

EASTERN RAILWAY

**WORK STUDY REPORT
ON
“REVIEW OF STAFF STRENGTH VIS-À-VIS WORKLOAD
UNDER DTE / JAMALPUR”.**

(STUDY NO.WSER-04/19-20)

(Submitted on 25.06.2019)

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ACKNOWLEDGEMENT

The study team acknowledges its thanks to CWM/ER/JMP, DTE/JMP, ATE/JMP, SSE/Works/Colony/JMP, SSE/Works/Workshop/JMP and JE/P.Way/Workshop/JMP for their guidance and co-operation during conducting the subject study.

The study team is also paying its gratitude to all field staff for their valuable opinion to complete the subject study in due course.

TERMS OF REFERENCE

The Terms of References of the Work study are as follows:–

- i) Evaluate the actual requirement of staff against the existing workload.
- ii) Evaluate the existing workload as the Zonal value of maintenance work is gradually increasing.

EXECUTIVE SUMMARY

Study Name & No.	WORK STUDY ON “REVIEW OF STAFF STRENGTH VIS-À-VIS WORKLOAD UNDER DTE / JAMALPUR”. (STUDY NO. WSER-04/19-20)
Year of conducting the study	: 2019-20
Terms of reference:	i) Evaluate the actual requirement of staff against the existing workload. ii) Evaluate the existing workload as the Zonal value of maintenance work is gradually increasing.
Methodology:	1. Comprehensive discussion with concerned personnel regarding the Work Load Scenarios & Deployment of existing Man-power to cater the Work Load. 2. Collection of relevant data/documents related to Work Load, Output, existing Man-Power, etc. of the units under DTE/JMP. 3. Systematic observation of working of the deployed staff under DTE/JMP. 4. Study of existing workload. 5. Critical analysis of workload vis-à-vis manpower.
Existing Sanc. strength	: 191
Existing Men on Roll	: 72
Vacant post	: 119
Proposed requirement of Manpower	: 148
Proposed Surrender	: 43
<u>Justification</u>	
<p>The Actual requirement of manpower under DTE/ER/JMP is assessed based on the effectiveness of the staff deployed to cater the daily scheduled / Un-scheduled workload.</p> <p>While conducting the work study, the actual requirement of Staff strength needed to cater the day to day job under DTE/ER/JMP is rationally evaluated.</p>	

SUMMARY OF RECOMMENDATION

It is recommended that the revised sanctioned strength under DTE/ER/JMP may be considered as 148 posts against the existing sanctioned strength of 191 posts.

Hence, the resulting surplus of 43 posts may be surrendered right away from the Book of sanction of DTE /ER/JMP. (Para 3.20.0.)

CHAPTER-I

1.0.0. INTRODUCTION:

- 1.1.0.** Indian Railway is the largest public sector undertaking of Govt. of India with staff strength of about 12 lakh employees. The Railways in India are not only a mere transport agency, but also have deep social obligations to provide service efficiently with the increasing transportation service needs of the country.
- 1.2.0.** For running any industry or business, we need a number of resources. These resources are popularly known as five M's of any Industrial activity i.e. Men, Machines, Materials, Money and Management. All these resources, which are basic inputs, are important but their relative importance depends upon the particular type of industry and also other environmental factors. Earlier, when many modern machines were not even known, whole activity was centered on one source, the men. But now the importance has by and large shifted from "men" to "machines" and in the recent environment, materials are the life blood of any industry or business and for their proper running, materials should be available at proper time in proper quantity at proper place. Such compelling considerations have led to holistic management concepts like Supply Chain Management.
- 1.3.0.** In Railway Industry, the role and importance of Civil Engineering has increased fast with the advent of modern building materials and new methods of construction. Role of Civil Engineering Department i.e. Engineering Department includes construction and maintenance of Railway Tracks and other structures such as Station Buildings, Residential Quarters, Workshop Structures, Sheds, Bridges and other associated installations such as Water Supply, Drainage, Sewerage as well as Management of Railway Land and other Civil Engineering Infrastructures.
- 1.4.0.** Railway Authority provides accommodation (in Railway Quarters of various types) to a good no. of Railway employees who are employed at Jamalpur Railway Workshop, Jamalpur Diesel Shed, Jamalpur Railway Hospital, etc. Engineering Department of Railway is entrusted to maintain that large nos. of Railway Quarters. Besides that, they maintain various service buildings and buildings of Workshop, Diesel Shed, Railway Hospital, etc. Under the administrative control of DTE (Divisional Town Engineer), SSEs and JEs of different unit carry out different kinds of aforesaid maintenance work with the assistance of Artisan Staff & Helpers.
- 1.5.0.** Indian Railway is facing tremendous financial crunch after implementation of 7th Pay Commission which may affect the financial growth of Railway Organization as a whole. The impact of the 7th Pay Commission recommendations to the tune of approx. Rs 1.02 lakh crore on the government's exchequer. As a result, there is a fair chance to increase of Operating Ratio in Railways. Though Indian Railway is not a business organization but to survive, it is always essential to make the organization in the path of profit i.e. operating ratio should be less than 100. The Performance Efficiency Index shown in the corporate plan booklet published by the Eastern Railway, the "Operating Ratios" from 2012-13 to 2018-19 are as given below -

