

EASTERN RAILWAY

WORKSTUDY REPORT

ON

REVIEW OF MANPOWER VIS-A-VIS WORKLOAD
OF SIGNAL WORKSHOP/ HOWRAH

(STUDY NO.WSER - 23/18-19)

(Submitted on 15.03.19)

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BY
GM'S EFFICIENCY CELL
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METHODOLOGY ADOPTED

The following methodology has been adopted in carrying out the study:

- Collection of data
- Discussion with officer/SSE in different shops
- Study of existing workload
- Critical analysis of workload and manpower

TERMS OF REFERENCE

The subject workstudy has been undertaken by the GM's Efficiency Cell of Eastern Railway in financial year 2018-19 under the following terms of reference:-

- (i) Evaluate the quantum of existing workload.
- (ii) Examine the deployment of Staff against workload.
- (iii) Scrutinize the possibility of more optimization of staff deployment.
- (iv) To identify saving achievable in terms of manpower.

SUMMARY OF RECOMMENDATION

<i>S.No.</i>	<i>Recommendation</i>	<i>Para ref.</i>
1	It is recommended that the actual total requirement of manpower at Signal Workshop/ HWH, will be 271 posts which would result in surrender of <u>67 nos. of vacant posts</u> as against the present total sanctioned strength of 338 posts.	3.18

CHAPTER-I

1.0 INTRODUCTION:

Indian Railway is the 2nd largest system in the world under a single management control having approx 13.36 lakhs employees. Indian Railway is not a mere operation. It is an institution. It is an industry. It is a prime mover of India's infrastructure. Railway men have to reorient and re-channelize toward newer directions. Railway men have to deliver and perform at all times in every conceivable situation. The commitment, dedication and application to the job is the fabric that binds Indian Railway men concern for Safety and well being of men and materials is uppermost at all levels and operations of Railways.

- 1.1 The Signal Workshops under S&T Department of Indian Railway are involved in Manufacturing, Repairing and Overhauling of various vital items for Signaling system. Day by Day, due to increase in traffic of Indian Railways, Signal & Telecom Department is facing huge hardship to modernize itself to increase the capacity of Signaling system so that more traffic could be handled by the constrained track length with greater frequency. For this, Signal Workshops plays a vital role in supplying and maintaining various instruments required for modernization of Signaling system. Different Signal workshops of Indian Railway have specialization in different areas are tabulated as under:

S.No.	Signal Workshop	Railway	Specialization
1	Signal Workshop, Podanur	S.Rly	Relay Items, DLBI (SG type)
2	Signal Workshop, Howrah	E.Rly	Block instruments, DLBI (RDSO type)
3	Signal Workshop, Byculla	C.Rly	Electric lifting Barrier (ELB)
4	Signal Workshop, Gorakpur	N.E. Rly	Point machine
5	Signal Workshop, Gaziabad	N.Rly	Relay, Electric lifting Barrier (ELB)
6	Signal Workshop, Metagudda	S.C. Rly	Sliding Boom, DLBI (SG type)

- 1.2 Among these Signal Workshop, Howrah began its journey in 1901 when it was set up on the bank of the river Hooghly end approaches to Rabindra Setu (Howrah Bridge). In pre-independence era, this workshop served the East Indian Railway and Bengal Nagpur Railways. This organization committed to self-reliance in the field of signaling production with a greater emphasis on quality, productivity, economy and innovativeness. This workshop has always risen in the service of the nation with devotion and has even more impressive presence by saving a considerable amount of foreign exchange by indigenous developing and manufacturing of token-less block instrument.
- 1.3 Signal Workshop, Howrah is well established workshop with matured and experienced workers, dealing in overhauling/repairing of equipments, necessary replacement of electrical/mechanical devices, production of major schedule and non-schedule items viz. TLBI, DLBI, Winch, Block Bell, Annunciator DTMF, skimming of fish plate, stop board, PCP pole, split stretcher bar, etc.

- 1.4 Indian Railway is facing tremendous financial crunch after implementation of 6th 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 1. Performance Efficiency Index shown in the corporate plan published by the Eastern Railway is given below.

2013-14	:	173.32%
2014-15	:	177.27%
2015-16	:	180.75%
2016-17	:	165.25%
2017-18	:	181.15%

- 1.5 The aim of this Workstudy is to review the manpower of Signal Workshop, Howrah for optimization keeping in mind the financial benefits achieved due to saving of manpower.

CHAPTER-II

2.0 EXISTING SCENARIO:

2.1 The Signal Workshop, Howrah is functioning under Chief Workshop Manager facilitating production, repair and overhauling of new and old Signaling equipments/devices of Eastern and other Railways. The layout of Signal Workshop, Howrah is described below:

- i) "A- Shop",
- ii) "B-Shop",
- iii) "Test Room and Electronics Lab"

2.1.1 Apart from production units/shops, the other sections of Signal Workshop/HWH, which are related directly or indirectly with the production, are as under:

- i) PCO Section,
- ii) General Section.

2.1.2 The category-wise Sanctioned strength vis-à-vis On-roll position of supervisory and technical staff (Artisan & Helper) of Signal workshop/ HWH (as on 04.10.18) deployed in above mentioned shops/sections is tabulated underneath (Annexure I & II) :

S. No.	Category	Pay Level	Grade Pay	Sanctioned Strength	Men On-Roll	Vacancy
Supervisory Category						
1	Senior Section Engineer (WS)	Level 7	Rs.4600/-	22	8	14
2	Senior Section Engineer (Tele)			4	3	1
3	Senior Section Engineer (Sig)			2	1	1
4	Senior Section Engineer (Drg.)			1	0	1
5	Junior Engineer (WS)	Level 6	Rs.4200/-	5	0	5
6	Junior Engineer (Drg)			0	1	-1
7	Junior Engineer (Sig)			2	0	2
Sub-Total----->				36	13	23
Artisan Staff						
8	Sr. Technician	Level 6	Rs.4200/-	93	66	27
9	Technician I	Level 5	Rs.2800/-	152	113	39
10	Technician MW/ Gr. I			3	2	1
11	Technician II	Level 4	Rs.2400/-	10	6	4
12	Technician III	Level 3	Rs.2000/-	13	4	9
Sub-Total----->				271	191	80
Erstwhile Group-D						
13	Helper	Level 1	Rs.1800/-	5	4	1
Sub-Total----->				5	4	1
GRAND TOTAL----->				312	208	104

2.2 The ministerial staff of Signal Workshop are deployed at various sections listed below:

1. General Section
2. Confidential Section
3. Establishment Section
4. Pay Bill & Settlement Section
5. L.P Section
6. Store Section
7. Budget Section
8. Pass Section
9. DW Section
10. Time Booth Office
11. Tender Section

2.2.1 The category-wise Sanctioned Strength vis-à-vis On-roll position of Gr. C & Erstwhile Gr. D ministerial staff of Signal workshop/ HWH as on 04.10.18 deployed at above mentioned sections is tabulated as under (*Annexure I & III*):

S. No.	Category	Pay Level	Grade Pay	Sanctioned Strength	Men On-Roll	Vacancy
Group-C Staff						
1	Ch. OS	Level 7	Rs.4600/-	07	06	01
2	OS	Level 6	Rs.4200/-	07	07	0
3	Record Sorter	Level 1	Rs.1800/-	01	01	0
4	Stenographer	Level 6	Rs.4200/-	01	01	0
5	Ch. Typist	Level 6	Rs.4200/-	01	01	0
6	Ch. S & WI	Level 7	Rs.4600/-	01	01	0
Sub-Total----->				18	17	01
Erstwhile Group-D Staff						
7	Peon	Level 1	Rs.1800/-	03	02	01
Sub-Total----->				03	02	01
GRAND TOTAL----->				21	19	02

2.3 The category-wise Sanctioned strength vis-à-vis On-roll position of Canteen staff of Signal workshop/ HWH is tabulated as under:

S. No.	Category	Sanctioned Strength	Men On-Roll	Vacancy
1	Cook	2	1	1
2	Canteen Assistant	3	2	1
Total----->		5	3	2

2.4 **"A" Shop:**

The overall in-charge of A-shop is Sr. Section Engineer. Few years ago, foundry related workloads were dealt in C-Shop. However, with the time, the foundry related workload of the workshop almost diminishes and consequently, the staff of C-shop reduces considerably. At present, only skeleton structure of C-shop staff exists. In present scenario, C-shop is merged with A-shop and the staff of C-shop are under Sr. Section Engineer/A-shop.

The position of existing supervisory category staff of A-Shop is tabulated as under:

S. No.	Category	Men- On-Roll
1	Senior Section Engineer	1
2	Junior Engineer	0
Total		1

2.4.1 The Category-wise existing Artisan & un-skilled staff position under SSE/ A-shop (*combined staff of A-Shop and C-Shop*) is tabulated as under:

S. No.	Category	Men-On-Roll
Artisan		
1	Sr. Technician	26
2	Technician I	43
3	Technician II	3
4	Technician III	2
Sub-Total ----->		74
Erstwhile Gr. 'D'		
5	Helper	0
Sub-Total ----->		0
GRAND TOTAL----->		74

2.4.2 The different sections of A-shop are mostly confined to manufacturing, repairing and overhauling of various schedule and non-schedule items. The operations performed for production/overhauling of the scheduled and non-scheduled items along with deployment of Direct Worker (DW) staff and (Essential Indirect Worker) EIW staff during the year 2016-17, 2017-18 and 2018-19 (upto Sept'18) is tabulated underneath:

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
1.	Spares of TLBI (Mfg) & (OH)	1. Manufacturing of different type of Screws & nuts. 2. Manufacturing of Locking Disc. 3. Manufacturing of Centre Coller Screws & nuts. 4. Manufacturing of Aluminum Bracket name plate. 5. Manufacturing of Long nut. 6. Manufacturing of Mushroom head Screw. 7. Manufacturing of PB1 & PB2 Switch Knobs. 8. Manufacturing of S1 & S2 Knobs.	4	1	5	4	1	5	4	1	5
2.	Spares of DLBI (Mfg) & (OH)	1. Manufacturing of different type of Screws & nuts. 2. Manufacturing of Mounting Plate. 3. Manufacturing of Catcher. 4. Manufacturing of Maker's Plate. 5. Manufacturing of M.S Catcher Pin. 6. Manufacturing of M.S Guide Pin.	3	0	3	3	0	3	3	0	3
3.	SM's Slide Box / Sliding Boom (MFT Drawing)	1. Marking & machining of CI base. 2. Machining of MS Plunger. 3. Manufacturing of PB Contact Piece. 4. Manufacturing of MS Backing plate. 5. Manufacturing of Br. Tubular Contact. 6. Manufacturing of MS Pillar. 7. Manufacturing of Stop & Think. 8. Manufacturing of Tapered Bar. 9. Manufacturing of Stop Piece. 10. Diff. types of Screws & nuts. 11. Cover of Box by GI sheet, assembling & Painting.	5	5	10	5	5	10	--	--	--
4.	Sliding Boom	1. Manufacturing of MS Tray, MS Horizontal Support, MS Joining shaft, GI boom, Stop board complete, and Rest Post. 2. Manufacturing of MS Wheel & Cap. 3. Straightening of angle.	12	4	16	12	4	16	12	4	16

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
5.	Steel Apparatus Case / Modular type SS Location Box	1. Assembly of Side piece. 2. Assembly of Bottom piece. 3. Assembly of Base Angle. 4. Assembly of Top piece. 5. Assembly of Doors. 6. Assembly of Locking assembly.	11	5	16	11	5	16	11	5	16
6.	IRS Ground Fittings threaded type (Ordinary)	1. Manufacturing of Detector rod Near End & Far End. 2. Manufacturing of Lock rod Near End & Far End. 3. Manufacturing of Drive Rod.	10	2	12	10	2	12	10	2	12
	IRS Ground Fittings threaded type (Raised)	4. Manufacturing of Drive Lug. 5. Manufacturing of Switch Extension Bracket. 6. Manufacturing of Sleeve, Lug, Solid joint pin and washer.									
7.	Spares of Annunciator	1. Manufacturing of different type of Screws & nuts. 2. Manufacturing of Ebonite bush.	1	0	1	1	0	1	1	0	1
8.	Goods Warning Board	1. Manufacturing MS Board of 3.15 mm thickness sheet. 2. Manufacturing MS Clamp from MS angle 100X100X8 mm.	6	3	9	6	3	9	6	3	9
9.	TLJB (Metallic)	1. Manufacturing MS Cover. 2. Manufacturing MS Casing.	6	2	8	6	2	8	6	2	8
10.	Winch Complete	1. Marking as per drawing of spares. 2. Cutting MS Pipe 150 mm bore. 3. Making of Winch Handle Crank, Ferule pipe, Protection cover, Post support & Top cover. 4. Making of Winch Pinion Axle-A, B & Main axle. 5. Making of Winch Key 'A', 'B', 'C' & 'D' 6. Assembling of all spares as per drawing. 7. Painting.	4	2	6	4	2	6	4	2	6
11.	Pedestal	1. Marking as per drawing of spares. 2. Cutting as per mark and filling. 3. Maching of Axle-A, B & Main Bearing, Main axle, MS Stud, Roller, Bell Pin 'A', 'B', 'C' & 'D'. 4.. Manufacturing of MS Gong, Bell Crank. 5. Assembling of all parts. 6. Painting.	--	--	--	--	--	--	6	2	8

