COMPARATIVE
WORK STUDY
ON HIGHEST AND LOWEST
BENCHMARKING
OF
BRIDGE STAFF
IN JODHPUR AND BHAVNAGAR DIVISION
(No. G/HQ/WS/463/12/ENGG./BRIDGE/Comp./2018-19)

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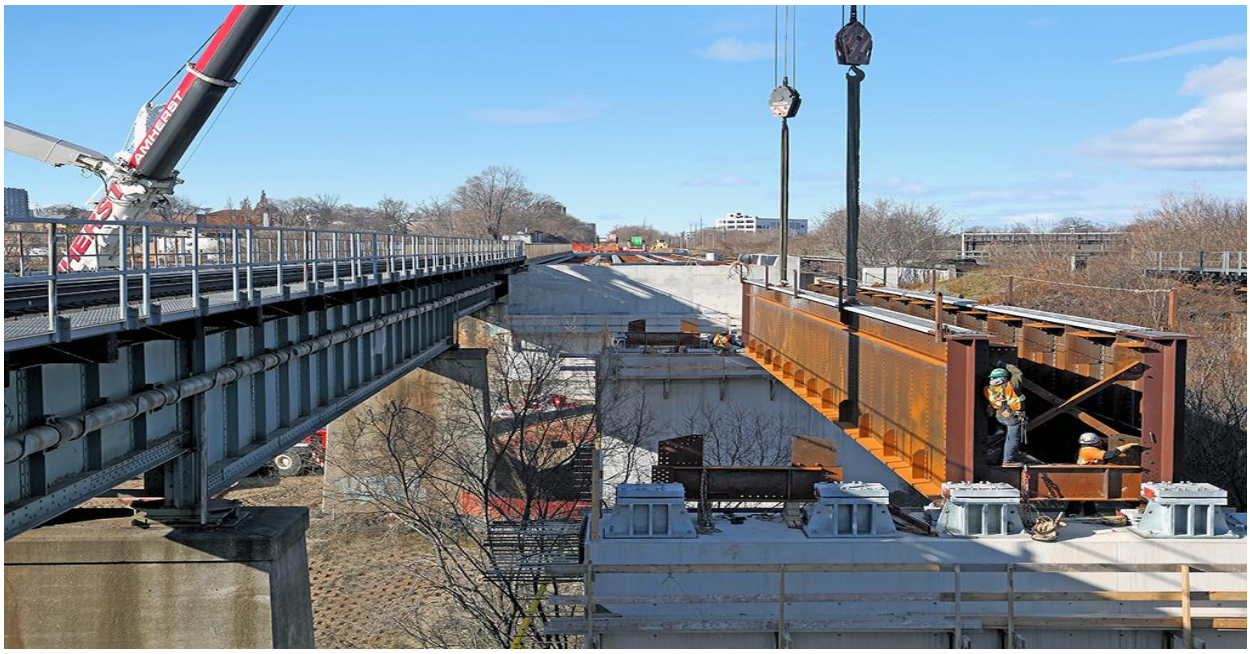

WORK STUDY ORGANIZATION
NORTH WESTERN RAILWAY
JAIPUR

EXECUTIVE SUMMARY

Sr. No.	12
Study No.	G/HQ/WS/463/12/ENGG./Bridge/Comp./2018-19
Subject	Comparative Work Study on highest and lowest Benchmarking of Bridge Staff in Jodhpur and Bhavnagar Division
Area	Jodhpur and Bhavnagar division.
Division	Jodhpur and Bhavnagar
Department	Engineering
Terms of Reference	As per the directives of Director (Efficiency & Research)/S&T/Railway Board letter no.2017/E&R/2(1)/1 dated 10.05.2018.
Sanctioned Strength	JU - 66 BVP – 45 = 111
On Roll Staff	JU - 29 BVP – 9 = 38
Vacancy	JU - 37 BVP – 36 = 73
Projected Surplus Man Power	JU- Nil BVP - Nil
Total No. of Recommendations	01
Month of Circulation	August, 2018

CHAPTER-I

INTRODUCTION

1.0 Indian Railway is the biggest government organization in the country whose prime motto is to provide the cheap and best transportation services to their users at a desired level of safety, security and punctuality. Being one of the largest govt. organizations, it plays a vital role in the Indian economy. Now-a-days, Indian economy is facing tough time so it is the moral responsibility of every government organization to keep close watch and check on its expenditure.

In Railways, the process of absorption of modernization has been started and still in progress in every sphere of the system. The conventional stock have been replaced by air brake stock, steam traction replaced by diesel and diesel by electric, piecemeal loading replaced by block rake loading / point to point loading, meter gauge replaced by broad gauge, old type of interlocking replaced by PI/RRI/EI and semaphore type signals replaced by color light signals, installation of panel interlocking at stations.