Sl. No.	Financial Year	Operating Ratios
1.	2014-15	177.27 %
2.	2015-16	180.56%
3.	2016-17	165.25%
4.	2017-18	181.15%
5.	2018-19	168.66% (Proposed)

- 1.6.0.** In view of the above, Rly Board issued nos. of circulars, orders, etc to minimize Expenses and increase Earnings. The Zonal Railways also implement various measures for implementing financial discipline.
- 1.7.0.** At this juncture, the role of Railway Efficiency & Research Directorate is also very important in connection with 'Benchmarking', 'Rationalizing of Man-Power', etc. without hampering normal progress and activity.
- 1.8.0.** The subject work-study has been undertaken by GM's Efficiency Cell/E. Rly during the current financial year 2019-20 to improve the productivity index of the Railway. As per terms of reference, the study team has thoroughly observed the activities in different units / sections under DTE/JMP and critically analyzed the involvement of staff in different activities to ascertain their optimum utilization and thus to find out the need based requirement of work force.

CHAPTER-II

2.0.0. EXISTING SCENARIO:

2.1.0. Jamalpur Workshop is functioning under the administrative control of Chief Workshop Manager (CWM/ER/JMP). For better administrative control of Engineering Units of JMP, District Town Engineer (DTE/ER/JMP) and Asstt. Town Engineer (ATE/ER/JMP) are functioning under CWM/ER/JMP.

2.2.0. There are 03 (three) nos. of under mentioned Engineering Units, operating at Jamalpur, under the control of DTE/ER/JMP. In this connection, DTE/ER/JMP is assisted by ATE/ER/JMP. The units are entrusted to maintain Workshop Structure, Railway Staff Quarters at Colony, Railway Service Buildings, Surface Roads and finally P. Way infrastructure inside the Workshop.

- 1) SSE/Works/Colony/JMP.
- 2) SSE/Works/Workshop/JMP.
- 3) SSE /P. Way/Workshop/JMP.

2.3.0. Staff Strength of Artisan Staff as on 01/06/2019 under ATE/JMP: (Annexure-I)

SI No.	Category	Sanction Strength	Men On Roll				Vacancy
			Colony	Workshop	PWI/WS	Total	
1.	MCM/ Sr. Tech	01	00	00	00	00	01
2.	Fitter	07	05	00	01	06	01
3.	Sign Writer	02	01	00	00	01	01
4.	Carpenter	04	02	01	00	03	01
5.	Mason	06	01	01	00	02	04
6.	Black Smith / Hammer Man	03	00	00	00	00	03
7.	Helper Khalasi	84	26	05	00	31	53
8.	Valveman	07	04	03	00	07	00
9.	Chowkidar	11	03	00	00	03	08
10.	Office Messenger	01	01	00	00	01	00
11.	Mate	03	00	00	00	00	03
12.	Mali	05	03	00	00	03	02
13.	Safaiwala	01	00	00	00	00	01
14.	Store Man	02	00	00	00	00	02
15.	Chainman	01	00	00	00	00	01
16.	Track Maintainer-I	03	00	00	00	00	03
17.	Track Maintainer-II	06	00	00	08	08	-02
18.	Track Maintainer-III	12	00	00	02	02	10
19.	Track Maintainer-IV	32	00	00	05	05	27
TOTAL		191	46	10	16	72	119

2.4.0. Annual Repairing / Changing / Minor addition and alteration i.e. different kinds of 'Works' & 'P.Way' associated Zonal Works Contracts 2018-19 and other associated major contracts **(Annexure-II)** are under execution at Jamalpur Rly. Colony & workshop premises. Considerable amount of 'Works' & 'P.Way' related maintenance & renovation activities are performed through that Zonal Works Contracts 2018-19 and other associated major contracts within the jurisdiction of DTE /JMP.

2.5.0. The Duties / Role of 'Works' Units of Colony & JMP Workshop:

2.5.1. The **duties and responsibilities of SSE/Works** are detailed in Indian Railways Works & P. Way Manual. However, the important features of duties of **SSE/Works/Colony/JMP** are mentioned below:-

- 1) Inspection and maintenance of Service Buildings, Staff Quarters, Approach Roads, Water Supply System, Drainage and Sewerage System.
- 2) Execution of all new Buildings / Structural Works.
- 3) Accountal and Periodical Verification of Stores and Tools in his charge.
- 4) Maintenance of Railway Land Boundaries, as specified.
- 5) Removal of encroachment at his Hd. Quarters and other places under his jurisdiction.
- 6) Forestation and other horticulture works.

2.5.2. The **particulars of Workload** catered by **SSE/Works/Colony/JMP** with respect to floor areas of Rly. Staff Quarters, Rly. Service Buildings, Surface Road and Particulars of Rly. Staff Quarters are detailed below: **(Annexure-III).**

- 1) Total Plinth area of Rly. Staff Quarters : 1,98,397.07 M².
- 2) Total Plinth area of Rly. Service Buildings : 34,106.44 M².
- 3) Types of Rly. Staff Quarters (Colony-wise), Particulars of occupation (Type-wise), etc. is tabulated below:

Sl. No.	Name of Colony	Type-I	Type-II	Type-III	Type-IV	Type-V	Total Plinth Area	Total Nos. of Quarters, Outhouse and Garages
1.	East Colony	154	212	214	189	08	99,782.30 M ²	Quarters = 2729 Nos. Outhouse = 630 Nos. Garages = 29 Nos.
2.	Rampur Colony	267	498	44	-----	-----	44,440.57 M ²	
3.	Rampur Maidan Colony	37	198	-----	-----	-----	73,332.35 M ²	
4.	Loco Colony	224	30	-----	-----	-----	9,984.88 M ²	
5.	Munger, Line Colony	363	115	01	03	-----	20,745.72 M ²	
6.	Daulatpur Colony	90	48	25	09	-----	10,111.25 M ²	

4) Railway Service Buildings Plinth area Break-up :

Sl. No.	Name of Colony	Name of Service Buildings	Plinth Area	Other Remarks
A.	East Colony	1. Water Works	521.61 M ²	
		2. Sub-Stn. at Water works	37.60 M ²	
		3. Sub-Stn. near at Albert Road	42.75 M ²	
		4. Sub-Stn. near Main Hospital	58.62 M ²	
		5. Main Hospital	8522.27 M ²	
		6. THU	240 M ²	
		7. Ganga Bridge Rest House	514.96 M ²	
		8. M.P. School	933.80 M ²	
		9. Yantrik Niwas	1621.95 M ²	
		10.QRH	3473.90 M ²	
		11.CI	1777.99 M ²	
		12. RPF Barrack	676.29 M ²	
		13. Gymkhana	3838.49 M ²	
		14. REGC	507.18 M ²	
		15. Combined ATE/AEN Office	1625.65 M ²	
		16. Mahila Samity	451.85 M ²	
		17. N.I.	1105.25 M ²	
		18.Town Supply & Pump House	316.98 M ²	
		19. Officer's Club	1139.90 M ²	
		20. JSA	451.77 M ²	
TOTAL			27,858.81 M ²	
B.	Rampur Colony	1. Health Unit	238.00 M ²	
		2. ME-1 School	1134.86 M ²	
		3. ME-2 School	566.48 M ²	
		4. Inter College	1669.78 M ²	
		5. Rampur Hostel	1501.49 M ²	
		6. ATP School	132.60 M ²	
		7. Mahila Samity	98.70 M ²	
		8. N.I.	149.09 M ²	
		9. Community Hall	474.24 M ²	
		10. Elct. Sub-Stn.	127.15 M ²	
TOTAL			6092.39 M ²	
C.	Loco Colony	NIL	NIL	
D.	Daulatpur Colony	1. Health Unit	193.21 M ²	
		2. Elct. Sub-Stn.	84.17 M ²	
		3. ATP School	137.37 M ²	
TOTAL			414.75 M ²	
E.	Rampur Maidan Colony	NIL	NIL	

5) Length of Roads under Railways : **57.50 Kms.** (Break-up is as follows)
(Annexure-IV)

(A) Surfaced Road

(i)	Water bound macadam	:	N/L Kms.
(ii)	Black Top	:	30.50 Kms.
(iii)	Cement Concrete	:	2.00 Kms.
Total =			: 32.50 Kms.

(B) Un - Surfaced Road

(i)	Motorable	:	25.00 Km.
(ii)	Non - Motorable	:	N/L Km.
Total =			: 25.00 Kms.

2.5.3. Besides, the maintenance of Rly. Staff Quarters, Rly. Service Buildings and Surface Roads, the most important job of SSE/Works is to maintain water supply throughout the colony and workshop systematically and without any hindrance. **(Annexure-V).**

A) Source of Raw Water :

River Ganges at Munger :-

(i)	Lower Reservoir :	1081 Lakh Gallon.
(ii)	Upper Reservoir :	882 Lakh Gallon

B) Requirement of water at Jamalpur :

(i)	Filtered Water:	19.50 Lakh Gallon / day.
(ii)	Un - Filtered Water :	6.00 Lakh Gallon / day

C) Raw Water Storage Tank :

(i)	North Tank	a.	Capacity 310 Lakhs Gallon.
		b.	Source to feed is by pumping water from Munger Pontoon through 02 nos. C.I. Pipes having diameter 18 inches & 12 inches respectively.
(ii)	South Tank	a.	Capacity 474 Lakhs Gallon.
		b.	Source to feed is by 'Run off water' from mountain. 'Release water' from lower reservoir directly from Munger Pontoon.

D) Nos. & Capacity of Pump Set installed at MGR Pontoon: 04 (Four) Nos.

Capacity of each Pump Set: 02 Nos. having capacity 2.50 Lakh GPH for 450 mm diameter C.I. Main Pipe & rest 02 Nos. having capacity 1.80 Lakh GPH for 300 mm diameter C.I. Pipe.

E) Work points of Valve-man: Albert Road, Diesel Shed, Water Work, Main Hospital, Rampur, Daulatpur and Loco Colony.

F) Work points of Chowkidar : Store of SSE/W/Col./JMP.

2.5.4. Distribution / Supply of water within Railway premises / Jamalpur :

At Munger pontoon, 04 units of Pump set, having different discharge capacity, are installed and maintained by Railway. The pump sets raised Water from Ganga River and transported it about 9.5 Km. away from pontoon, through C.I. pipe lines, to reach Jamalpur North Tank. The river water then send to Water Works i.e. Filter House, through 12 inch. Diameter C.I. pipeline, for necessary filtration with the help of 03 nos. 'Rapid Sand Filter' (each 'Rapid Sand Filter' can filtrate water @ 7.5 Lakh Gallon / Day). The 'Filtered Water' stored at 06 nos. Water Reservoir (each 'Water Reservoir' has the capacity to store 1 Lakh Gallon water). Thereafter, filtered water distributed to OH Tanks located at different localities directly.