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
12.	Tubular pole 10 mtr./ 1.5 mtr.	1. Manufacturing of boom from steel tube of 80 mm bore. 2. Manufacturing of MS Clit. 3. Manufacturing of MS Clamp. 4. Welding of clamp and clit.	6	4	10	6	4	10	6	4	10
13.	FRP Cable Tray	1. Marking. 2. Drilling. 3. Filling. 4. Assembling.	--	--	--	--	--	--	2	2	4
14.	Skimming of Fish Plate	1. Skimming of raw Fish Plate. 2. Drilling of Raw Fish Plate.	2	0	2	2	0	2	2	0	2
15.	Pipe Lock with key	1. Manufacturing of MS Lever. 2. Manufacturing of MS Locker. 3. Manufacturing of MS Locking Screw. 4. Manufacturing of MS Key Handle. 5. Manufacturing of MS Ring.	6	1	7	6	1	7	6	1	7
16.	LED Lit Semaphore Signal lamp	1. Manufacturing of Aluminum Bracket. 2. Manufacturing of Brass threaded Bush. 3. Fixing of GI Water Guard. 4. Manufacturing of LED Lit Bracket. 5. Glass Fitting. 6. Manufacturing of Screws & nuts.	5	2	7	5	2	7	5	2	7
17.	Batch for One Train ISMG-BDMF	1. Marking, cutting, file finishing, drilling, engraving and Polishing. 2. Making Ring by means of MS Wire. 3. Covering of ring by PVC Pipe. 4. Assembling.	--	--	--	--	--	--	1	0	1
18.	Spares of TSR Box	1. Manufacturing of different type of Screws & nuts. 2. Manufacturing of Ebonite handle. 3. Manufacturing of Brass spike. 4. Manufacturing of Ebonite bush.	1	0	1	--	--	--	--	--	--
19.	Point Testing Bit	1. Machining of MS strips of 1.62 mm, 3.25 mm and 5 mm thickness. 2. Riveting of MS strips.	2	3	5	--	--	--	--	--	--

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
20.	Octagonal ELB Gate Boom (Repairing)	1. Straightening by means of jig. 2. Edge of boom is shaped octagonal. 3. Welding and Riveting as per requirement. 4. Painting.	4	2	6	--	--	--	--	--	--
21.	Retro-fit arrangement to get rid of sharp edges of relay rack.	1. Marking. 2. Cutting as per requirement of MS tube 20 mm bore. 3. Match with rack. 4. Finishing work by file.	3	2	5	--	--	--	--	--	--
22.	Iron Backing Plate.	1. Marking. 2. Shearing. 3. Cutting. 4. Slotting and bending.	2	2	4	--	--	--	--	--	--
23.	Maintenance Section	1. Periodic checking of machines. 2. Oiling & Greasing of machines. 3. Checking of line shaft. 4. Repair/replacement of belt. 5. Intermediate repairing of machines. 6. To attend machine failure against reported by machine operator.	0	6	6	0	6	6	0	6	6
24.	Tool Room	1. Issuing of Tools used in 'A'Shop. 2. Maintain daily register of T & P.	0	1	1	0	1	1	0	1	1

2.4.3.1 Statement for monthly production of Schedule and Non-schedule production items of A-Shop for the year 2016-17 is tabulated below:

Sl. No.	Description of Items	Target 2016-17	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Achievement 2016-17	Remarks
1	Spares of TLBI (Mfg.)	120 Nos.	0	0	0	0	12	12	12	6	10	6	12	15	85	Schedule production
2	Spares of TLBI (Ovh)	80 Nos.	7	7	7	10	7	0	0	6	6	4	0	0	54	Schedule production
3	Spares of DLBI (Mfg.)	100 Nos.	0	0	0	0	0	0	10	0	8	8	12	14	52	Schedule production
4	Spares of DLBI (Ovh)	75 Nos.	7	7	7	10	7	7	7	7	3	2	4	7	75	Schedule production
5	SM Slide Box	60 Slide	0	0	20	0	0	0	0	0	20	12	0	8	60	Schedule production
6	Sliding Boom	50 Set	2	21	0	15	0	0	1	1	0	1	0	0	41	Schedule production
7	Steel Apparatus Case	300 Nos	0	7	0	0	0	0	0	0	0	0	0	0	7	Schedule production
8	IRS Ground Fittings threaded type (Ordinary)	60 Set	5	5	5	5	5	5	5	5	5	5	5	5	60	Schedule production
9	Spares of Annunciator	1000 Lines	60	100	100	80	80	80	80	110	90	90	88	42	1000	Schedule production
10	Goods Warning Board	90 Nos.	8	22	0	20	0	0	20	8	8	0	20	10	116	Schedule production
11	TLJB (Metallic)	350 Nos	30	30	30	30	30	30	30	30	30	30	30	20	350	Schedule production
12	Winch Complete	-	0	0	0	0	0	0	0	0	2	2	0	0	4	Non schedule production
13	Tubular pole 1.5 Mtr.	-	5	5	5	5	5	5	5	5	20	0	0	0	60	Non schedule production
14	Skimming of Fish Plate	250 Nos.	20	20	20	20	20	20	20	20	20	19	0	0	199	Schedule production
15	Pipe Lock with Key	600 Nos	0	50	150	50	100	0	50	50	50	50	50	50	650	Schedule production
16	LED Lit Semaphore Signal Lamp	100 Nos.	10	10	10	10	10	10	10	10	10	10	0	0	100	Schedule production
17	Spares of TSR Box	60 Nos.	5	5	5	5	5	5	5	5	5	5	5	5	60	Schedule production
18	Point Testing Bit	-	0	10	5	5	5	5	5	5	5	5	5	5	60	Non schedule production
19	Octagonal ELB Gate Boom (Repairing).	-	0	0	0	8	6	26	0	0	0	0	0	0	40	Non schedule production
20	Retrofit Arrangement to get rid of sharp edges of relay rack.	-	0	0	0	0	0	0	0	0	200	0	320	150	670	Non schedule production
21	Iron Backing Plate	-	0	0	0	0	0	0	0	0	0	0	0	285	285	Non schedule production

2.4.3.2 Statement for monthly production of Schedule and Non-schedule production items of A-Shop for the year 2017-18 is tabulated below:

Sl. No.	Description of Items	Target 2017-18	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Achievement 2017-18	Remarks
1	Spares of TLBI (Mfg.)	120 Nos.	10	12	12	12	12	10	10	12	10	8	6	0	114	Schedule production
2	Spares of TLBI (Ovh.)	80 Nos.	3	0	2	2	2	5	4	2	4	6	4	5	39	Schedule production
3	Spares of DLBI (Mfg.)	100 Nos.	3	6	6	0	2	2	4	8	10	12	15	28	96	Schedule production
4	Spares of DLBI (Ovh.)	75 Nos.	4	0	0	0	2	4	4	4	6	5	5	5	39	Schedule production
5	SM Slide Box	60 Slide	0	0	0	0	0	0	0	0	0	0	0	0	0	Schedule production
6	Sliding Boom (MFT Drawing)	--	0	1	2	4	20	6	2	7	0	7	3	7	59	Non schedule production
7	Sliding Boom	50 Set	0	2	3	4	2	3	3	5	4	6	4	4	40	Schedule production
8	Steel Apparatus Case	300 Nos.	0	0	0	0	0	0	0	0	0	0	0	0	0	Schedule production
9	SS Location Box (Modular type)	--	0	0	55	0	0	0	0	0	0	0	0	0	55	Non schedule production
10	IRS Ground Fittings threaded type (Ordinary)	30 Set	0	0	0	0	0	0	0	0	10	5	5	5	25	Schedule production
11	IRS Ground Fittings threaded type (Raised)	30 Set	0	0	5	5	0	10	5	0	0	0	0	0	25	Schedule production
12	Spares of Annunciator	--	16	16	16	16	16	16	16	16	16	16	20	22	202	Non schedule production
13	Goods Warning Board	90 Nos.	8	8	8	8	8	8	12	8	10	8	4	10	100	Schedule production
14	TLJB (Metallic)	350 Nos.	30	30	30	30	30	30	30	30	30	30	30	20	350	Schedule production
15	Winch Complete	--	0	0	0	0	0	0	0	0	0	2	0	0	2	Non schedule production
16	Tubular Pipe Boom 10 Mtr.	--	0	0	0	0	0	0	0	0	0	2	0	0	2	Non schedule production
17	Tubular pole 1.5 Mtr.	--	0	20	0	0	0	0	0	0	0	0	0	0	20	Non schedule production
18	Skimming of Fish Plate	--	0	0	0	0	0	0	0	90	0	14	0	0	104	Non schedule production
19	LED Lit Semaphore Signal Lamp	--	0	10	10	10	5	0	0	0	0	0	0	5	40	Non schedule production
20	Pipe Lock with Key	--	50	50	50	50	0	0	0	50	0	0	0	50	300	Non schedule production

2.4.3.3 Statement for monthly production of Schedule and Non- schedule production items of A-Shop for the year 2018-19 (April'18 to Sept'18) is tabulated below:

Sl. No.	Description of Items	Target 2018-19	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Achievement up to Sept 2018	Remarks
1	Spares of TLBI (Mfg.)	180 Nos.	8	6	6	6	8	6	--	--	--	--	--	--	40	Schedule production
2	Spares of TLBI (Ovh.)	80 Nos.	4	4	4	6	6	6	--	--	--	--	--	--	30	Schedule production
3	Spares of DLBI (Mfg.)	150 Nos.	12	8	0	4	6	6	--	--	--	--	--	--	36	Schedule production
4	Spares of DLBI (Ovh.)	80 Nos.	2	4	4	4	4	6	--	--	--	--	--	--	24	Schedule production
5	Sliding Boom	150 Sets	0	0	0	0	0	0	--	--	--	--	--	--	0	Schedule production
6	Modular Type SS Location Box	250 Sets	0	0	0	0	0	0	--	--	--	--	--	--	0	Schedule production
7	IRS Ground Fittings threaded type (Ordinary)	150 Sets	0	0	0	0	0	1	--	--	--	--	--	--	1	Schedule production
8	IRS Ground Fittings threaded type (Raised)	120 Sets	0	0	0	0	0	0	--	--	--	--	--	--	0	Schedule production
9	Spares of Annunciator	-	42	42	42	42	60	42	--	--	--	--	--	--	270	Non schedule production
10	Goods Warning Board	-	8	10	8	8	25	10	--	--	--	--	--	--	69	Non schedule production
11	TLJB (Metallic)	-	30	0	30	30	40	30	--	--	--	--	--	--	160	Non schedule production
12	Winch Complete	-	2	0	2	2	4	1	--	--	--	--	--	--	11	Non schedule production
13	Pedestal	-	1	0	1	1	2	0	--	--	--	--	--	--	5	Non schedule production
14	Tubular Pipe Boom 10 Mtr.	-	0	1	1	1	4	1	--	--	--	--	--	--	8	Non schedule production
15	FRP Cable Tray	-	0	0	0	0	0	45	--	--	--	--	--	--	45	Non schedule production
16	Skimming of Fish Plate	-	0	0	0	0	0	50	--	--	--	--	--	--	50	Non schedule production
17	Pipe Lock with Key	-	0	0	0	0	0	50	--	--	--	--	--	--	50	Non schedule production
18	LED Lit Semaphore Signal Lamp	-	5	0	5	0	5	5	--	--	--	--	--	--	20	Non schedule production
19	Batch for One Train ISMG-BDMF	-	1	0	0	0	0	0	--	--	--	--	--	--	1	Non schedule production

2.5 **“B” Shop:**

B-shop is under supervisory control of two Sr. Section Engineer. Various types of activities under schedule and non-schedule work are being undertaken by different sections of ‘B’ Shop. This shop is mainly entrusted with the work of assembling of various parts for manufacturing of TLBI & DLBI. Also overhauling & repairing of old TLBI & DLBI are performed in B-shop.

