2.7 the Summarized position of Revised Requirement of Running Crew of Electric stream of different divisions is shown in table below.

Category	Division										Total		
	HWH		SDAH		ASN		MLDT		HQ				
	Sanctioned Strength	Revised Sanction Strength	Sanctioned Strength	Revised Sanction Strength	Sanctioned Strength	Revised Sanction Strength	Sanctioned Strength	Revised Sanction Strength	Sanctioned Strength	Revised Sanction Strength	Sanctioned Strength	Revised Sanction Strength	Surplus
LPM	56	38	55	40	93	66	0	0	0	0	204	144	60
LPP (Loco)	0	0	19	18	22	25	0	0	0	0	41	43	-2
LP (MM)	363	331	630	525	64	52	0	0	0	0	1057	908	149
LPG	284	290	154	154	676	676	200	0	0	0	1314	1120	194
LPS	281	205	241	180	189	100	0	0	0	0	711	485	226
ALP	333	382	223	251	828	868	200	0	0	0	1584	1501	83
CLI	48	46	51	49	64	63	14	0	5	5	182	163	19
Drafted Supervisor	66	48	78	58	60	35	14	0	0	0	218	141	77
Total	1431	1340	1451	1275	1996	1885	428	0	5	5	5311	4505	806

- 2.9 The Revised Sanctioned strength of Power Running Staff of Electric Traction over Eastern Railway has been calculated to 4505 posts as against the existing sanctioned strength of 5311 posts, resulting surplus of **806 posts**.

2.10 **Recommendation:**

Consequent upon the analysis made in the above paras, it is recommended by the study team that the Revised Sanctioned Strength of Power Running staff of Electric Traction over Eastern Railway would be 4505 Posts as against the Present Sanctioned Strength of 5311 Posts. Thus, the resulting (5311 – 4505) i.e. **806 Posts** are identified as Surplus.

CHAPTER - III

3.0 Financial Appraisal:

- 3.1 According to the recommendation made in Para 2.10, the annual financial savings achieved on account of surrendering of 806 posts of Power Running staff of Electric Traction over Eastern Railway is tabulated below.

Category	Grade Pay (Fig. in Rs.)	Level	Mean Pay	Mean Pay with Pay Element @ 30%	DA @ 17%	Total pay/Month	No. of Posts surrendered	Annual Savings (Fig. in Rs.)
			(Fig. in Rs.)					
ALP	1,900/-	2	41,550/-	54,015/-	9,183/-	50,733/-	83	5,05,29,620/-
LPS	2,400/-	4	53,300/-	69,290/-	11,779/-	65,079/-	228	17,80,56,965/-
LPM, LPG, LPP, D/Supv.	4,200/-	6	73,900/-	96,070/-	16,332/-	90,232/-	476	51,54,04,613/-
CLI	4,600/-	7	93,650/-	1,21,745/-	20,697/-	1,14,347/-	19	2,60,71,036/-
TOTAL							806	77,00,62,234/-

Thus, the annual savings would be Rs. 77,00,62,234/- after surrendering of **806 posts**.