Water is supplied in Railway Colonies from 06-00 Hrs. to 07-00 Hrs. in the morning and 17-00 Hrs. to 18-00 Hrs. in the evening. Besides that, water is also supplied at mid-day i.e. from 11-00 Hrs. to 12-00 Hrs. depending on the availability of water.

2.5.5. SSE/Works/Col. also maintains the buildings of Railway staff quarters and Railway Service buildings under his jurisdiction.

From petty works to major maintenance works like roof treatment, repairing and whitewashing of Railway quarters, changing of doors and windows, laying of pipelines etc. came under the purview of the Zonal maintenance contract (Annexure-I).

2.5.6. Work Study team has collected under mentioned data pertaining to complaints from January, 2018 to December, 2018, as recorded in the 'Complaint Register' of different colonies, maintained by supervisors. The detail figures are furnished below. (Annexure-VI)

Month	Fitter				Masonry				Carpentry				Grand Total (Month-Wise)
	E/Colony	W/Colony	MGR/Colony	TOTAL	E/Colony	W/Colony	MGR/Colony	TOTAL	E/Colony	W/Colony	MGR/Colony	TOTAL	
January, 18	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb., 18	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar., 18	-	-	-	-	-	-	-	-	-	-	-	-	-
Apr., 18	1	8	-	9	-	-	-	-	2	1	1	4	13
May, 18	-	5	-	5	-	-	-	-	-	-	-	-	05
June, 18	2	-	-	2	1	-	-	1	2	-	-	2	05
July, 18	1	3	-	4	1	6	-	7	-	5	-	5	16
Aug., 18	-	-	-	-	-	3	-	3	-	1	-	1	04
Sep., 18	-	1	-	1	-	1	-	1	-	1	-	1	03
Oct., 18	-	-	-	-	1	-	-	1	1	-	-	1	02
Nov., 18	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec., 18	-	-	-	-	1	-	-	1	-	-	-	-	01
Grand Total (Over 1 year)	4	17	-	21	4	10	-	14	5	8	1	14	49

Work Study Team is learned that telephonic intimations from the occupants of Railway Quarters are also entertained by SSE/Works/Colony along with the recorded complaints of Complaint Register.

- 2.6.0.** The above table shows that Total 04+17+04+10+05+08+01 i.e. **only 49 nos.** of all types of complaints have been attended departmentally **during a period of 1 year.**

Thus, more or less **05 nos.** of all types of complaints have been attended departmentally **per month.**

- 2.7.0.** Study Team noted the 'Work Point - wise distribution of Staff of SSE/Works/Colony'. The extract is tabulated below. **(Annexure-VII).**

Location / Work Points at Jamalpur Railway Colonies	Deployment Particulars of Departmental Staff under SSE/W/Colony/Jamalpur														
	Artisan Staff							Helper / Gr. D Staff							
	MCM	Fitter	Mason	Carpenter	Sign-Writer	H. Man/ B. Smith	Total	Khalasi	V/Man	Chowkidar	H / Cutter	Mali	Store Man	Mate	Total
Rampur & Maidan Colony	NIL	1	1	1	NIL	NIL	3	NIL	NIL	NIL	2	NIL	NIL	NIL	2
Daulatpur, Loco & MGR Line	NIL	1	NIL	1	NIL	NIL	2	NIL	NIL	NIL	3	NIL	NIL	NIL	3
East Colony	NIL	3	NIL	NIL	1	NIL	4	NIL	3	NIL	6	3	NIL	NIL	12
MGR Pontoon	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
Water Works	NIL	NIL	NIL	NIL	NIL	NIL	NIL	3	2	NIL	7	NIL	NIL	NIL	12
SSE/Works Office & Store	NIL	NIL	NIL	NIL	NIL	NIL	NIL	1	NIL	4	7	NIL	NIL	NIL	12
TOTAL→	NIL	5	1	2	1	NIL	9	4	5	4	25	3	NIL	NIL	41

- 2.8.0.** The **duties and responsibilities of SSE/Works** are detailed in Indian Railways Works & P. Way Manual. However, the important features of duties of **SSE/Works/Workshop/Jamalpur** are elaborated below :

- 2.9.0.** **SSE/Works/Workshop/Jamalpur** is responsible for maintenance of whole Workshop premises. He manages the maintenance works by engaging departmental staff as well as Zonal Contractor. Some petty repairing works are carried out by the departmental staff such as doors, windows repairing, patch repairing of floor, wall, jungle cutting etc. Major repairing works, W/washing and roof treatment are carried out through Zonal Maintenance works contract which are in progress during the current year **(Annexure-II).**

2.10.0. The departmental maintenance work in Workshop is now carried out with the help of only 02 nos. Artisan Staff, 05 Nos. of Khalasi Helper & 03 nos. Valveman.

2.11.0. The Duties / Role of P. Way Unit of JMP Workshop:

The duties of SSE/P.Way are detailed in Indian Railways Works & P. Way Manual. However, SSE/P.Way/JMP is entrusted the job, pertaining to maintaining the track inside the workshop premises.