The position of existing supervisory category staff of B-Shop is tabulated as under:

S. No.	Category	Men-On-Roll
1	Senior Section Engineer	2
2	Junior Engineer	0
Total		2

2.5.1 The Category-wise existing Artisan & un-skilled staff position of B-shop is tabulated as under:

S. No.	Category	Men-On-Roll
Artisan		
1	Sr. Technician	35
2	Technician I	36
3	Technician II	2
4	Technician III	0
Sub-Total ----->		73
Erstwhile Gr. ‘D’		
5	Helper	0
Sub-Total ----->		0
GRAND TOTAL----->		73

2.5.2 The operations performed for production/overhauling of the scheduled and non-scheduled items of B-Shop along with deployment of DW staff and EIW staff during the year 2016-17, 2017-18 and 2018-19 (upto Sept'18) is tabulated underneath:

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
1.	DLBI (Manufacturing)	1. Drawing & marking spares. 2. Welding strapple & sealing stud on box. 3. Drilling holes on mounting plate. 4. Setting mounting plate on jig & drilling hole. 5. Drilling holes on body. 6. Dismantling door from casing, fixing the mounting plate on door along with other parts. 7. Making catcher, safety catch & its bracket. 8. Checking the operation. After successful operation assembling the door on casing & fixing other parts on body. 9. Dismantling all parts and sending the required parts for electroplating & painting. . 10. Assembling all parts & final checking.	13	9	22	12	5	17	12	5	17
2.	DLBI (Overhauling)	1. Drawing instrument from DW section. 2. Operate the instrument & find out defects. 3. Dismantling all sub-assemblies. 4. Reconditioning damaged body. Changing broken glass, hasp latch, etc. 5. Reconditioning plunger assembly. 6. Replacing pawl of armature carrier, locking plate, catcher safety catch, bkt, etc. 7. Reconditioning locking lever & checking its movement. 8. Replacing SM lock, contact spring of commutator, bell board, etc. 9. Reconditioning lever of bell contact assembly, needle armature, needle. 10. Dismantling all parts for necessary cleaning. 11. Painting, electroplating & signwriting on necessary parts. 12. All coils are reconditioned. 13. After reconditioning replacing of parts, assembling all spares final checking its operation.	8	7	15	7	5	12	7	5	12

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
3.	Track Shunt Resistance Box	1. Drawing wood. 2. Cutting, planning, making box, fixing hinge, hook, etc. 3. Cutting insulated board & engraving resistance value on it. 4. Painting the box. 5. After successful operation, dismantalling, then electroplating and again re-assembling.	2	5	7	--	--	--	--	--	--
4.	TLBI (Manufacturing)	1. Making of locking plate assembly. 2. Making of buzzer bracket & buzzer assembly. 3. Making of number plate, terminal stand, handle ring, centre collar screw, centre fixing screw, lock plate, counter bracket, fastener of counter assembly, bracket for roller band, guide pin, condenser plate, resistance pate, PB1-PB2 jacketing, etc. 4. Assembling of all sub-assemblies. 5. Dismantling of all sub-assemblies & electroplating the required parts. 6. After electroplating, painting, engraving, final assembly of sub-assemblies is done. 7. Final painting of the instrument after puttying are done.	--	--	--	14	8	22	14	8	22
5.	TLBI (Overhauling)	1. Drawing instrument from DW section. 2. Dismantling all sub-assemblies. 3. Making of locking plate assembly. 4. Making of buzzer bracket & buzzer assembly. 5. Making of number plate, terminal stand, handle ring, centre collar screw, centre fixing screw, lock plate, counter bracket, fastener of counter assembly, bracket for roller band, guide pin, condenser plate, resistance pate, PB1-PB2 jacketing, etc. 6. Assembling of all sub-assemblies. 7. Dismantling of all sub-assemblies & electroplating the required parts. 8. After electroplating, painting, engraving, coil-winding, final assembly of sub-assemblies are done. 9. Final painting of the instrument is done.	14	10	24	12	5	17	12	5	17

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
6.	Annunciator (Mfg. & Rep.)	1. Drawing in Al. sheet. 2. Marking, cutting, planning, bending, drilling hole & LR key hole. 3. Fixing of bottom part with front part by riveting. 4. Making of top cover & fitting of Al. angle by matching side with front part & completing the box. 5. Making holes for LED, switch, fuse matching with LR key hole. 6. Painting the box. 7. Fitting necessary parts & wiring. 8. Writing necessary nos. on the box.	8	3	11	2	1	3	2	1	3
7.	Block Release Press Switch	1. Drawing at Al. sheet, cutting, planning, making base, front part, top part, drilling hole & finally fitting. 2. Painting on it. 3. Fitting necessary sticker, grummet & switches on it.	3	1	4	1	0	1	2	0	2

2.5.3.1 Statement for monthly production of schedule and non-schedule production items of B-Shop for the year 2016-17 is tabulated below:

Sl. No.	Description of Items	Target 2016-17	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Achievement 2016-17	Remarks
1	DLBI (Mfg.)	100 Nos.	0	0	0	0	0	0	10	10	10	10	10	5	55	Schedule production
2	DLBI (OH)	75 Nos.	6	6	11	10	7	6	1	2	2	2	2	4	59	Schedule production
3	Annunciator (Mfg.)	1000 Lines	60	100	0	0	40	96	50	30	20	20	30	20	466	Schedule production
4	Block Release Press Switch	100 Nos.	8	8	8	8	8	8	8	8	8	8	8	8	96	Schedule production
5	Track Shunt Resistance Box.	60 Nos.	5	5	5	5	5	5	5	5	5	5	5	5	60	Schedule production
6	TLBI (Mfg.)	48 Nos.	0	0	0	0	0	0	0	0	0	0	0	0	0	Schedule production
7	TLBI (OH)	80 Nos.	7	7	7	7	7	0	7	3	3	3	3	3	57	Schedule production
8	Annunciator (Rep.)	--	0	0	0	0	0	0	0	0	0	10	10	8	28	Non schedule production
9	Token Ball	--	0	0	0	0	0	0	0	0	0	0	0	32	32	Non schedule production

2.5.3.2 Statement for monthly production of schedule and non- schedule production items of B-Shop for the year 2017-18 is tabulated below:

Sl. No.	Item	Target 2017-18	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Achievement 2017-18	Remarks
1	DLBI (Mfg.)	100 Nos.	0	11	2	2	5	0	5	9	23	23	11	14	105	Schedule production
2	DLBI (OH)	75 Nos.	1	0	0	0	1	3	4	4	4	4	6	11	38	Schedule production
3	TLBI (Mfg.)	48 Nos.	0	0	0	0	0	0	0	0	0	3	4	5	12	Schedule production
4	TLBI (OH)	80 Nos.	0	4	0	0	0	6	6	6	6	4	4	4	40	Schedule production
5	Annunciator (Mfg.)	--	36	40	40	40	36	40	40	40	36	36	40	40	464	Non schedule production
6	Block Release Press Switch	--	8	8	8	8	8	8	8	8	8	8	8	8	96	Non schedule production

2.5.3.3 Statement for monthly production of schedule and non-schedule production items of B-Shop for the year 2018-19 (April'18 to Sept'18) is tabulated below:

Sl. No.	Item	Target 2018-19	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Achievement 2018-19	Remarks
1	DLBI (Mfg.)	150 Nos.	3	9	4	9	7	8	--	--	--	--	--	--	40	Schedule production
2	DLBI (OH)	80 Nos.	6	7	6	4	3	3	--	--	--	--	--	--	29	Schedule production
3	TLBI (Mfg.)	--	3	3	3	2	4	3	--	--	--	--	--	--	18	Schedule production
4	TLBI (OH)	--	5	4	3	2	3	3	--	--	--	--	--	--	20	Schedule production
5	Annunciator (Mfg.)	--	40	36	40	36	36	30	--	--	--	--	--	--	218	Non schedule production
6	Block Release Press Switch	--	8	7	8	8	8	8	--	--	--	--	--	--	47	Non schedule production

2.6 **Test Room:**

Total 4 nos. of supervisors are there for the supervision work of Test Room and E-Lab. Different types of work under schedule and non-schedule work are being executed by different sections of Test Room. Electrical Part Testing, internal wiring, overhauling and repairing are the main job of Test Room.

Manufacturing and assembly of various types of electronic items are done in Electronics lab.

The position of existing supervisory category staff of Test Room and E-Lab is tabulated as under:

S. No.	Category	Men- On-Roll
<i>Test Room & E-Lab</i>		
1	Senior Section Engineer	4
2	Junior Engineer	0
<i>Total</i>		<i>4</i>

2.6.1 The Category-wise existing Artisan & Erstwhile Gr.D staff position of Test Room and E-Lab is tabulated as under:

S.No.	Category	Men-On-Roll
<i>Test Room</i>		
<i>Artisan</i>		
1	Sr. Technician	16
2	Technician I	18
3	Technician II	0
4	Technician III	1 (long absentee since 10 years)
5	Helper	03
Total ----->		38
<i>Electronics -Lab</i>		
1	Sr. Technician	02
2	Technician I	04
3	Technician II	01
4	Technician III	01
5	Helper	01
Total ----->		09
Grand-Total----->		47

2.6.2 The operations performed for production/overhauling of the scheduled and non-scheduled items of Test room and E-Lab along with deployment of DW staff and EIW staff during the year 2016-17, 2017-18 and 2018-19 (upto Sept'18) is tabulated underneath:

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
1.	TLBI (Manufacturing)	1. Visual Inspection. 2. Ladder wiring. 3. Machine wiring. 4. Adjustment. 5. Routine test. 6. RDSO inspection.	25	3	28	25	3	28	26	4	30
2.	TLBI (Overhauling)	1. Visual Inspection. 2. Ladder wiring. 3. Machine wiring. 4. Adjustment. 5. Routine test. 6. Final testing & inspection.									
3.	DLBI (Manufacturing)	1. Visual Inspection. 2. Ladder wiring. 3. Machine wiring. 4. Adjustment. 5. Routine test. 6. RDSO inspection.	4	2	6	4	2	6	5	2	7
4.	DLBI (Overhauling)	1. Visual Inspection. 2. Ladder wiring. 3. Machine wiring. 4. Adjustment. 5. Routine test. 6. Final testing & inspection.									
5.	SM Slide Box	1. Visual Inspection. 2. Wiring. 3. Testing.	2	1	3	--	--	--	--	--	--

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (Upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
6.	TX/RX (Rep)	1. Checking and measuring of incoming Tx/Rx unit at Bench. 2. Replace the defective component. 3. Measure standard parameter with power supply & relay arrangement. 4. Test the unit with Oscilloscope and Multimeter.	1	0	1	2	1	3	2	1	3
7.	Annunciator (Manufacturing), Sub item-PCB	1. Wiring of all electrical sub-assembly i.e PCB, Buzzer, Fuse base and Holder, LEDs and 24 nos. of LR Keys. 2. Checking & measuring of all electronics components with multimeter for PCB assembling. 3. Testing of complete Annunciator along with PCB, LR Keys & other electrical sub item, DTMF telephone & Magneto ringer with Power supply.	1	0	1	4	1	5	4	1	5
8.	LED Lit Semaphore Signal	1. Checking and measuring of all electronic components with Multimeter. 2. Assembling of components in PCB (front, back & control) using soldering iron. 3. Wiring and fixing of PCB in metal case (hurricane unit). 4. Testing of complete unit with power supply in dark room.	1	0	1	1	1	2	1	0	1
9.	GPS clock (repair)	1. Testing the electronic components with the help of Multimeter. 2. Replace the faulty component. 3. Final testing done & kept for observation.	--	--	--	--	--	--	1	0	1

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (Upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
10.	Block Release Press Switch	1. Checking of Push button Actuator Elements with the help of Multimeter, 2. Fixing of Push button actuator in the Aluminum Box along with mechanical fittings.	1	0	1	--	--	--	--	--	--
11.	Track Shunt Resistance Box (TSR Box)	1. Measuring resistance by multimeter. 2. Wiring of Non-inductive nicrome wire in each segment of TSR box. 3. Final measuring of resistive value of same.	1	0	1	--	--	--	--	--	--
12.	LC Gate Hooter horn	1. Checking and measuring of all electronic components with Multimeter. 2. Assembling of components in PCB (tone generator & amplifier) using soldering iron. 3. Wiring and fixing of PCB in metal case with other electrical sub item. 4. Testing of complete unit as per standard audible sound.	1	0	1	--	--	--	--	--	--
13.	TFBC (Modification)	1. Check & measure electrical parameter of incoming unit, 2. Assembling of electronic componenets in PCB (sensing board), 3. Installed the PCB and re-wire in TFBC cabinet, 4. Test and measure the complete unit with proper load and power supply as required.	1	1	2	--	--	--	--	--	--
14.	Annunciator (Repairing)	1. Assembling of electronics components in PCB. 2. Testing of complete unit with power supply, DTMF Telephone & Magneto ringer.	1	0	1	--	--	--	--	--	--

Sl. No	Item	Major Activities	Deployment of Manpower during 2016-17			Deployment of Manpower during 2017-18			Deployment of Manpower during 2018-19 (Upto Sept'18)		
			DW	EIW	Total	DW	EIW	Total	DW	EIW	Total
15.	Battery Low Voltage Indicator	1. Checking & measuring of all electronics components with multimeter. 2. Assembling of electronics components in PCB. 3. Wiring and fixing of PCB in metal case with other electrical sub item. 4. Test & measure the complete unit with proper load & power supply.	1	0	1	1	1	2	--	--	--
16.	Installation and commissioning of BPAC Using UFSBI	1. Wiring of Relays and others electrical item in UFSBI rack and Block panel, 2. Wiring of Terminal Box between two station "A" and "B" with axle counters, 3. Commissioning of LED signal Lamp i.e. Advance starter in both stations, 4. Installation of Two nos of battery sets 24V DC for both stations with ripple free chargers. 5. Final testing of BPAC using UFSBI at Model Room	1	1	2	--	--	--	--	--	--
17.	GPS Indoor Digital Clock	1. Checking & measuring of all electronics components with Multimeter, 2. Assembling of components in PCB , 3. Wiring & fixing of PCB in Metal case(6" x 4" x 3") with other electrical sub item, 4. Testing and measuring the complete unit with proper load and power supply.	--	--	--	1	0	1	--	--	--

2.6.3.1 Statement for monthly production of schedule and non-schedule production items of Test Room & Electronics Lab for the year 2016-17 is tabulated below:

Sl. No.	Item	Target 2016-17	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Achievement 2016-17	Remarks
1	TLBI (Mfg)	120 Nos.	0	0	0	0	12	12	12	6	10	6	12	15	70	Schedule production
2	DLBI (Mfg)	100 Nos.	0	0	0	0	0	0	10	0	8	8	12	14	38	Schedule production
3	TLBI (Ovh)	80 Nos.	7	7	7	10	7	0	0	6	6	4	0	0	54	Schedule production
4	DLBI (Ovh)	72 Nos.	7	7	7	10	7	7	7	7	3	2	4	7	68	Schedule production
5	SM Slide Box	60 Slide	0	0	20	0	0	0	0	0	20	12	0	8	60	Schedule production
6	Annunciator(Mfg.)	1000 Lines	60	100	100	80	80	80	80	110	90	90	88	42	1000	Schedule production
7	Block Release Press Switch	100 Nos.	10	10	10	10	10	10	10	10	10	10	0	0	100	Schedule production
8	T.S.R.box	60 Nos.	5	5	5	5	5	5	5	5	5	5	5	5	60	Schedule production
9	Tx/Rx-Repair	250 Nos.	15	25	25	25	25	25	25	25	25	25	25	25	290	Schedule production
10	LED Signal Lamp	100 Nos.	10	10	10	10	10	10	10	10	10	10	0	0	100	Schedule production
11	LC Gate Hooter	120 Nos.	0	0	30	10	10	10	10	10	10	10	0	0	100	Schedule production
12	Annunciator (Repairing)	--	28												28	Non schedule production
13	TFBC (Modification)	--	81												81	Non schedule production
14	Battery Low Voltage Indicator	--	10												10	Non schedule production

2.6.3.2 Statement for monthly production of schedule and non-schedule production items of Test Room & Electronics Lab for the year 2017-18 is tabulated below:

Sl. No.	Item	Target 2017-18	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Achievement 2017-18	Remarks
1	TLBI (Mfg)	120 Nos.	10	12	12	12	12	10	10	12	10	8	6	0	114	Schedule production
2	DLBI (Mfg)	100 Nos.	3	6	6	0	2	2	4	8	10	12	15	28	96	Schedule production
3	TLBI (Ovh)	80 Nos.	3	0	2	2	2	5	4	2	4	6	4	5	39	Schedule production
4	DLBI (Ovh)	75 Nos.	4	0	0	0	2	4	4	4	6	5	5	5	39	Schedule production
5	Tx/Rx-Repair	250 Nos.	25	30	30	30	30	25	25	25	25	30	30	30	335	Schedule production
6	Battery Low Voltage Indicator	240 Nos.	20	25	25	25	25	25	25	25	25	30	0	20	270	Schedule production
7	Annunciator (Manufacturing)	--	202												202	Non schedule production
8	GPS clock	--	20												20	Non schedule production
9	LED signal Lamp	--	40												40	Non schedule production

2.6.3.3 Similarly, the statement for monthly production of schedule and non-schedule production items of Test Room & Electronics Lab for the year 2018-19 (April'18 to Sept'18) is tabulated below:

Sl No	Item	Target 2018-19	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Achievement 2018-19	Remarks
1	TLBI (Mfg)	180 Nos.	8	6	6	6	8	6	--	--	--	--	--	--	40	Schedule production
2	TLBI (Ovh)	80 Nos.	4	4	4	6	6	6	--	--	--	--	--	--	30	Schedule production
3	DLBI (Mfg)	150 Nos.	12	8	0	4	6	6	--	--	--	--	--	--	36	Schedule production
4	DLBI (Ovh)	80 Nos.	2	4	4	4	4	6	--	--	--	--	--	--	24	Schedule production
5	Tx/Rx-Repair	350 Nos.	30	25	30	25	35	25	--	--	--	--	--	--	170	Schedule production
6	Annunciator (Mfg.)	--	270						--						270	Non schedule production
7	GPS clock (Repair)	--	1						--						1	Non schedule production
8	LED signal Lamp	--	5						--						5	Non schedule production
9	Battery Low Voltage Indicator 24V	--	0						--						0	Non schedule production
10	Block Release Press Switch	--	0						--						0	Non schedule production
11	GPS Based Indoor Digital Clock-Red/ Green/ Blue (58.6 mm / 100 mm)	--	0						--						0	Non schedule production
12	LED Based 'A / AG' - Marker along with Display and Power Supply Unit & Polycarbonate Front Guard.	--	0						--						0	Non schedule production
13	LED Cap Fitted Lamp for Signal Maintainers	--	0						--						0	Non schedule production
14	Track Shunt Resistance Meter	--	0						--						0	Non schedule production
15	LC Gate Hooter With Audio Amplifier	--	0						--						0	Non schedule production
16	DC DC Converter, 110V to 24V/ 12V / 5V , 20 / 10 / 1 Amp	--	0						--						0	Non schedule production (Under process of development)

2.7 **PCO Section:**

PCO (Production Control Organisation) section of SW/HWH, is functioning under SSE/PCO and direct control of Chief Workshop Manager, SW/HWH. This office plays a vital role in connection with schedule and Non-schedule outturn of the shop. Along with SSE/PCO, 2 more SSEs are there to look after the Planning and Inspection part.

The activities catered by PCO section are stated as under:

- * Planning the job
- * Preparing the requisition for material as per demand in order to maintain flow of outturn.
- * Inspection either on mfg. and repairing of the job is made time to time in regard to maintain the quality of the work.
- * Progress of the job is checked timely whether it is completed within time or not.

The position of existing supervisory category staff at PCO section is tabulated as under:

S. No.	Category	Men-On-Roll
1	Senior Section Engineer	3
2	Junior Engineer	0
Total		3

2.8 **General Section:**

General Section is functioning under SSE/G and the workload catered by this section are listed underneath:

- (i) Lifting and loading of finished goods/ machines and unloading the materials.
- (ii) Carrying the materials from SW/Store and collecting the materials from outside i.e. KPA, LLH, SMM(D) & HLR etc.

Earlier, gang comprising Artisan and Group D staff were there to cater the above mentioned workload. But, now, no such staff are present under SSE/G. During loading/unloading and movement of material, staff from concerned shop are involved to cater the said workload

The position of existing supervisory category staff of General section is tabulated underneath:

S. No.	Category	Men-On-Roll
1	Senior Section Engineer	1
2	Junior Engineer	0
Total		1

2.9 Besides above mentioned sections of shops of Signal Workshop/ Howrah, there are other sections comprising of ministerial staff directly under the control of CWM/ SW/ HWH and Asst. Manager/ SW/ HWH which deals with personal and establishment matters of the staffs of Signal Workshop/ HWH. Apart from these they also deals with store and budget portion of Signal Workshop/ HWH. These sections are General, Establishment, Confidential, DW, Store, Pass, Pay Bill, Budget, LP and Time Office. The category-wise Sanction Strength & On-roll position of Gr. C & Erstwhile Gr. D ministerial staff of Signal workshop/ HWH is tabulated under para 2.2.1.

2.10 Presently 17 Gr. 'C' ministerial staff and 02 Erstwhile Gr. 'D' staff are working in different sections having different nature of workload. Activities of various sections and corresponding deployment of Gr. C and Erstwhile Gr. D staff vis-à-vis workload of the concerned section of Signal Workshop are stated as under:-

2.10.1 **General Section:**

Over all supervision of the section is being done by Ch. OS. Total posts of 2 Gr. 'C' staff are deployed to cater the existing workload. Various types of correspondences, noting and recording job are dealt by the staff of this sections.

Other than this, 2 posts of peons are there in General Section. The peons are utilized for various work assigned to them by officers and ministerial staff of different sections of Signal Workshop. The activities catered by staff of General section are narrated below.

- (i) Maintaining dead stock register and accountal of imprest revenue.
- (ii) Maintaining documents and correspondence regarding type writer machine, copier machine & cyclostyle machine.
- (iii) Maintaining documents and correspondence regarding Audit Inspection, CUG phones, telephones and calibration and testing.
- (iv) General correspondence with various departments, Recognized Unions, Factory Inspector and RPF.
- (v) Maintaining files related to, Cash award, Strike, Civil Defence, State & Central Election, etc.
- (vi) Procurement of stationary items from Printing & Stationary and maintaining record.
- (vii) Receipt and dispatch of files and letters.
- (viii) Preparation of Pay order and G8 Memo.
- (ix) Signature on Passes and PTO's.

The total no. of staff of General section and the workload catered by the section in terms of maintenance of files, registers and no. of staff dealt by this section are narrated in table below.

Total no. of staff deployed	No. of Staff Dealt with	Total No. of Files dealt with	No. of Registers maintained
Ch.OS-1, R/Sorter-1, <u>Peon-2</u> <u>Total-4</u>	Personal records of 806 staff	43	13

2.10.2 **Confidential Section:**

One Ch. OS of General Section has been given the charge to carry out the schedule and non-schedule work of CWM/ Signal Workshop's Confidential Section. The schedule work done by ministerial staff deputed in Confidential Section is as under.

- (i) Preparing & maintenance of CR/APAR.
- (ii) Dealing with all matters concerned with Workmen Compassion, Accident Report.
- (iii) Clearance of DAR.
- (iv) Allotment of Railway Quarters and all the complementary works related to the allotment.
- (v) To attend court cases.
- (vi) Maintenance of secret and confidential matters.
- (vii) Preparation of half-yearly loss statements.
- (viii) Court attachment cases & payment of fees of Rly. Advocate.

The total no. of staff and workload of Confidential Section in terms of dealing of files, registers and no. of officers and staffs dealt by this section are narrated below.

Total no. of staff deployed	No. of officers and regular staff Dealt with	Total No. of Files dealt with	No. of Registers maintained
Ch. OS-1, Total-1	Officers-02, Staff-228 Total-230	10	03

2.10.3 **Establishment Section:**

Total Gr. 'C' ministerial staff engaged in this section is 4, out of them one Chief OS has been working as Supervisor of the Section. The nature of activities performed by the ministerial staff of Establishment Section are listed below.

- (i) Dealing with all sorts of establishment matters of ministerial, supervisory, artisan and Erstwhile Group 'D' staff of Signal Workshop, Howrah.
- (ii) Dealing with appointment, training, posting, promotion, transfer, superannuation, death and all establishment related matters of ministerial, supervisory, artisan and Erstwhile Group 'D' staff of Signal Workshop, Howrah.
- (iii) Maintenance of leave record, increment, NPS of ministerial, supervisory, artisan and Erstwhile Group 'D' staff of Signal Workshop, Howrah.
- (iv) Field training of probation Officers and supervisors.
- (v) Dealing with cases of permission for acquiring movable/immovable properties, construction of building, purchasing of flat, NOC to appear for exam.
- (vi) Dealing with the matters in connection with P.F. loan, Family Planning Allowance and Grant of annual increment, Grant of advance increment, transfer grant, Leave encashment, MACP.
- (vii) Preparation of Book of Sanction, Establishment Roll, PCDO at every month.

The total no. of staff and the workload catered by this section in terms of maintenance of files, registers and no. of staff dealt by this section are narrated in table below.

Total no. of staff deployed	Total no. of Officers and Staff dealt with	Total No. of Files dealt with	No. of Registers maintained
Ch. OS-1, OS-1, Total-2	Officers-02, Staff-228 Total-330	44	14

2.10.4 **Pay Bill & Settlement Section:**

Presently, three Gr. 'C' ministerial staff are deployed in this section out of which one OS is in-charge of the section. Among the three, one OS also caters the workload of LP Section.

The Pay Bill section is responsible for the payment of salary of all the officers, supervisors, artisan staff, ministerial staff and Erstwhile Gr. D staff of Signal Workshop, Howrah. The workload catered by staff of Pay-bill section is narrated as under:

- (i) Preparation & compiling of salary bill of 228 nos. Supervisory, Artisan, Erstwhile Gr. D & Canteen staff.
- (ii) Settlement of deceased staff & VR cases.
- (iii) Preparation of Children Education Assistance Bill.
- (iv) Preparation of Travelling Allowances, Contingent, OT and other bills.
- (v) Preparation of LPC.
- (vi) Income deduction at source.
- (vii) Settlement salary of superannuated staff.
- (viii) Maintenance of leave of staff under B.U. No. 0201350.
- (ix) Preparation of PLB bill.

The total nos. of staff and workload of Pay bill & Settlement section in terms of maintenance of files, registers and no. of staff dealt by this section are narrated below.

Total no. of staff deployed	Total No. of Officers, Supervisor and staff dealt with	Total No. of Files dealt with	No. of Registers maintained
<u>OS-3,</u> Total-3	Officers-02, <u>Staff-228</u> Total-230	17	16

2.10.5 **L.P Section:**

One OS is deployed to tackle the following works of this office. The staff also caters workload of Pay Bill section. The activities catered by the staff of this section are narrated below.

- (i) Collection of requisition from shop for imprest purchase.
- (ii) Collection of bills from suppliers.
- (iii) Preparation of imprest bills (WMS & Rev.).
- (iv) Preparation of Imprest proposal for accounts vetting.
- (v) Chasing of Imprest bill from HQ.

The total staff and workload of L.P Section in regard to maintenance of files and registers are tabulated below.

Total no. of staff deployed	Total No. of Files dealt with	No. of Registers maintained
<u>OS-1,</u> Total-1	1	2

2.10.6 **Store Section:**

Two OS under SSE/Store are presently deployed to tackle the existing workload of Store Section. The main activities of Store section are explained herein under.

- (i) Maintenance of Stores ledgers.
- (ii) Issue of materials to SSEs of different shop.
- (iii) Maintenance of various files such as P.O files, I/C files, R Notes, I Notes, etc.
- (iv) Preparation of inputs for PCDO (store part).
- (v) Collection of PO & MA from HQ and SMM/D/HWH.
- (vi) Assistance in stock verification and audit work.
- (vii) Posting of LP and Imprest consignment at ledger as directed by SSE/store.
- (viii) Maintenance of daily transaction registers for materials from outside depot.
- (ix) Maintenance of Issue register for M.A before issue of materials to SSEs of different shops.

The total staff and workload in terms of dealing of files on regular measure and occasional measure, are stated in the following table.

