

WEST CENTRAL RAILWAY



WORK STUDY REPORT ON

“Review of cadre of Artisan category of Engineering
department of Bhopal division”

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SYNOPSIS

Indian Railway is one of the biggest transportation organizations among all other transport organizations in the country. In fact, Railway is backbone of the country's transport systems. In the recent time, Railway is facing tremendous competition from road and air. In the time of competition transport system should not only be agile, prompt and amenable but also financially viable. In order to bring economy in expenditure the optimum utilization of man, machine and material will have to be ensured.

In Railways, the process of absorption of modernization has been started and still in progress in every sphere of the system. As a result of which certain activities have become fully redundant/ obsolete from existing system. These technological up gradations have shown the considerable improvement in the efficiency and manpower productivity in Railways.

Engineering Department consists of three organizations namely Permanent way, Works, and Bridges. The prime job of engineering department is to keep on maintaining the track in fine fettle from beginning to the end, which is done by Permanent way. Works Organisation maintains the Railway properties such as buildings, stations etc and looks after the passenger amenities at station, supply of water to Railway Colonies & stations, and maintains the sewage lines, roads & premises of Railway colonies etc. Bridge Organisation constructs and maintains Railway Bridges where Railway Track is available.

Keeping in view, all these constraints, Work Study Cell is assigned to conduct work study of ***“Review of cadre of Artisan category of Engineering department of Bhopal division”*** with a view to assess the staff requirement as per the existing workload after technological up gradation and outsourcing. To arrive at the actual requirement of staff, the team held discussions with officers and supervisors of this division.

CHAPTER-I

1. INTRODUCTION

- 1.1 Work Study on “Review of cadre of Arisan category of engineering deptt. of Bhopal division” has been taken as a “Crash work Study” for the year 2018-19.
- 1.2 Bhopal division was formed on 1 April 1952 as part of then the Central Railway. It is the second largest division of West Central Railway in terms of route kms, employee strength and freight earning. It has total 95 stations of different categories.



- 1.3 Total route and track kilometerage of Bhopal division are 1016 and 1921, respectively. Track is also supported by total 1587 bridges of all dimensions. The geographical extension of Bhopal division lies completely in the state of Madhya Pradesh and on the map of Indian Railways is Khandwa (excluding) - Itarsi double line electrified BG Sec.; Itarsi - Bina double line electrified BG Sec.; Bina - Guna single line electrified BG Sec.; Guna - Gwalior (excluding) single line non-electrified BG Sec.; Makshi-Ujjain, Guna- Ruthiyai - Makshi (excluding) single line non-electrified Broad Gauge Section.
- 1.4 Indian Railways is a premier transport service provider to the nation and is vested with the responsibility of carrying bulk of freight and passenger

traffic across the country at rates affordable for public. The Indian Railways operates through 17 Zones with 73 Divisions to serve the above objective and its operations cover twenty nine states and seven union territories and also provide limited international services to Nepal, Bangladesh and Pakistan.

- 1.5** Engineering Department consists of three organizations namely Permanent way, Works, and Bridges. The prime job of engineering department is to keep on maintaining the track in good fettle from beginning to the end, which is done by Permanent way. Works Organisation maintains the Railway properties such as buildings, stations etc and looks after the passenger amenities at station, supply of water to Railway Colonies & stations, and maintains the sewage lines, roads & premises of Railway colonies etc. Bridge Organisation constructs and maintains Railway Bridges where Railway Track is available.
- 1.6** Civil Engineering infrastructure is the largest static infrastructure of Indian Railways comprising of track, bridges, land, etc. Management of this huge infrastructure has to be done in accordance with the organization's vision. Civil engineering department of Indian Railways manages and maintains all these infrastructures. Further, it has key role in the area of infrastructure development, technological leap in various fields, high-speed travel and development of world-class stations.

CHAPTER-II

2. REQUIREMENTS OF STAFF

- 2.1 Bhopal division spread over from Khandwa to Bina, Bina-Guna-Ruthiyai-Maksi, Guna-Shivpuri-Gwalior section, BIR-Khandwa section and Makshi-Ujjain section details of these sections is as following.

Section	KMs	Line
Khandwa-Itarsi Section	183.42	Double Line
Itarsi-Bhopal Section	96.70	Double Line
Bhopal-Bina Section	138.37	Double Line
Bina-Guna-Ruthiyai-Makshi Section	332.36	Single Line
Guna-Shivpuri-Gwalior Section	227.05	Single Line
Bir-Khandwa Section	33.41	Single Line
Makshi-Ujjain Section	44.88	Single Line

To maintain the above length of track, Total 282 staffs are deployed.