2.12.0. JE/PWI/JMP outlined the workload i.e. areas of maintenance, catered by SSE/P.Way/ Workshop/JMP : **(Annexure-VIII).**

- A) Running Track : 27.40 Kms. i.e. 27.40 ETKM.
- B) Track inside the Shed : 10 Kms. i.e. 4.00 ETKM. (1Km. Siding Track = 0.4 ETKM)
- C) Nos. of Points & Crossing : 95 Nos. i.e. 190 Sets. i.e. 19.00 ETKM (10 Sets = 1ETKM)
- D) Nos. of Level Crossing : 15 Nos. i.e. 1.50 ETKM (10 Sets = 1ETKM)

TOTAL 51.90 ETKM

2.13.0. The under mentioned Track Maintenance work are conducted under the supervision of SSE/P. Way/JMP. Major parts of the track maintenance are executed through different 'Maintenance Contract by Outside Agencies' (Annexure-I). Departmental Staff are involved mainly in case of any urgent situation : **(Annexure-IX).**

- I) Through Packing:
 - a) Opening of Road.
 - b) Examination of Rails, Sleepers & Fastenings.
 - c) Squaring of Sleeper.
 - d) Alignment of Track.
 - e) Gauging.
 - f) Packing oh Sleeper.
 - g) Repacking of Joint Sleeper.
 - h) Boxing Ballast and dressing
- II) Systematic Overhauling
- III) Picking of Slacks

2.14.0. Study team discussed with the concerned supervisor regarding utilisation of the P.Way maintenance team within Workshop premises. It has learnt that the said team clear the jungles and debris from Railway Track for free passing of Rolling Stock inside Workshop. The track inside the workshop is laid on earth bed and the necessary packing is given with the help of old wooden sleeper, etc. The gang also attends the complaint informed by the Shop In-charges. The complaints are mainly Rail fracture, changing of Tongue Rail at Points & Crossings, cleaning of points and crossings, and its accessories like stretcher bars and fittings.

2.15.0. The aforesaid Artisan & Gr. D Staff are directly supervised by associated technical supervisors i.e. SSEs & JEs under DTE/JMP. The Establishment and other Staff related matters of Artisan & Gr. D staffs under DTE/JMP are dealt by ministerial staff of different categories.

It is learnt that staff matters of Supervisory & Ministerial Office Staff are under the direct control of Divisional authority i.e. under Sr. DEN (Cord) /ER/MLDT. However, the Artisan & Gr. D Staff are under the control of DTE/ER/JMP.

As the study is conducted on the areas which are under the purview of DTE/ER/JMP only, the Supervisory & Ministerial Office Staff are kept beyond the purview of this work study.

CHAPTER-III

3.0.0. CRITICAL ANALYSIS:

3.1.0. The Study Team has critically analyzed the various factors / observations regarding the existing system of working of SSE/Works/Colony and Workshop and has come to the conclusion. The different factors / observations are -

- a) Existing system of deployment.
- b) Physical observations at various working points.
- c) Engagement of different categories of staff particularly Valveman & Chowkidar.
- d) Water Supply System and involvement of staff at Water Works / Filter House.
- e) Daily booking of Artisan Staff against the complain registered in the 'Complain Register' of different colonies.
- f) A list of works pertaining to Zonal Maintenance contracts and Tender Contracts against which different activities are going on.
- g) Discussion with the concerned supervisor to improve the efficiency of staff under their control.

3.2.0. SSE / W / Col. / JMP Unit.

In course of Critical analysis, study team observed that only the make shift / petty repair works are carried out departmentally and rest major quantum of work are executed by Non - Railway agencies through Tenders & Contracts.

It is also obvious that the scope / participation of daily departmental maintenance work will be reduced to further bare minimum in near future. Keeping it in mind, Study team, thus evaluates the modified number of staff required to cater departmental maintenance work.

3.2.1. Artisan Staff /Fitter:

3.2.2. The Study Team has scrutinized the numbers & natures of complaints received from different Railway Colonies and attended thereby during January, 2018 to December, 2018. The result of the observations are tabulated in para 2.5.6.

Study Team noted that total 21 nos. of complaint are received and recorded. Regarding Fitter works, during last one year (January, 2018 to December, 2018) period. If, it is considered that same nos. of complaint are received over telephone, than it can be said that maximum 42 nos. of complaint regarding Fitter works are received and attended during last year.

Thus, the numbers of complaint regarding 'Fitter works' received and attended during last year is (42 nos. / 12 i.e. 3.5) 04 nos. per month for the entire colony.

Vide Para 2.7.0., it is seen that the deployment of Fitter for Rampur & Maidan Colony, Daulatpur, Loco & MGR Line Colony and East Colony is 05 nos. This 5 (Five) nos. of

'Fitter' is being deployed to attend only 04 nos. of complaints per month for the entire colony.

The above scenario, regarding 'actual Work load' vis-à-vis 'Fitter workforce deployment' is very much disproportionate in the light of man-power utilization in SSE /W/Col./JMP Unit.