Total no. of staff deployed	Total No. of Files dealt with	No. of Ledger Book kept by the section
<u>OS-2,</u> Total-2	8	40

2.10.7 **Budget Section:**

One OS of the section is presently deployed to tackle the existing workload. The main activities of Budget Section are explained herein under.

- (i) Preparation of WMS Budget two times in a year.
- (ii) Preparation of Revenue Budget two times in a year.
- (iii) Making of Revised expenditure statement in every month.
- (iv) Preparation of monthly statements, debit bill and certification of funds.
- (v) Keeping records of the financial transactions.
- (vi) Arrangement of payment of Telephone Bill, Electric Bill and other misc. bill.
- (vii) Collection of annual expenditure (WMS) statement from CAO/W/ER/KKK.
- (viii) Collection of monthly stock/non-stock/misc. expenditure from CAO/W/ER/KKK.

The total no. of staff and workload in terms of dealing of files on regular measure and occasional measure, are stated in the following table.

Total no. of staff deployed	No. of staff dealt with	Total No. of Files dealt with	No. of Registers maintained
<u>OS-1,</u> Total-1	228	04	09

2.10.8 **Pass Section:**

The OS of Budget Section is also given the charge of Pass Section. The following works are used to be performed in regular basis by this section which are stated as under-

- (i) Issue of privilege passes, duty passes, post retirement passes, widow complementary passes, MCTO, Medical passes, student card pass, special passes, Civil Defence passes and scout passes in favour of officers and artisan & unskilled staff of Signal Workshop.
- (ii) Maintenance of Family Declarations, register of Passes and PTOs. Also deals with the work of checking Family Declaration of regular/retired employees.

In connection with issuing of pass & others, total staff of artisan & unskilled staff under Signal Workshop, officers of Signal Workshop and retired employees deals by the Pass section in about 700 (approx). The workload mentioned above as observed by the study team, the no. personnel dealt by Pass section vis-à-vis manpower deployed is tabulated underneath.

Total no. of staff deployed	No. of officers, regular/retired staff Dealt with
OS-1, Total-1	700

2.10.9 **DW Section:**

Total 1 post of Gr. 'C' Ministerial staff is deployed in this section. The activities catered by this section are furnished below.

- (i) Items manufactured at this shop are dispatched to different division through I/Note.
- (ii) Items sent by various divisions for manufacturing, overhauling and repairing are received by this section and sent to respective sections after preparation of Work Order.
- (iii) Collection of production report from shop.
- (iv) Assistance for preparation of PCDO.
- (v) Correspondence for intimation to various divisions is done after completion of job by the Workshop.
- (vi) Maintenance of ledger book for receipt and issue of materials.
- (vii) Various process regarding deputation of Artisan staff to attend failure is made by this section.
- (viii) Various documents and Gate Pass is made by this section while dispatching the finished item.

The total no. of staff and workload of DW Section in connection with dealing of different nature files and maintaining of registers by this section is shown as under:

Total no. of staff deployed	Total No. of Files dealt with	No. of Registers maintained
Ch. OS-1 Total-1	14	15

2.10.10 **Time Booth Office:**

One OS is deployed to tackle the following works of this office. The activities catered by the staff of this section are narrated below.

- (i) Opening of Time Booth between 7:30 hrs to 8:30 hrs, 11:55 hrs to 12:30 hrs and 16:20 hrs for punching of G.A Cards
- (ii) Preparation of absentee memos and sending to respective SSEs.
- (iii) After memos returned by SSEs, attendance is made ready.
- (iv) Gate Pass is prepared for staff on C.D & O.R.S and attendance of staff on I.O.D.
- (v) Attendance for all Artisan staff is sent to Pay Bill Section every month for preparation of Salary Bill.
- (vi) Every month G.A Card for all artisan staff are prepared.

The total staff and workload of Time Booth Office in regard to maintenance of files and registers are tabulated below.

Total no. of staff deployed	Total No. of Files dealt with	No. of Registers maintained
<u>OS-1,</u> Total-1	3	2

2.10.11 **Tender Section:**

Tender section has been newly created in the Signal Workshop to cater various workloads related to tender. All the tender related work i.e drafting of proposal for tender, various steps for process of tender, monitoring, execution, finalization and payment for the work are being catered by the ministerial staff of this section. So far, the workload of this section is concerned, the list of tenders executed during the current financial year and the existing under process proposals are tabulated underneath. The no. of ministerial staff deployed to tackle the workload of this section is also shown in the table below.

Total no. of staff deployed	No. of tenders executed during the current financial year (2018-19)	Nos. of existing under process proposals
Ch. OS-1, <u>OS-1,</u> Total-2	04	03

- 2.11 Apart from the ministerial staff mentioned in above paras, 03 more ministerial staff are present in the office of Signal Workshop under control of CWM/SW. The on-roll position of said ministerial staff is mentioned underneath:

S.No.	Category	Men-On-Roll
1	Stenographer	01
2	Ch. Typist	01
3	Ch. S & WI	01

2.12 **Canteen:**

The workshop canteen at Signal Workshop/HWH is functioning in a regular measure & providing lunch to the workshop staff. Earlier breakfast was served, but now only lunch is served to 30 to 35 staff. Rice, Dal, two types of vegetables, egg curry and fish curry are the main items for lunch.

The existing deployment of canteen staff (mentioned in para 2.3) and their activities are detailed as under:

S.No.	Category	Men-On-Roll	Activities
1	Cook	1	Cooking and distribution of food at the time of lunch.
2	Canteen Assistant	2	Chopping of vegetables and non-veg. items in connection with preparation of food and distribution of food at the time of lunch.
TOTAL		3	

2.13 It has been observed that, in the year 2018-19 a no. of work of Signal workshop have being executed by external agency through Works Contract/ Contract. The details of the Works Contracts executed during the year 2018-19 are mentioned underneath:

S. No.	Description of Contractual work	Tender No.	Qty.	Rate per unit in Rs.	Total Amount in Rs.	Contractor Name	Duration of Contract
1.	Protective coating & anti-corrosion treatment of various components after fixing, adjusting, matching and various patchwork during manufacturing and overhaul of TLBI & DLBI at this workshop as per list of items in Annexure-1,2,3 & 4 respectively, which are urgent in nature and directly related to safe running of the train movement.	G/SW/HW H/QT-PC	a) Annexure – 1 = 05 sets b) Annexure – 2 = 10 sets c) Annexure – 3 = 05 sets d) Annexure – 4 = 10 sets	6000/- 6500/- 6000/- 6500/-	190000/-	M/S Maa Durga Engineering Works, Balitikuri, Kalitala, Howrah- 711113	60 days (19.03.18 to 17.05.18)
2.	Harnessing i.e wire cutting, trimming, inserting, dressing, bunching, fixing, wiring etc. for manufacturing and overhauling of TLBI including supply of some critical spares/components of TLBI & DLBI at this workshop as per Schedule-A & Schedule-B, which are urgent in nature and directly related to safe running of the train movement.	G/SW/QT/ Harnessing	a) Schedule – A = 10 sets b) Schedule – B = 10 sets	6105/- 13403.50/-	195085/-	M/S Maa Durga Engineering Works, Balitikuri, Kalitala, Howrah- 711113	60 days (28.04.18 to 26.06.18)
3.	Protective coating & anti-corrosion treatment i.e electroplating of various components after fixing, adjusting, matching and various patchwork during manufacturing and overhaul of TLBI & DLBI at this workshop as per list of items in Annexure-1,2,3 & 4 respectively, which are urgent in nature and directly related to safe running of the train movement.	G/SW/HW H/QT/T & D	a) Annexure – 1 = 05 sets b) Annexure – 2 = 10 sets c) Annexure – 3 = 05 sets d) Annexure – 4 = 10 sets	6000/- 6500/- 6000/- 6500/-	190000/-	M/s Arya Industries, 82, Despran Sasmal Road, Howrah- 01	90 days (26.07.18 to 23.10.18)
4.	Harnessing i.e wire cutting, trimming, inserting, dressing, bunching, fixing, wiring etc. for manufacturing and overhauling of TLBI including supply of some critical spares/components of TLBI & DLBI at this workshop as per Schedule-A & Schedule-B, which are urgent in nature and directly related to safe running of the train movement.	G/QT/WIRI NG/TLBI/L ADDER/S W	a) Schedule – A = 11 sets b) Schedule – B = 11 sets	7526/- 8325.50/-	174366.50/-	M/s. 1, Satish Chandra Das Lane, Dasnagar- 711	60 days (04.10.18 to 02.12.18)

2.13.1 The details of the existing under process proposals for the Contractual Works/Works Contract pertaining to Signal Workshop/ HWH are tabulated underneath:

S. No.	Description of Contractual work	Tender No.	Qty.	Rate per unit in Rs.	Total Amount in Rs.	Duration of Contract
1.	Protective coating & anti-corrosion treatment of various components after fixing, adjusting, matching and various patchwork during manufacturing and overhaul of TLBI & DLBI at this workshop as per list of items in Annexure-1,2,3 & 4 respectively, which are urgent in nature and directly related to safe running of the train movement.	G/EOT/PC/T&D/SW	a) Annexure – 1 = 120 sets b) Annexure – 2 = 120 sets c) Annexure – 3 = 120 sets d) Annexure – 4 = 120 sets	6000/- 6500/- 6000/- 6500/-	3000000/-	18 Months
2.	Harnessing i.e wire cutting, trimming, inserting, dressing, bunching, fixing, wiring etc. for manufacturing and overhauling of TLBI including supply of some critical spares/components of TLBI & DLBI at this workshop as per Schedule-A & Schedule-B, which are urgent in nature and directly related to safe running of the train movement.	G/OET/WIRIN G/TLBI/LADDER/SW	a) Schedule – A = 300 sets b) Schedule – B = 300 sets (except the supply of spree component of TLBI & DLBI)	7526/- 8325.50/-	4755450/-	18 Months
3.	Manual cleaning of entire Signal Workshop, HWH.	G-2(2018-19)	--	--	427758.37/-	60 days

CHAPTER-III

3.0 CRITICAL ANALYSIS

- 3.1 Signal Workshops over Indian Railways are functioning to provide manufacturing, repairing, overhauling, replacements and maintenance of S & T equipments as per their zonal demands. No doubt, that the expenditure incurred is on higher side when compared to open market units and trade manufacturers who have spread their wings in Railway system to supply various S & T equipments/ spares at cheaper rates.

Other than this, due to modification of Signalling equipments to electronically and electro-mechanically driven systems, the old Signalling equipments manufactured by Signal Workshops has become obsolete. Thus, the activity of Signal Workshops are diminishing day by day.

After implementation of 7th Pay Commission, the departmental labour cost has escalated considerably. It has become very essential to think over and explore better cost effective alternatives. Effective manpower management and contract management are among the solutions which can be implemented.

In this regard, Signal Workshop/ HWH has already taken initiative and outsourced some of the workload to external agencies.

Consequent upon these facts, a reasonable reduction in workload of departmental staff has been resulted.

- 3.2 In consideration with the grounds mentioned in above paras, a necessity to review the manpower of Signal Workshop, HWH has been felt by the Eastern Railway's Efficiency Cell.
- 3.3 For assessment of requirement of manpower at Signal workshop/Howrah, study team has separately analyzed the effective utilization of manpower of different shops due to their different nature of workload. Yearly production of the shops has also been taken into consideration during assessment.

From the data collected from different shops, it is revealed that outturn varies every month, so study team has considered outturn for the period of two and a half years to get a more realistic and accurate assessment.

- 3.4 It is observed that, for complete production of an item, different sets of operation are performed at different shops. At each shop, different nos. of staff are deployed to perform the set of activity pertaining to that shop.

The item-wise outturn of each shop and corresponding manpower deployed to achieve the outturn is collected for each month. With the help of this data, the "item-wise actual man-hours taken" by the staff for performing their shop's outturn has been calculated.

Based on the actual man-hours taken by the staff, the assessment for the requirement of manpower has been done in ongoing paras.

- 3.5 Weekly duty hours of staff of Signal workshop/ HWH = 45 hours
{Monday to Friday full day(8 hrs) & Saturday half day (5 hrs)}

Now, the effective working hours per week per staff may be calculated as 34 hrs on an average considering 2.5 hrs as tiffin hrs/week (@ half an hour per day excluding saturday) and 8.5 hrs as contingent and fatigue allowances {this allowance has been considered as 20% of 42.5 (45-2.5) available recess-less duty hrs}.

A calendar year comprises of 52 weeks, and there are 16 days closed holiday in a year i.e 2.5 week closed holiday per year.

$$\begin{aligned}
 \text{So, total available effective working hours/staff in a year} &= 34 \times (52 - 2.5) \\
 &= 34 \times 49.5 \\
 &= \underline{1683 \text{ man-hours}}
 \end{aligned}$$

Now, in different months, the available effective working hours are different. However, for simplicity of calculation, study team has considered average effective working hours per month,

$$\text{i.e. } 1683 / 12 = 140.25 \text{ available effective manhours / month / staff}$$

- 3.6 For the assessment of manpower requirement of A-Shop, the deployment of staff for carrying out schedule and Non-schedule work for the year 2016-17, 2017-18 and 2018-19 (upto Sept'18) has been analyzed. The effective utilization of the available manpower has also been taken into account in the assessment.

It is noticed (*from table 2.4.3.1 to 2.4.3.3*) that there is a wide variation of outturn in every month. A vital reason for the variation as observed during the study period is irregular supply of raw material. On scrutiny of the deployment of staff and the outturn of three years, it is concluded that in the month with highest outturn, the effective utilization of manpower was highest.