- 2.2 Sanctioned Strength & Man On roll position of Artisan category staff of engineering department of BPL division as follows: (as on 18.10.2018)

Category	Pay Band	S.S.	M.O.R	VAC.
SSE(Works)	4600	30	29	01
JE(Works)	4200	20	19	01
Total		50	48	02
Filter Plant (MCM)	4200	02	02	0
FP Tech-I	2800	07	06	01
FP Tech-II	2400	03	03	0
FP Tech-III	1900	03	03	0
Total		15	14	01
Mason (MCM)	4200	13	13	0
Mason-I	2800	36	16	20
Mason-II	2400	16	10	06
Mason-III	1900	12	31	-19
Total		77	70	07
Carpenter (MCM)	4200	07	06	01
Carpenter-I	2800	19	08	11
Carpenter-II	2400	09	06	03
Carpenter-III	1900	02	13	-11
Total		37	33	04
Hammerman	1900	24	07	17

Total		24	07	17
Welder (MCM)	4200	03	01	02
Welder-I	2800	09	05	04
Welder-II	2400	04	04	0
Welder-III	1900	12	06	06
Total		28	16	12
Blacksmith (MCM)	4200	07	05	02
Blacksmith-I	2800	19	10	09
Blacksmith-II	2400	09	13	-04
Blacksmith-III	1900	16	03	13
Total		51	31	20
G.Total		282	219	63

It may be seen from the above table, 282 posts have sanctioned, 219 posts are MOR and 63 posts are vacant.

2.3 Artisan staff:

In brief, Artisan staff performs their duties in engineering department. Their duties are relevant to that trade/designation i.e. assisting/carrying out the work of painters doing painting works, Blacksmith doing smithy works, carpenter doing carpentry works etc. Artisan staff reports for duty in the morning and all allotted works based on the petty complaints-

1. Registered by the occupants of the quarters in the complaints register.
2. Registered by the occupants of the quarters at wayside stations in the petty repair book kept at the stations.
3. Complaints made by the officers/Supervisors/Staff through memo/emergency call over CUG mobile phone.

The staff then collects the required materials from Stores and proceeds to the work spot to perform the works allotted. The works are supervised by SSE to ensure that the quality and quantity of work performed is as per specifications /norms.

2.4 Duties of Artisan staff:

2.4.1 Blacksmith:

Duty of Blacksmith in the SSE/SEs' is fairly wide. The main duties of Blacksmith are as under:

1. Preparation of tools.
2. Attention and compliance of points and crossing inspection.
3. Smithy work in signal post, points and crossing zone as per the

requirements.

4. Repair of steel structure of guarders.
4. Other allied work time to time.

This category is employed to repair, fittings of Iron door, windows, grills other metal related work in railway premises. They also entrusted to fix the rolling sheet, cutting metal pipes and ancillary works in engineering department due to contractual work load of this category is on decreasing trend.

2.4.2 Carpenter:

The main duties of Carpenter are as under:

1. Preparation and adjusting wooden layouts Points and Crossing rail screw prodding and tightening of wooden blocks.
2. Attending Section Trolley repair work.
3. Preparation and alteration work in relay rake, location box.
4. Other allied carpentry works in the section.

The doors of all the Quarters are altering either by PVC or Iron, therefore the workload of Carpenters is reducing drastically.

2.4.3 Painter:

The main duties of Painter are as under:

1. He is responsible for all the painting works in the concerned jurisdiction.
2. Painting works includes painting of various engineering office buildings, Railway colonies, doors, windows & lettering works in railway premises and other allied painting works in the section of SSE/SE.

It has been noticed that presently these works are accomplished by engaging the contractor/agency. Hence, this category is of no viable importance & also to mention this post is lying vacant since long.

2.4.4 Mason:

The main duties of Masons are as under-

1. Repairing of location boxes
2. Repairing of plaster, brick work and any other structural defect.
3. Repairing of store room etc.

This category is engaged for masonry work of safety tanks, repairing the safety tanks, sewage lines of Railway buildings and premises.

2.4.5 F.P.Operator:

This category is employed to assist the FPO in filter plant of pump house for

replacing charcoal, sand etc. used in Filter plant and maintaining the plant. As maintenance of filter plants are outsourced, this category has no viable importance for filter plants.

2.5 Outsourcing:

2.5.1 Advantages of Outsourcing Activities:

- a) Monetary Saving compared to present system.
- b) Availability of physically fit person for the job.
- c) No detention to trains due to absenteeism, absconding from duty, incapability of doing the job due to old age etc.
- d) Administrative convenience.
- e) Less / no union activities therefore better work culture.
- f) Enforce conditions as per the requirement and benefits to Railways.
- g) Saving of valuable manpower.