Work study team consider the above facts and figures from some other viewpoints, which are mentioned below -

- A) Work load catered by the respective 'Fitter workforce', are 'Maintenance Work', not any kind of 'Production or Manufacturing Work' in nature. Unlike the Production / Manufacturing Job', some sort of 'Maintenance Work' could not be anticipated / planned at all. Moreover, some 'Maintenance Work' requires deployment of minimum 04 to 05 Fitters, regardless of their volume and frequency.
- B) Water Supply is a very vital job of the said unit and in any sudden failure of supply line, 'Fitters' are engaged to maintain / repair the Water Pipe Lines and associated Pipe fittings for restoration of water supply, till the nominated outside agency take over the matter.
Thus, in spite of the deployment of nominated outside agency for Servicing & Maintenance of Water supply system, departmental staff performs significant role in any emergent situation like failure, etc.

3.3.0. Mungyer Pontoon :

The plant has an unique and rare arrangement of water supply in Indian Railways being maintained by Jamalpur Workshop. It is the lifeline of complete Railway establishment of Jamalpur as total requirement of water for the same is being lifted by those pontoon. The special feature of the plant is that its sub-station and the pumping station are floating on a barge on the river Ganga. Two Pump sets (details as per para 2.5.3.) are installed on the barge to lift water from river Ganges. Water lifted from river is transported to Jamalpur.

Study team observed that unlike other areas of work, no Fitters / Helpers are categorically deputed at Mungyer Pontoon. Instead, departmental staff of other area under SSE/W/Colony/JMP is temporarily employed here only to meet any emergency maintenance work. To execute regular maintenance of the above system, outside contractual agency is deputed.

3.4.0. Artisan Staff / Mason & Carpenter:

The Study Team has scrutinized the nos. & natures of complaints received from different Railway Colonies and attended thereby during January, 2018 to December, 2018. The result of the observations are tabulated in para 2.5.6.

Study Team noted that 14 nos. of recorded complaint each, related to 'Masonry' & 'Carpentry' are received, during last one year (January, 2018 to December, 2018) period. If, it is considered that same nos. of complaint are received over telephone, than it can be said that maximum 28 nos. of each 'Masonry' & 'Carpentry' complaint were received and attended during last year.

Thus, nos. of complaint regarding 'Masonry' & 'Carpentry' work received and attended during last year is (28 nos. / 12 i.e. 2.33) each 03 nos. each per month for the entire colony.

Vide Para 2.7.0., it is seen that the deployment of 'Masonry' & 'Carpentry' staff for Rampur & Maidan Colony, Daulatpur, Loco & MGR Line Colony and East Colony is 03 nos.

Therefore, a team consisting of 03 (Three) nos. of 'Masonry' & 'Carpentry' staff has been deployed to attend only 03 nos. of complaints per month for the entire colonies.

The above scenario, regarding 'actual Work load' vis-à-vis 'Masonry' & 'Carpentry' staff deployment' to cater the Work load, is very much disproportionate in the light of man-power utilization in SSE /W/Col./JMP Unit.

Work study team consider the above facts and figures from some other viewpoints, which are mentioned below -

Work load catered by the respective 'Masonry' & 'Carpentry' staff, are 'Maintenance Work', not any kind of 'Production or Manufacturing Work' in nature. Unlike the Production / Manufacturing Job', some sort of 'Maintenance Work' could not be anticipated / planned at all. Moreover, some 'Maintenance Work' requires deployment of minimum 02 to 03 'Masonry' & 'Carpentry' staff during emergencies regardless of their volume and frequency.

Even after deployment of Contractual Agencies for all kind of Masonary & Carpentry associated maintenance work, necessity of maintaining a small team of departmental 'Masonry' & 'Carpentry' staff could not be avoided.

3.5.0. Artisan / Sign Writer:

Though, Writing and Painting works are included in Zonal maintenance schedule, one departmental Sign Writer may be very much useful to meet up any urgent situation. Presently, 01 no. On-Roll Sign Writer may serve that purpose.

Based on the above observation, present deployment of 01 no. 'Sign Writer' staff under SSE/W / Col./JMP is justified.

Based on the above observation and analysis, deployment of 03 (Three) to 04 (four) nos. 'Masonry' & 'Carpentry' staff under SSE/W / Col. / JMP is justified.

Based on the above analysis, present deployment of 09 posts of Fitter, Carpenters, Mason, etc. are insufficient to carry-out the departmental maintenance work. Study team considered that of 12 (twelve) posts of Artisan Staff i.e. Fitter, Carpenter,

Mason, etc. under SSE/W / Col. / JMP is justified, especially after deployment of contractual agencies.

3.6.0. Helper / Group - D Staff:

There here are 37 nos. of incumbents of different categories staff are presently deputed under SSE/W/Colony/Jamalpur like Khalasi, V/Man, Chowkidar, H / Cutter & Mali. (Ref. Para 2.3.0.)

Study Team noted that maximum nos. of Helper / Group - D category Staff are deployed as Valveman & Chowkidar due to their significant nature of work. Rest of the staff is utilized for trimming / cutting of Grass / Jungle / Trees branches & Store related works as and where necessary.

It is observed by the study team that the nature of work performed by the above category of staff are mostly not covered under outsourcing and they can also be utilized in all most all types of "Works" associated job under proper supervision. Moreover, as these categories of staff are being mostly younger in age, they are capable to carry out the heavy & strenuous "Works" related jobs with no trouble.

Considering the present workload, Study team observed that 12 posts of Artisan & 53 posts of Gr. D categories of Staff are justified in place existing nos. of Artisan & Gr. D staff in Men-On-Roll.