Therefore, in consideration with the highest effective utilization of the available manpower, study team has considered the highest monthly outturn in the assessment.

3.6.1 Considering the maximum monthly outturn figure for the year 2016-17, 2017-18 and 2018-19 (*upto Sept'18*), the item-wise man-hours required to carry-out the activities pertaining to A-shop has been calculated in table below:

Sl. No.	Item	For the year 2016-17						For the year 2017-18						For the year 2018-19 (<i>upto Sept'18</i>)					
		Manpower deployed in 2016-17 (para 2.4.2)	Maximum outturn achieved in a month in 2016-17 (para 2.4.3.1)	Effective Man-hours/staff/month (para 3.5)	Total manhours	Requirement of Manhours/unit item considering maximum monthly outturn figure for the year 2016-17	Rounding off	Manpower deployed in 2017-18 (para 2.4.2)	Maximum outturn achieved in a month in 2017-18 (para 2.4.3.2)	Effective Man-hours/staff/month (para 3.5)	Total manhours	Requirement of Manhours/unit item considering maximum monthly outturn figure for the year 2017-18	Rounding off	Manpower deployed in 2018-19 (para 2.4.2)	Maximum outturn achieved in a month in 2018-19 (para 2.4.3.3)	Effective Man-hours/staff/month (para 3.5)	Total manhours	Requirement of Manhours/unit item considering maximum monthly outturn figure for the year 2018-19	Rounding off
		(a)	(b)	(c)	d = (a X c)	e = (d/b)		(a)	(b)	(c)	d = (a X c)	e = (d/b)		(a)	(b)	(c)	d = (a X c)	e = (d/b)	
1	Spares of TLBI (Mfg)	5	15	140.25	701.25	46.75	47	5	12	140.25	701.25	58.44	58	5	8	140.25	701.25	87.66	88
2	Spares of TLBI (Ovh)		10		701.25	70.13	70		6		701.25	116.88	117		6		701.25	116.88	117
3	Spares of DLBI (Mfg)	3	14		420.75	30.05	30	3	28		420.75	15.03	15	3	12		420.75	35.06	35
4	Spares of DLBI (Ovh)		10		420.75	42.08	42		6		420.75	70.13	70		6		420.75	70.13	70
5	SM's Slide Box	10	20		1402.5	70.13	70	10	0		--	--	0	--	--		--	--	--
6	Sliding Boom	16	41		1402.5	34.21	34	16	6		1402.5	233.75	234	16	0		--	--	0
7	Sliding Boom (MFT Drawing)	--	--		--	--	--	10	20		2244	112.20	112	--	--		--	--	--
8	Steel Apparatus Case	16	7		2244	320.57	321	16	0		--	--	0	16	0		--	--	0
9	Modular type SS Location Box		0		--	--	0		55		2244	40.80	41		0		--	--	0
10	IRS Ground Fittings threaded type (Ordinary)	12	5		1683	336.60	337	12	25		1683	67.32	67	12	1		1683	1683.00	1683
11	IRS Ground Fittings threaded type (Raised)		0		--	--	0		25		1683	67.32	67		0		--	--	0

12	Spares of Annunciator	1	110	140.25	140.25	1.28	1	1	22	140.25	140.25	6.38	6	1	60	140.25	140.25	2.34	2
13	Goods Warning Board	9	22		1402.5	63.75	64	9	12		1402.5	116.88	117	9	25		1262.25	50.49	50
14	TLJB (Metallic)	8	30		1122	37.40	37	8	30		1122	37.40	37	8	40		1122	28.05	28
15	Winch Complete	6	2		841.5	420.75	421	6	2		841.5	420.75	421	6	4		841.5	210.38	210
16	Pedestal	--	--		--	--	--	--	--		--	--	--	8	2		1122	561.00	561
17	Tubular pole 10 mtr.	10	20		1402.5	70.13	70	10	2		1402.5	701.25	701	10	4		1402.5	350.63	351
18	Tubular pole 1.5 mtr.		0		--	--	0		20		1402.5	70.13	70		0		--	--	0
19	FRP Cable Tray	--	--		--	--	--	--	--		--	--	--	4	45		561	12.47	12
20	Skimming of Fish Plate	2	20		280.5	14.03	14	2	90		280.5	3.12	3	2	50		280.5	5.61	6
21	Pipe Lock with key	7	150		981.75	6.55	7	7	50		981.75	19.64	20	7	50		981.75	19.64	20
22	LED Lit Semaphore Signal	7	10		981.75	98.18	98	7	10		981.75	98.18	98	7	5		981.75	196.35	196
23	Batch for One Train ISMG-BDMF	--	--		--	--	--	--	--		--	--	--	1	1		140.25	140.25	140
24	Spares of TSR Box	1	5		140.25	28.05	28	--	--		--	--	--	--	--		--	--	--
25	Point Testing Bit	5	10	140.25	701.25	70.13	70	--	--	140.25	--	--	--	--	--	140.25	--	--	--
26	Octagonal ELB Gate Boom (Repairing)	6	26		841.5	32.37	32	--	--		--	--	--	--	--		--	--	--
27	Retro-fit arrangement to get rid of sharp edges of relay rack.	5	320		701.25	2.19	2	--	--		--	--	--	--	--		--	--	--
28	Iron Backing Plate.	4	285		561	1.97	2	--	--		--	--	--	--	--		--	--	--

3.6.2 From above table, the item-wise requirement of man-hours to carry-out the activities pertaining to A-shop considering maximum monthly outturn figure for the year 2016-17, 2017-18 and 2018-19 (upto Sept'18) has been shown in table below.

Sl. No.	Item	2016-17	2017-18	2018-19 (upto Sept'18)
1	Spares of TLBI (Mfg)	47	58	88
2	Spares of TLBI (Ovh)	70	117	117
3	Spares of DLBI (Mfg)	30	15	35
4	Spares of DLBI (Ovh)	42	70	70
5	SM's Slide Box	70	--	--
6	Sliding Boom	34	234	--
7	Sliding Boom (MFT Drawing)	--	112	--
8	Steel Apparatus Case	321	--	--
9	Modular type SS Location Box	--	41	--
10	IRS Ground Fittings threaded type (Ordinary)	337	67	1683
11	IRS Ground Fittings threaded type (Raised)	--	67	--
12	Spares of Annunciator	1	6	2
13	Goods Warning Board	64	117	50
14	TLJB (Metallic)	37	37	28
15	Winch Complete	421	421	210
16	Pedestal	--	--	561
17	Tubular pole 10 mtr.	70	701	351
18	Tubular pole 1.5 mtr.	--	70	--
19	FRP Cable Tray	--	--	12
20	Skimming of Fish Plate	14	3	6
21	Pipe Lock with key	7	20	20
22	LED Lit Semaphore Signal	98	98	196
23	Batch for One Train ISMG-BDMF	--	--	140
24	Spares of TSR Box	28	--	--
25	Point Testing Bit	70	--	--
26	Octagonal ELB Gate Boom (Repairing)	32	--	--
27	Retro-fit arrangement to get rid of sharp edges of relay rack.	2	--	--
28	Iron Backing Plate.	2	--	--

3.6.3 It is clearly exhibited from the above table that there is a wide variation of man-hours for each items when compared year-wise (*i.e* 2016-17, 2017-18 and 2018-19). But, the deployment of staff is almost same every year against each item as shown in table under para 2.4.2. For assessment of manpower, study team has considered the least man-hours taken by the staff among three years *i.e.* the man-hours in which effective utilization of available manpower is maximum.

3.6.4 The bare requirement of manpower for A-shop is calculated underneath considering the most optimum manhours of the year 2016-17, 2017-18 and 2018-19 (upto Sept'18) and the targeted outturn for the year 2018-19.

Sl. No.	Item	Manhours/ Unit item	Target for the year 2018-19	Requirement of manhours / year	Remarks
1	Spares of TLBI (Mfg)	47	260	12220	--
2	Spares of TLBI (Ovh)				
3	Spares of DLBI (Mfg)	15	230	3450	--
4	Spares of DLBI (Ovh)				--
5	SM's Slide Box	70	--	--	--
6	Sliding Boom	34	150	5100	--
7	Sliding Boom (MFT Drawing)	70	--	--	--
8	Steel Apparatus Case	41	250	10250	--
9	Modular type SS Location Box				
10	IRS Ground Fittings threaded type (Ordinary)	67	270	18090	--
11	IRS Ground Fittings threaded type (Raised)				
12	Spares of Annunciator	1	540	540	Target for Non-schedule production items has been estimated on the basis of production of six months i.e Apr'18 to Sept'18
13	Goods Warning Board	50	138	6900	
14	TLJB (Metallic)	28	320	8960	
15	Winch Complete	210	22	4620	
16	Pedestal	561	10	5610	
17	Tubular pole 10 mtr.	70	160	11200	
18	Tubular pole 1.5 mtr.				
19	FRP Cable Tray	12	90	1080	
20	Skimming of Fish Plate	3	100	300	
21	Pipe Lock with key	7	100	700	
22	LED Lit Semaphore Signal	98	40	3920	
23	Batch for One Train ISMG-BDMF	140	2	280	
24	Spares of TSR Box	28	--	--	--
25	Point Testing Bit	70	--	--	--
26	Octagonal ELB Gate Boom (Repairing)	32	--	--	--
27	Retro-fit arrangement to get rid of sharp edges of relay rack.	2	--	--	--
28	Iron Backing Plate.	2	--	--	--
Total				83140	

So, the bare requirement of manpower for manufacturing of schedule and non-schedule production items of A-shop is calculated as $83140 / 1683 = 49.39 \approx \underline{50}$

- 3.6.5 From table under para 2.4.2, it is observed that 6 staff of Maintenance Section are deployed for maintenance work of Machinery & Plant (Sl. No. 23) and 1 staff is deployed for issuance of tool (Sl. No. 24). Study team felt justified for the existing deployment, and recommends for **7 staff** for maintenance work of M&P and tool issue.
- 3.6.6 Other than this, a group of 5 staff is recommended by the study team to carry out miscellaneous workload such as material handling, etc of A-shop.
- 3.6.7 From para 3.6.4, 3.6.5 and 3.6.6, the total requirement of staff for A-shop is:-

	<i>Assessed requirement of Manpower</i>	<i>Reference para.</i>
<i>For Schedule and Non-schedule production items</i>	50	3.6.4
<i>For Maintenance Section and Tool issuance</i>	7	3.6.5
<i>For catering misc. activities</i>	5	3.6.6
<i>Bare Requirement</i>	62	
<i>Leave Reserve @ 12.5%</i>	7.75	
Total Requirement	69.75 \approx 70	

Consequent upon the analysis done in above paras, the total actual requirement of manpower for A-shop is assessed as **70**.

- 3.7 In the similar way, the assessment for actual requirement of manpower is done for B-Shop. The item-wise requirement of man-hours to carry-out the activities pertaining to B-shop considering maximum monthly outturn figure for the year 2016-17, 2017-18 and 2018-19 (upto Sept'18), is calculated underneath:

Sl. No.	Item	For the year 2016-17						For the year 2017-18						For the year 2018-19 (upto Sept'18)					
		Manpower deployed in 2016-17 (para 2.5.2)	Maximum outturn achieved in a month in 2016-17 (para 2.5.3.1)	Effective Man-hours/staff/month (para 3.5)	Total manhours	Requirement of Manhours/unit item considering maximum monthly outturn figure for the year 2016-17	Rounding off	Manpower deployed in 2017-18 (para 2.5.2)	Maximum outturn achieved in a month in 2017-18 (para 2.5.3.2)	Effective Man-hours/staff/month (para 3.5)	Total manhours	Requirement of Manhours/unit item considering maximum monthly outturn figure for the year 2017-18	Rounding off	Manpower deployed in 2018-19 (para 2.5.2)	Maximum outturn achieved in a month in 2018-19 (para 2.5.3.3)	Effective Man-hours/staff/month (para 3.5)	Total manhours	Requirement of Manhours/unit item considering maximum monthly outturn figure for the year 2018-19	Rounding off
		(a)	(b)	(c)	$d = (a \times c)$	$e = (d/b)$		(a)	(b)	(c)	$d = (a \times c)$	$e = (d/b)$		(a)	(b)	(c)	$d = (a \times c)$	$e = (d/b)$	
1	DLBI (Mfg.)	22	10	140.25	3085.5	308.55	309	17	23	140.25	2384.25	103.66	104	17	9	140.25	2384.25	264.92	265
2	DLBI (OH)	15	11		2103.75	191.25	191	12	11		1683	153.00	153	12	7		1683	240.43	240
3	Track Shunt Resistance Box.	7	5		981.75	196.35	196	--	--		--	--	--	--	--		--	--	--
4	TLBI (Mfg.)	24	0		--	--	0	22	5		3085.5	617.10	617	22	4		3085.5	771.38	771
5	TLBI (OH)	24	7		3366	480.86	481	17	6		2384.25	397.38	397	17	5		2384.25	476.85	477
6	Annunciator (Rep.)	11	8		1542.75	192.84	193	3	0		--	--	0	3	0		--	--	0
7	Annunciator (Mfg.)		100		1542.75	15.43	15		40		420.75	10.52	11		40		420.75	10.52	11
8	Block Release Press Switch	4	8		561	70.13	70	1	8		140.25	17.53	18	2	8		280.5	35.06	35
9	Token Ball	--	--		--	--	--	--	--		--	--	--	--	--		--	--	--

- 3.7.1 From above table, the item-wise man-hours to carry-out the activities pertaining to B-shop considering the maximum outturn for the year [2016-17, 2017-18 and 2018-19(upto Sept'18)] is tabulated underneath.