2.6 Outsourcing in engineering deptt. of BPL division:

(some areas are as under)

1	Construction of buildings, improvements buildings/repairs to buildings.
2	Construction of structural steel work for sheds, FOB, COPs, Girder bridges etc.
3	Laying track/Maintenance of track/improvements/repairs to track.
4	Construction/maintenance and repairs to bridges/RUBs.
5	Construction/repairs/improvements to Roads.
6	Annual Zonal contracts.
7	Water supply to Railway colonies.
8	Earth works/Formation treatment works.
9	Painting of Rails/Bridges/Railway assets.
10	Rag picking in station yards and along the track.
11	Gardening /garden maintenance contract
12	Housekeeping contracts
13	Annual maintenance contracts of computers, printers and other machinery
14	Rain gauging works
15	Water supply to stations
16	Transportation (Hiring of vehicles) contracts
17	Welding of track contracts etc.

2.7 Critical Analysis:

2.7.1 Multi Skilling of Artisan Staff :- Multi skilling should be encouraged for artisans and the following combinations of skills can be considered:

Plumber cum mason, Carpenter cum mason, Fitter cum welder.

Since, the maintenance work requires multi skilled artisans, to avoid delays for want of other skilled man, it is necessary that multi skilling for artisans should be introduced.

As per RB letter no. E(MPP)2016/1/59 dtd 10.01.2017, Multi-skilling can be planned from the initial stage itself in new activities in Depot. The new activities even in the older establishments can be encouraged by calling for suggestion from employees and employee Unions. This will lead to huge reduction in costs and increased productivity. Multi skilling should be encouraged for artisans' category. To avoid delays for want of other skilled man, it is necessary that multi skilling for Artisans should be introduced.

2.7.2 The pipeline maintenance, drainage pipeline maintenance and valve men are deployed and managed presently by the contract. This system is functioning satisfactorily and hence may continue.

Outsourcing of major maintenance in work department, thereby reducing the departmental work.

2.7.3 Yardstick: -In olden days, when these yardsticks were come into force, all these activities were managed by the depots' staff itself. However, now a day's Zonal Contracts are introduced to make easy and procurement of required material to achieve the early performance in a satisfactory level without the help of our labour, as we are under going into these contracts for early achievement along with an intention to save some work force. Yardsticks have become outdated and not suggestible to implement in Engineering Organization from the date when the Zonal Contracts for the activities have been introduced.

2.7.4 Benchmarking: (Je'kfDr mRikndrk vuqikr flracj&2018 dh fjiksVZ ds vuqlkj)

(P-Way)

SN	Railways	Depot	Men per ETKM
1	IR	-	1.30
2	WCR	BPL	1.55
3	Benchmark	RTM of WR	0.77

(Building)

SN	Railways	Depot	Men per ITKM
1	IR	-	0.19
2	WCR	BPL	0.38
3	Benchmark	R of SECR, RNC of SER & SPJ of ER	0.04

(Bridges)

SN	Railways	Depot	Men per ITKM
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1	IR	-	0.08
2	WCR	BPL	0.11
3	Benchmark	BSP, NGP of SECR	0.04

Benchmarking is based on dynamic and comparative analysis and is a useful tool to manage efficient deployment of staff and monitor effects of improvement in working practices, use of new technologies and level of outsourcing.

2.7.5 It is seen that most of the repairs and maintenance activities, pipe line & drainage, attendance, major masonry & carpentry works are catered to by the Zonal contract. Therefore, the requirement of staff assessed through the yardstick formula cannot be applied, since there is enormous outsourcing. The departmental activity has been confined to attending minor repairs and maintenance works such as attending to sink leakage, Flush tank attendance, tap leakage, kitchen drainage block, door hinges, tower bolt fixing, bathroom drainage work, door stopper, wash basin etc. For these minor activities and to attend any emergency repairs in pipe line and drainage systems and carpentry activities the present actual staff strength is sufficient and the present deployment may be continued.

Blacksmith entrusted to fix the rolling sheet, cutting metal pipes and ancillary works in engineering department due to contractual work load of this category is in decreasing trend.

Carpentary, the doors of all the Quarters are altering either by PVC or Iron, therefore the workload of Carpenters is reducing drastically.

Painter, It has been noticed that presently these works are accomplished by engaging the contractor/agency. Hence, this category is of no viable importance & also to mention this post is lying vacant since long.

In light of above facts, the requirement of Artisan staff has been reduced, hence vacant posts = 63 posts may be surrendered.

2.8 Recommendation:

After outsourcing work and zonal contract work, workdone of artisan staffs are gradually diminishing day to day. With a view to achieve economy, it is recommended to surrender 63 vacant posts of Artisan category of engineering department, immediately.

CHAPTER-III

- 3.1** Financial implication on surrender of 63 vacant posts of Artisan category of Engineering department of Bhopal division is as under-

Particular	Amount
Mean of grade (GP-1900)	41,550
DA@9%	3740
Transportation	1800
Salary Per Month	47,090
X 12 = Per annum	5,65,080
X No. of posts (63)	3,56,00,040
Say	3.57 Crore

Say Rs. 3.57 Crores Per Annum