Study team observed that to cater different kinds of 'Works' related maintenance work-load in Railway Colonies of JMP, 'Zonal Works 2018-19 of Rs 2.35 Crore' is under execution along-with the existing deployment of total 46 departmental staff under SSE/W/Colony/JMP.

3.7.0. Bare Requirement of Artisan staff and Group-D staff under SSE/W / Col. / JMP would be as under-

Sl. No.	Category	Existing Men-On-Roll	Evaluated Bare Requirement
1.	Artisan Staff	09	12
2.	Gr. D Staff	37	53
Total		46	65

Study team thus evaluated that 12 posts Artisan Staff & 53 posts of Gr. D Staff, totaling 65 posts of various categories are the 'Bare Requirement' of Artisan and Group-D staff under SSE/W / Col. / JMP.

3.8.0. SSE/Works/Workshop :

3.9.0. The staff position of Artisan Staff and Gr. D staff is tabulated in Para 2.3.0.

3.10.0. Work study time observed that maximum nos. of maintenance related complaints received are regarding leakage of Pipe lines vis-à-vis Pipe Fittings, Roof leakage, etc. Presently, 02 nos. of Artisan Staff are deployed to cater the workload of Workshop premises. Considering vast area of Workshop premises, deployment of at least 02 Fitter, 02 Mason and 01 carpenter may be considered as a skeleton structure of Artisan staff for necessary Petty repair / maintenance. The Category of Black Smith / Hammer-man were mainly utilized to manufacture some small fittings. Presently, all the necessary maintenance related fittings are within the purview of Zonal Maintenance Contract (**Annexure-II**).

3.11.0. Requirement of Gr. - D Staff:

The quantum of job could not be directly evaluated as their assistance to Artisan staff in any kind maintenance job is supportive in nature. However, as discussed in the previous para, a group of 05 Artisan Staff (02 Fitter, 02 Mason and 01 carpenter) needs more Helper Gr. -D Staff.

The other deployment of 03 Valve man, etc. is found presently in the unit. Considering the importance of Valveman, more nos. incumbents are to deploy as Valveman according to their nature of work as well their effective utilization.

During field observation, the study team observed that scope of maintenance by the departmental staff is diminishing gradually with the introduction of AMC through Zonal Maintenance contract. To cater different kinds of 'Works' related maintenance workload in JMP Railway Workshop, 'Zonal Works 2018-19 of Rs 1.61 Crore' is under execution along-with the existing deployment of total 10 departmental staff under SSE/W/Workshop/JMP.

Fitters are only required for maintenance of pipe lines and necessary fittings in workshop for supply of water at various ward / shop. Other Artisan staff like Mason, Carpenter, etc. will be required to handle the bare minimum urgent nature of work.

Study team feels that deployment of Chowkidar is not required as the SSE/W/WS/JMP's store is situated inside the Workshop. The security of the said stores and Workshop as a whole is under the purview of RPF on duty. Thus, there is no necessity to provide additional chowkidar to look after the property of SSE/W/WS/JMP.

In the light of the above, 05 Artisan Staff, 14 Gr. -D Staff as Helper & Valveman is evaluated as the bare requirement of SSE/W/WS/JMP unit. The relevant figures are tabulated below.

3.12.0. Bare Requirement of Artisan staff and Group-D staff under SSE/W/WS/JMP would be as under -

Sl. No.	Category	Existing Men-On Roll	Bare Requirement
1.	Artisan Staff	02	05
2.	Gr. D Staff	08	14
Total		10	19

3.13.0. SSE/P. Way/Workshop :

In Paras 2.11.0. to 2.15.0., the workload of the Unit & Staff position have been categorically mentioned. In this connection, Zonal maintenance contract vide Sl. No. 5 of Zonal Works 2018-19 (Annexure-II) is consulted. The particulars of the same is “Annual repairing and maintenance of all P. Way and fittings and minor structure etc. inside workshop in the section of SSE/P.Way/WS/JMP in Z-05/18-19” at the cost of Rs. 10 lakhs.

Moreover another work, under the allocation head ‘Revenue’, is in the pipeline having latest anticipated expenditure of 26.79 (fig. in thousands) [**Sl. No. 24, Annexure-II**]. The Name of the Work is as follows-

“Replacement of existing Rail of old Crane Girder by 52 Kg. Rail along with provision of M.S. Packing plate under 52 kg. of newly provided rail of GIF/BLC shop at JMP Workshop”.

Study team observed that the utilization / involvement of departmental Track Maintainer gang is bare minimum as maintenance of Railway Track inside the workshop is executed mostly through zonal maintenance contract.

However, departmental gang is necessary for un-schedule P. Way maintenance Works. Any unforeseen P. Way break-down restricts Rolling Stock movement which may seriously affects the day to day outturn of Workshop. In this situation, departmental P.Way gang attend the failure immediately before interception by the Out-side agency for necessary complete maintenance of faulty P. Way. In most of the situation, some makeshift arrangements are made by departmental P.Way Gang so that at least bare minimum Rolling stock movement could be resumed. Thus, a departmental P.Way team comprising Track Maintainers, Fitters is necessary.

In the light of above, one P. Way Gang comprising the existing Men-On-Roll of 16 nos. Track Maintainers & Fitter is justified.