Sl. No.	Item	2016-17	2017-18	2018-19 (upto Sept'18)
1	DLBI (Mfg.)	309	104	265
2	DLBI (OH)	191	153	240
3	Track Shunt Resistance Box.	196	--	--
4	TLBI (Mfg.)	--	617	771
5	TLBI (OH)	481	397	477
6	Annunciator (Rep.)	193	--	--
7	Annunciator (Mfg.)	15	11	11
8	Block Release Press Switch	70	18	35
9	Token Ball	--	--	--

- 3.7.2 The bare requirement of manpower for B-shop is calculated underneath considering the most optimum man-hours of the year 2016-17, 2017-18 and 2018-19 (upto Sept'18) and the targeted outturn for the year 2018-19.

Sl. No.	Item	Manhours/ Unit item	Target for the year 2018-19	Requirement of manhours / year
1	DLBI (Mfg.)	104	150	15600
2	DLBI (OH)	153	80	12240
3	Track Shunt Resistance Box.	196	--	--
4	TLBI (Mfg.)	617	48	29616
5	TLBI (OH)	397	80	31760
6	Annunciator (Rep.)	11	--	--
7	Annunciator (Mfg.)		436	4796
8	Block Release Press Switch	18	94	1692
9	Token Ball	--	--	--
Total				95704

So, the bare requirement of manpower for schedule and non-schedule production of B-shop is calculated as $95704 / 1683 = 56.86 \approx \underline{57}$

3.7.3 A group of 5 staff is also recommended for B-shop by the study team to carry out miscellaneous workload.

3.7.4 From para 3.7.2 and 3.7.3, the total actual requirement of staff for B-shop is:-

	<i>Assessed requirement of Manpower</i>	<i>Reference para.</i>
<i>For Schedule and non-schedule production items</i>	57	3.7.2
<i>For catering misc. activities</i>	5	3.7.3
<i>Bare Requirement</i>	62	
<i>Leave Reserve @ 12.5%</i>	7.75	
Total Requirement	69.75 \approx 70	

Hence, as per analysis done in above paras, the total actual requirement of manpower for B-shop is assessed as **70**.

- 3.8 Now, the assessment for actual requirement of manpower is being done for Test Room in the paragraphs below. The item-wise man-hours required to carry-out the activities pertaining to Test Room and E-Lab considering maximum monthly outturn figure for the year 2016-17, 2017-18 and 2018-19 (*upto Sept'18*), is calculated underneath:

Sl. No.	Item	For the year 2016-17						For the year 2017-18						For the year 2018-19					
		Manpower deployed in 2016-17 (para 2.6.2)	Maximum outturn achieved in a month in 2016-17 (para 2.6.3.1)	Effective Man-hours/staff/month (para 3.5)	Total manhours	Requirement of Manhours/unit item considering maximum monthly outturn figure for the year 2016-17	Rounding off 2016-17	Manpower deployed in 2017-18 (para 2.6.2)	Maximum outturn achieved in a month in 2017-18 (para 2.6.3.2)	Effective Man-hours/staff/month (para 3.5)	Total manhours	Requirement of Manhours/unit item considering maximum monthly outturn figure for the year 2017-18	Rounding off 2017-18	Manpower deployed in 2018-19 (para 2.6.2)	Maximum outturn achieved in a month in 2018-19 (para 2.6.3.3)	Effective Man-hours/staff/month (para 3.5)	Total manhours	Requirement of Manhours/unit item considering maximum monthly outturn figure for the year 2018-19	Rounding off 2018-19
		(a)	(b)	(c)	d = (a X c)	e = (d/b)		(a)	(b)	(c)	d = (a X c)	e = (d/b)		(a)	(b)	(c)	d = (a X c)	e = (d/b)	
1	TLBI (Mfg)	28	15	140.25	3927	261.80	262	28	12	140.25	3927	327.25	327	30	8	140.25	4207.5	525.94	526
2	TLBI (Ovh)		10		3927	392.70	393		6		3927	654.50	655		6		4207.5	701.25	701
3	DLBI (Mfg)	6	14		841.5	60.11	60	6	28		841.5	30.05	30	7	12		981.75	81.81	82
4	DLBI (Ovh)		10		841.5	84.15	84		6		841.5	140.25	140		6		981.75	163.63	164
5	SM's Slide Box	3	20		420.75	21.04	21	--	--		--	--	--	--	--		--	--	--
6	Annunciator (Repairing)	1	3		140.25	46.75	47	--	--		--	--	--	--	--		--	--	--
7	TFBC (Modification)	2	7		280.5	40.07	40	--	--		--	--	--	--	--		--	--	--
8	Battery Low Voltage Indicator	1	1		140.25	140.25	140	2	25		280.5	11.22	11	--	--		--	--	--
9	Tx/Rx-Repair	1	25		140.25	5.61	6	3	30		420.75	14.03	14	3	35		420.75	12.02	12
10	Annunciator (Mfg.)	1	110		140.25	1.28	1	5	17		701.25	41.25	41	5	45		701.25	15.58	16

11	GPS clock (Repair)	--	--	140.25	--	--	--	--	--	140.25	--	--	--	1	1	140.25	140.25	140.25	140
12	LED signal Lamp	1	10		140.25	14.03	14	2	4		280.5	70.13	70	1	1		140.25	140.25	140
13	Block Release Press Switch	1	10		140.25	14.03	14	0	0		0	0.00	0	--	--		--	--	--
14	GPS Based Indoor Digital Clock-Red/ Green/ Blue (58.6 mm / 100 mm)	--	--		--	--	--	1	2		140.25	70.13	70	--	--		--	--	--
15	LED Based 'A / AG ' - Marker along with Display and Power Supply Unit & Polycarbonate Front Guard.	--	--		--	--	--	--	--		--	--	--	--	--		--	--	--
16	LED Cap Fitted Lamp for Signal Maintainers	--	--		--	--	--	--	--		--	--	--	--	--		--	--	--
17	Track Shunt Resistance Meter	1	5		140.25	28.05	28	--	--		--	--	--	--	--		--	--	--
18	LC Gate Hooter With Audio Amplifier	1	30	140.25	140.25	4.68	5	--	--	140.25	--	--	--	--	--	140.25	--	--	--
19	DC DC Converter, 110V to 24V/ 12V / 5V , 20 / 10 / 1 Amp	--	--		--	--	--	--	--		--	--	--	--	--		--	--	--

3.8.1 From the above table, the item-wise manhours to carry-out the activities pertaining to Test Room and E-Lab considering maximum outturn for the year [2016-17, 2017-18 and 2018-19(upto Sept'18)] is tabulated underneath.

Sl. No.	Item	2016-17	2017-18	2018-19 (upto Sept'18)
1	TLBI (Mfg)	262	327	526
2	TLBI (Ovh)	393	655	701
3	DLBI (Mfg)	60	30	82
4	DLBI (Ovh)	84	140	164
5	SM's Slide Box	21	--	--
6	Annunciator (Repairing)	--	--	--
7	TFBC (Modification)	40	--	--
8	Battery Low Voltage Indicator	140	11	0
9	Tx/Rx-Repair	6	14	12
10	Annunciator (Mfg.)	1	41	16
11	GPS clock (Repair)	--	--	--
12	LED signal Lamp	14	70	140
13	Block Release Press Switch	14	--	--
14	GPS Based Indoor Digital Clock-Red/ Green/ Blue (58.6 mm / 100 mm)	--	--	--
15	LED Based 'A / AG ' - Marker along with Display and Power Supply Unit & Polycarbonate Front Guard.	--	--	--
16	LED Cap Fitted Lamp for Signal Maintainers	--	--	--
17	Track Shunt Resistance Meter	28	--	--
18	LC Gate Hooter With Audio Amplifier	5	--	--
19	DC DC Converter, 110V to 24V/ 12V / 5V , 20 / 10 / 1 Amp	--	--	--

3.8.2 The bare requirement of manpower for Test Room and E-Lab is calculated underneath considering the most optimum manhours of the year 2016-17, 2017-18 and 2018-19 (*upto Sept'18*) and the targeted outturn for the year 2018-19.

Sl. No.	Item	Manhours/ Unit item	Target outturn for the year 2018-19	Requirement of manhours / year	Remarks
1	TLBI (Mfg)	262	180	47160	--
2	TLBI (Ovh)	393	80	31440	--
3	DLBI (Mfg)	30	150	4500	--
4	DLBI (Ovh)	84	80	6720	--
5	SM's Slide Box	21	--	--	--
6	Annunciator (Repairing)	--	--	--	--
7	TFBC (Modification)	40	--	--	--
8	Battery Low Voltage Indicator	11	--	--	--
9	Tx/Rx-Repair	6	350	2100	--
10	Annunciator (Mfg.)	16	540	8640	Target for Non-schedule production items has been estimated on the basis of production of six months i.e Apr'18 to Sept'18
11	GPS clock (Repair)	--	--	--	--
12	LED signal Lamp	14	--	--	--
13	Block Release Press Switch	14	--	--	--
14	GPS Based Indoor Digital Clock-Red/ Green/ Blue (58.6 mm / 100 mm)	--	--	--	--
15	LED Based 'A / AG ' - Marker along with Display and Power Supply Unit & Polycarbonate Front Guard.	--	--	--	--
16	LED Cap Fitted Lamp for Signal Maintainers	--	--	--	--
17	Track Shunt Resistance Meter	28	--	--	--
18	LC Gate Hooter With Audio Amplifier	5	--	--	--
19	DC DC Converter, 110V to 24V/ 12V / 5V , 20 / 10 / 1 Amp	--	--	--	--
TOTAL				100560	

The bare requirement of manpower for manufacturing and testing of schedule and non-schedule production items of Test Room and E-Lab is calculated as $100560 / 1683 = 59.75 \approx \underline{\underline{60}}$

3.8.4 From para 3.8.2 and 3.8.3, the total actual requirement of staff for Test Room & E-lab is:-

	<i>Assessed requirement of Manpower</i>	<i>Reference para.</i>
<i>For Schedule and non-schedule production items</i>	60	3.8.2
<i>Bare Requirement</i>	60	
<i>Leave Reserve @ 12.5%</i>	7.5	
Total Actual Requirement	67.5 ≈ 68	

Hence, as per analysis done in above paras, the total actual requirement of manpower for Test Room and E-Lab is assessed as **68**.

3.9 In the assessment done in above paras, mainly the staff required achieve the targeted outturn of schedule items for the financial year 2018-19 has been analyzed.

It has been observed that the items under non-schedule production is not fixed. And also, the quantity of production of non-schedule item varies every year. Since, there is no such target for production of non-schedule items, for this reason the requirement of manpower for non-scheduled item is not being assessed as done in case for schedule items.

It has been observed that few non-schedule items has been manufactured in the current financial year 2018-19 (upto Sept'18) in A-Shop and E-Lab. Based on the outturn figure of six months i.e from Apr'18 to Sept'18, the target of those non-schedule items have been estimated by the study team. Considering the estimated target, the assessment for requirement of manpower for the non-schedule items has been assessed.

3.10 Other than this, there are number of non-schedule items under proposal for production and whose production has not yet started. For such workload of non-schedule items, study recommends 15 additional staff.

- 3.11 In addition to the above mentioned shops, PCO Section and General Section of Signal Workshop, Howrah has a major contribution to the production of Signal Workshop, Howrah. The present deployment and actual requirement of Artisan and Erstwhile Gr'D' staff on assessment is tabulated as under:

S. No	Sections	Present Deployment of Artisan & Erstwhile Gr. 'D' Staff	Proposed Requirement	Reference Para	Remarks
1.	PCO Section	0	1	2.7	Earlier, PCO Section was entrusted for planning, preparation of rate fixture, issue of job card and inspection of schedule and non-schedule items when incentive was invoked in Signal workshop. These workload were carried out by Artisan staff under SSE/ PCO, SSE/Planning and SSE/Inspection. But, at present, there is no incentive in the workshop, so a huge workload that was entrusted to the artisan staff was offloaded. Now, the planning and inspection work are being looked after by SSEs. However, on scrutiny, study team recommends 1 staff at this section to carry out the misc. workload of PCO Section.
2.	General Section	0	4	2.8	This section is entrusted with workload of collection of different types of materials from different stores and supply to different shops. Inter-shop movement of different materials is also being catered by this gang. Earlier, there was a group of Gr. D staff under this section to execute these workloads. At present, there are no staff under this section. When material movement has to be done, the staff from concerned shop are deployed. On scrutiny, study team recommends a group of 4 staff at this section to carry out the workload of General Section.
TOTAL		0	5		

- 3.12 Section-wise present deployment and assessment of Ministerial staff of Signal Workshop, Howrah are as under:

S. No	Sections	Present Deployment of Staff	Proposed Requirement	Reference Para	Remarks
1	General Section	Ch.OS-1, R.Sorter-1, <u>Peon-2</u> <u>Total-4</u>	4	2.10.1	Under the overall supervision of 1 Ch.OS, there is 1 R.Sorter deal with the sectional workload of ministerial staff. Workload related to dead stock, imprest, general correspondence, PCDO, etc of Signal Workshop/HWH are dealt by this section. Along with this Personal Records of retired staff of SW/HWH are maintained by this section. On assessment of present workload, present deployment of 4 staff is felt justified by the Study Team.
2	Confidential Section		1	2.10.2	The nature of activities and pattern of working of ministerial staff are maintenance of CWM's office for confidential matters, engaged with the job related to CR/APAR of Gaz. officers and about 228 non-gazetted staff. It is observed that the Ch. OS of General section is tackling the workload of Confidential Section. On being scrutinized, study team felt that there is requirement of 1 ministerial staff separately in Confidential Section for smooth functioning of the section.

S. No	Sections	Present Deployment of Staff	Proposed Requirement	Reference Para	Remarks
3	Establishment Section	Ch. OS-1 <u>OS-1</u> Total-2	3	2.10.3	The workload of Establishment Section is to cater establishment matter of all the employees of SW/ HWH i.e about 230 employees, preparation of PCDO, correspondence work of Workshop and other related works is performed by this section. In addition, 44 files and 14 registers are maintained by this section. On analyzing the existing workload, study team felt that one more staff is required for smooth functioning and recommend for 03 staff for this section.
4	Pay Bill & Settlement Section	Ch. OS-2 <u>OS-1</u> Total-3	3	2.10.4	This section has to cater all types of leave, various bills, and settlement work of 228 staff of Signal workshop, Howrah and maintains 17 files and 16 register. On assessment of present workload, present deployment of 3 staff is felt justified by the Study Team.
5	L.P Section			2.10.5	This section is entrusted with all workload related to imprest cash i.e documentation, purchase, bills, accounts vetting, chasing, etc. For the said workload, the section maintains 1 file and 2 nos. registers. 1 OS of Pay Bill section is deputed for catering the said workload of LP section. Through scrutiny, study team felt justified for the present deployment of 01 staff to cater the section's workload.
6	Store Section	<u>OS-2</u> Total-2	2	2.10.6	02 Ministerial staff are deputed under SSE/Store to cater the workload of this section. This section deals with all related work associated with requisition, processing, chasing and receipt of all stock and non-stock materials for Signal Workshop, Howrah. It is found that 2 posts of ministerial staff deployed in the Store section are fully utilized to cater the daily workload. The study team, therefore, came to a conclusion that existing deployment of 2 posts of Gr. 'C' ministerial staff should continue.
7	Budget Section	<u>OS-1</u> Total-1	1	2.10.7	This section is entrusted with workload of all Budgetary Work related to SW/ HWH, Certification of Fund for every transaction and other related work. Along with this maintenance of 4 files and 9 registers is performed by this section. The study team felt justified for the present deployment of 01 staff to cater the section's workload.
8	Pass Section		1	2.10.8	This section caters the workload of issue of all types of passes to the officers, employees and retired employees of Signal workshop, HWH. It is observed that the OS catering the workload of Budget Section has dual charge and also cater the workload of Pass Section. On being scrutinized, study team felt that there is requirement of 1 ministerial staff separately in Pass Section for smooth functioning of the section.
9	DW Section	<u>Ch. OS-1</u> Total-1	1	2.10.9	This section is entrusted with all the associated workload related to receiving of all items arriving at SW, HWH and dispatching of all the finished items to different divisions of Railways. Letters and Gate Pass for concerned work are issued by this section. On assessment of workload, present deployment of 01 ministerial staff felt justified by the Study Team.

S. No	Sections	Present Deployment of Staff	Proposed Requirement	Reference Para	Remarks
10	Time Booth	<u>OS-1</u> Total-1	1	2.10.10	At present, 01 Ministerial Staff of Time Booth are designated to cater the workload of Time Booth, preparation of types memos and time sheets and all related work of almost 200 artisan staff of Signal Workshop, Howrah. 01 ministerial staff deployed to cater sections workload is fully utilized. On assessment of workload, present deployment of 01 ministerial staff felt justified by the Study Team.
11	Tender Section	Ch. OS-1 <u>OS-1</u> Total-2	2	2.10.11	This section is entrusted with all the workload related to dealing and maintenance of Tender files. 2 Ministerial staff are deputed for catering the said workload of Tender section. Through scrutiny, study team felt justified for the present deployment of 02 staff to cater the section's workload.
Total		16	19		

3.12.1 Other than the above mentioned ministerial staff, there are other staff also working in the office of CWM/MSW (mentioned in para 2.11). The category-wise on-roll strength is mentioned below:

S. No.	Category	On-roll
1.	Steno	1
2.	Ch. S&WI	1
3.	Ch. Ty.	1
Total		3

The staff mentioned in above para does not involved directly with outturn nor they cater ministerial workload of the workshop.

One welfare inspector is engaged in various field of work in connection with welfare of staff. Steno and Typist are engaged for various drafting and typing work of CWM/MSW.

So, study team recommends that the present strength of 1 posts each of steno, Ch. S&WI, and Ch. Typist to continue.

3.13 The existing deployment of canteen staff and assessment is done as under:

S. No	Section	Present Deployment of Canteen Staff	Proposed Requirement	Reference Para	Remarks
1.	Canteen	Cook-1 <u>Canteen Assistant-2</u> Total-3	3	2.12	03 staff of Canteen has to deal with making of Lunch for about 30 to 35 heads daily. Though, it is a statutory Canteen and is a welfare measure for the benefit of the staff of Signal Workshop, Hwh. So, inspite of serving meals to very less nos. of heads, study team felt that present deployment of 3 canteen staff to continue.
TOTAL		3	3		

3.14 The existing deployment of supervisors of Signal Workshop/HWH are as under:

Sl. No.	Shops/Section	Senior Section Engineer	Junior Engineer	Total
1	A-Shop	1	0	1
2	B-Shop	2	0	2
3	Test Room	4	0	4
4	PCO Section	3	0	3
6	G Section	1	0	1
7	Store Section	1	0	1
8	Drawing	0	1	1
Grand Total		12	1	13

Supervisors play vital role in order to maintain the steady flow of schedule and non-schedule outturn of the workshop. While conducting the study, it was found that the supervisors are engaged in job supervision of all sections of shops. The assessment for requirement of supervisors is done underneath:

- 3.14.1 In A-shop, there is only one supervisor to look after the supervision workload of total 74 on-roll staff. However, the requirement of manpower in A-shop as assessed by the study team is 70 (*from para 3.6.7*). On scrutiny of the existing workload and discussion done with the concerned SSE of A-shop, study team came to the conclusion that there is necessity of at least 3 more supervisors for proper supervision of manufacturing of safety items. Thus, study team recommends the requirement of 4 supervisors for A-shop.
- 3.14.2 From para. 3.14, it is seen that 2 supervisors are there for supervision of working of 73 staff at present. It is discussed earlier in para 2.5 that the 2 supervisor look after entire different workload, i.e one supervisor look after supervision workload of TLBI portion and another supervisor look after supervision workload of DLBI portion. It is very difficult for each supervisor to look after the entire supervision workload along with other official job. However, the requirement of manpower for B-shop as per assessment done by the study team is 70 (*from para 3.7.4*). On scrutiny of the existing workload and discussion done with the concerned SSE's of B-shop, study team came to the conclusion that there is necessity of 1 supervisor more with each existing supervisor to look after the work of their portion smoothly. Thus, study team recommends total requirement of 4 supervisors for B-shop.
- 3.14.3 Presently, there are 4 supervisors for Test Room and E- Lab. On scrutiny, study team felt justified for the present deployment of 4 supervisors for supervision work of Test Room and E Lab.
- 3.14.4 The details of workload of PCO Section is mentioned in para 2.7. Under SSE/Incharge there are two SSEs i.e SSE/Planning and SSE/Inspection. All three SSEs have well defined separate responsibilities and workload. So, study team felt justified for present deployment of 3 supervisors in PCO Section.
- 3.14.5 01 post of SSE/Store cater the entire store related workload of Signal workshop/HWH (*mentioned in para 2.10.6*) along with 02 ministerial staff. Study team felt justified for present deployment of 01 supervisor.

3.14.6 The work catered under SSE/G of General Section is mentioned in para 2.8. Study team felt justified for present deployment of 01 supervisor for catering the mentioned workload of General Section.

3.14.7 The Drawing Section of Signal workshop/HWH is functioning under 01 post of JE/Drawing. Drawing of various components, modification of drawings, upkeepment of various drawings are prime function of the Drawing Section. Study team, on scrutiny, felt justified for present deployment of 01 supervisor.

3.14.8 The assessment of requirement of supervisors done in para 3.14.1 to 3.14.7 is tabulated as under:

Sl. No.	Shops/Section	Present deployment	Assessed requirement	Reference para
1	A-Shop	1	4	3.14.1
2	B-Shop	2	4	3.14.2
3	Test Room	4	4	3.14.3
4	PCO Section	3	3	3.14.4
5	Store Section	1	1	3.14.5
6	G Section	1	1	3.14.6
7	Drawing Section	1	1	3.14.7
Grand Total		13	18	

Therefore, as per analysis done in above paras the total requirement of Supervisors as assessed by the study team is **18**.

- 3.15 From the workpoint-wise review of presently deployed **Group 'C and Erstwhile Group 'D' staff vis-à-vis their workload** as stated in above paras, the conclusion laid down by study team of actual requirement of total staff of Signal Workshop, Howrah to cater the existing workload is tabulated as under:

S. No.	Shops & Sections	Present Deployment		Proposed Requirement		Reference Table	Remarks
1	Supervisors	13		18		3.14.8	Supervisors
2	A-Shop	74	194	70	228	3.6.7	Artisan staff & Helper
3	B-Shop	73		70		3.7.4	
4	Test Room	47		68		3.8.4	
5	For new non-schedule items and misc. workload	0		15		3.10	
6	PCO Section	0		5		3.11	
	General Section						
7	General Section	16	19	19	22	3.12	Ministerial staff (including peon)
	Establishment Section						
	Budget Section						
	Confidential Section						
	Pay Bill Section						
	Store Section						
	Pass Section						
	DW Section						
	Time Booth						
	L P Section						
	Tender Section						
	Other ministerial staff	3		3		3.12.1	
8	Canteen	3		3		3.13	Canteen staff
GRAND-TOTAL		229		271			

- 3.16 Summarizing the revised requirement of staff as shown in para 3.15, the posts to be rendered as surplus against the total existing sanctioned strength with the consideration of assessment made in the above paragraphs, may be seen from the following table.

	Sanctioned Strength	Men-On- roll	Total requirement of staff duly revised	Surplus posts
	(from para 2.1.2, 2.2.1 & 2.3)		(from para 3.15)	
Supervisors	36	13	18	18
Artisan staff and Helper	276	194	228	48
Ministerial staff (including peon)	21	19	22	-1
Canteen Staff	5	3	3	2
TOTAL	338	229	271	67

3.17 It is observed from the above table under para 3.16 that, the total revised requirement of staff (including supervisor) at Signal Workshop/ HWH is calculated as 271. It may be mentioned here that there are total 229 nos. of staff (including supervisor) working in Signal Workshop/ HWH (*i.e. total MOR=229*) as against the total sanctioned strength of 338 posts, (*as evident from para 2.1.2, 2.2.1 & 2.3*) which indicates that presently, there is a clear vacancy of $(338 - 229) = 109$ posts in the above unit. On scrutiny, it is assessed by the study team that there is a need of filling up 42 vacant posts of different categories to tackle the existing workload which has neatly been analysed in the foregoing paragraphs of the Critical Analysis chapter. Hence, $(338 - 271) = 67$ nos. of posts are found to be excess to the present requirement after filling up of 42 vacant posts.

3.18 **Recommendation: -**

It is recommended that the actual total requirement of manpower at Signal Workshop/ HWH, will be 271 posts which would result in surrender of 67 nos. of vacant posts as against the present total sanctioned strength of 338 posts. The actual total requirement of manpower has been revised by the study team on the basis of assessment & analysis made in the foregoing paragraphs.

3.19 **SUGGESTIONS:**

During conducting the workstudy, it is felt by the study team that there are several areas on which if few steps are taken, this will improve the working condition of the workshop thus improving the productivity. The suggestions are as under:

1. Very irregular supply of stock items for the workshop is observed by the study team thus hampering the smooth production of TLBI & DLBI, proper intervention is requested at HQ level for smooth supply of the material.
2. The infrastructure of the workshop being very old develops cracks at several parts of ceiling thus damaging the Machinery & Plants at different shops of the Workshop. It is suggested to repair the cracks of the ceiling at urgent level to avoid further damage of Machinery & Plants.
3. Deficiency of proper material handling machine in the workshop is observed by the study team. It is suggested to procure proper material handling machine for smooth movement of material within the shop.

CHAPTER-IV

4.0 FINANCIAL APPRAISAL:

- 4.1 As per recommendation made in Para 3.18, the total surplus posts works out to **67 posts**. For an easy and smooth means of calculation of financial appraisal, the study team considered the posts from lowest grades with lowest Pay scale and Grade Pay.
A statement showing the minimum annual financial savings on account of surrender of total **67 posts** is furnished below.

<i>Lowest Scale of Pay (Rs.)</i>	<i>Lowest Grade Pay (Rs.)</i>	<i>Mean pay (in Rs)</i>	<i>Mean Pay (as per 7th PC) = 2.57 X Mean Pay (as per 6th PC)</i>	<i>D.A (9%) (in Rs)</i>	<i>Total (in Rs)</i>	<i>No. of posts Recommended for Surrender</i>	<i>Monthly savings of total staff (in Rs)</i>	<i>Minimum Annual savings. (in lakhs Rs)</i>
<i>(as per 6th Pay Commission)</i>			<i>(as per 7th Pay Commission)</i>					
5200-20200/-	1800/-	14500/-	37265/-	3354/-	40619/-	67	27,21,473/-	326.58
TOTAL						67		326.58

Thus, the minimum annual financial savings works out to **Rs. 326.58 lakhs**.