Study team observed that to cater different kinds of ‘P. Way’ related maintenance work-load in JMP Railway Workshop, ‘Zonal Works 2018-19 of Rs 10 Lakh’ is under execution along-with the existing deployment of total 16 departmental staff under SSE/P.Way/Workshop/JMP.

3.14.0. The study team thus evaluates and tabulates the **Bare Requirement of Track Maintainers & Fitters under SSE/P.Way /Workshop/ JMP** would be as under-

Sl. No.	Category	Existing Men-On-Roll	Bare Requirement
1.	Track Maintainer - I, II, III & IV	15	15
2.	Fitter	01	01
Total		16	16

Therefore, 15 posts Track Maintainer - I, II, III & IV & 01 post of Fitter, totaling 16 posts are the 'Bare Requirement' of departmental P. Way Gang under SSE/P.Way / WS / JMP.

3.15.0. Summarizing the evaluation of study team vide paras 3.7.0., 3.12.0. & 3.14.0., the bare requirement of Artisan & Gr. D Staff under DTE/Jamalpur are as follows :

Sl. No.	Area of Functioning	Existing Sanctioned Strength	Men-On Roll	Existing Vacancy	Bare Requirement
1.	SSE/W/Col/JMP Unit.	191	46	119	65
2.	SSE/W/ Workshop/ JMP Unit.		10		19
3.	SSE/P.Way/Workshop/ JMP Unit		16		16
Total		191	72	119	100

3.16.0. Among the above three areas of departmental Staff Deployment, the area SSE/P.Way/Workshop /JMP' consists of safety posts like 'Trackman'.

Study Team conducts complete evaluation of that area also. But Study Team want to reserves any recommendation regarding the proposal of declaring the said en-marked 37 posts out of 53 posts of Trackman as surplus. Rather, the matter is left on the discretion / consideration of Competent Authority.

In the line of above argument, Study Team taken into consideration of the above 02 'Areas of Functioning' i.e. SSE/Works /Colony/JMP & SSE/Works /Workshop /JMP, leaving SSE/P.Way /Workshop /JMP for evaluation of final conclusive recommendation.

Accordingly, the table of the above para 3.15.0. is modified and re-produced below -

Sl. No.	Area of Functioning	Existing Sanctioned Strength	Men-On Roll	Existing Vacancy	Bare Requirement
1.	SSE/W/Col/JMP Unit.	137	46	81	65
2.	SSE/W/ Workshop/ JMP Unit.		10		19
Total		137	56	81	84

3.17.0. Considering the Leave Reserve (L.R.) as 12.5% on Bare Requirement of 84 Posts -

Leave Reserve = [12.5% of 84 Posts] i.e. 10.50 Posts. 11 Posts.

Actual Requirement of Artisan & Gr. D Staff in the units under SSE/W/Col/JMP & SSE/W/ Workshop/ JMP = [84 Posts + 11 Posts] i.e. **95 Posts.**

3.18.0. The Study team conducted Work study on the three areas of functioning under DTE/JMP viz. SSE/W/Col/JMP Unit, SSE/W/ Workshop/ JMP Unit & SSE/P.Way/Workshop/JMP Unit. Bare Requirement of Artisan & Gr. D Staff of the said areas of functioning has been evaluated. Finally, actual requirement of Artisan & Gr. D Staff in the units under SSE/W/Col/JMP & SSE/W/ Workshop/ JMP only has been evaluated leaving SSE/P.Way/Workshop/JMP Unit. The reason for the same has been clarified in Para 3.16.0.

3.19.0. Consequent upon conducting the work study, final outcome is tabulated below -

Sl. No.	Area of Functioning under DTE/JMP	Existing Sanc. Strength	Men-On Roll	Existing Vacancy	Proposed modified Staff Strength (Keeping Existing Sanc. Strength of PWI WS unit intact)	Proposed nos. of Surplus Posts.
1.	SSE/W/Col/JMP Unit.	191	46	119	95	43
2.	SSE/W/ Workshop/ JMP Unit.		10			
3.	SSE/P.Way/Workshop/ JMP Unit		16		53	
Total		191	72	119	148	43

3.20.0. **Recommendation:** Study Team recommends that **43 nos.** existing sanctioned posts of Artisan / Gr. D Posts under DTE/ER/JMP to be declared as surplus and surrendered subsequently.

CHAPTER-IV

4.0.0. FINANCIAL APPRAISAL

- 4.1.0. To evaluate the value of approximate minimum annual financial savings, the lowest pay band of Level- 1 vide 7th CPC Pay Matrix table is taken into consideration.

Department	Category	Level as per 7th CPC Pay Matrix.	Nos. of Posts	Pay Structure as per Level-1 (In Rs.)			Mean Pay as per Level-1 (In Rs.)	DA @ 12% of Pay (In Rs.)	Monthly Savings against recommended surrender of 43 Posts (In Rs.)	Total Annual Savings of Money Value (In Rs.)
Medical	Safaiwala	Level-1	43	18,000	-	56,900	37, 450.00	4494.00	18,03,592.00	2,16,43,104

- 4.2.0. As per recommendation made in Para – 3.20.0., **Minimum annual financial savings to be achieved** on account of surrender of 43 existing sanctioned posts of Artisan/Gr.D Posts under DTE/ER/JMP is calculated as **2,16,43,104/- i.e 2.164 Crores** approximately.