It was mentioned in the RITES Study on Man Power Planning in IR had also re commended that "It is necessary to design a system for measuring man power productivity, covering all work situations and in all functional departments".

Bench marking is such a System and the concepts of bench marking are as follows.

a) Bench marking offers as a solution for substantially increasing the Staff Productivity in a scientific and systematic manner.

b) Bench marking is an approach for establishing operating and productivity goals based on best practices in the industry.

c) Bench marking is the search for and implementation of best practices.

d) Bench marking consists of being humble enough to accept that somebody else is better, then being wise enough to learn from them and then match or even surpass them.

In view of the above, the Work Study Organization under control of SDGM ordered to conduct a Comparative Work study on Activity Centers having Highest and Lowest Bench Marking (Bridge staff for Jodhpur and Bhavnagar Division) over Indian Railways.

CHAPTER-II

ACKNOWLEDGEMENT

2.0 Coordinating Officials of the deptt. :-

The Work Study Team pays its gratitude to **Sh. K. R. Chaudhary, Dy. CE/Bridge line of North Western Railway, JP** and **Sh. Sanjeev Kumar, Dy. CE/Bridge/WR and Sh. Hanuman Chaudhary, ADEN/Bridge of BVP Division** for giving their **valuable guidance and co-operation** to the team during the course of work study. Team is also thankful to all concerned SSEs/Br. & Ch. OS for providing data/information and necessary assistance to the team during the course of study.

Base for Study

On the basis of highest and lowest benchmark MPR of Bhavnagar Division of Western Railway and Jodhpur of N. W. Railway, a Comparative Work Study of Bridge staff was suggested by Railway Board vide letter no. 2017/E&R/2(1)/1; dated: 10.05.2018.

Benchmarking MPR of Jodhpur Division for Bridge staff is 0.35 men per ITKM and Benchmark MPR of Bhavnagar Division is 0.02 men per ITKM.

The Work Study Report is included G/HQ/WS/463/ 12/ENGG./Bridge/Comp./2018-19 for the year 2018-19.

Methodology

1. Collection of data with reference to the calculation of Man Power Ratio of Bridge staff of respective Divisions.
2. Collection of factors effecting the MPR of Jodhpur Division as well as Bhavnagar Division.
3. Interaction with the Supervisors and Branch officers and observation of pattern of working.
4. Calculation of MPR of Jodhpur and Bhavnagar Division.
5. Critical Analysis of variation in MPR of JU and BVP Div.

CHAPTER-IV

EXISTING SCENARIO

4.0 EXISTING SCENARIO:

As per the directives of Railway Board and SDGM, the Work Study Organization of North Western Railway has conducted a Comparative Work study on Activity Centers having Highest and Lowest Bench Marking (Bridge staff for Jodhpur and Bhavnagar division) over Indian Railways.

4.1 Man power planning and bench marking are complementing to each other, enabling the railways to progressively achieve higher transportation output with the reduced compliment of the staff. These have the potential to bring staff productivity levels at par with the best. Improved staff productivity has not only enable Indian Railways to pay better emoluments to its staff, make higher allocation towards other staff welfare activities but also helped railways to induct new technologies in all spheres of working.

4.2 Jodhpur & Bhavnagar divisions are major divisions of North Western Railway & Western Railway respectively. Painting and major erection works are being done through contract and hence the workload of the bridge staff has got reduced to a greater extent.

4.3 The SSE/Bridges is vested with the responsibility of maintaining the superstructure of bridges (Span 12.2 m and above) and other installations in his jurisdiction. The SSE/Bridges has to maintain the following:

i) Superstructure of Bridges (Span 12.2 m and above) that hold the Permanent Way.

(a) Steel Girders b) PSC/RCC Girders

ii) W/S Crane Girder

iii) EOT Crane

iv) Turn Table

The inspection & maintenance work of FOB has now been shifted to SSE/Works. Other maintenance activities, including maintenance of substructure of bridges, are carried out by the Divisional staff.

4.4 Cadre Position of Bridge staff:

4.4.1 Jodhpur Division :-

S.N	Category	GP	Pay Level	Sanction	O. R	Vac.
1	SSE/Bridge	4600	7	2	1	1
2	JE/Bridge	4200	6	1	0	1
3	O.S	4200	6	1	0	1
4	Sr. Clerk	2800	5	1	0	1
5	Clerk	1900	2	1	1	0
4	MCF/Bridge	4200	6	2	0	2
5	Bridge Tech. Gr.I	2800	5	5	2	3
6	Bridge Tech. Gr.II	2400	4	2	0	2
7	Bridge Tech. Gr.III	1900	2	2	1	1
8	Bridgeman	1800	1	49	24	25
Total				**66**	**29**	**37**

Dy. CE/Bridge Line/JP is over all in charge of entire Bridge staff over JU & BKN division, assisted by AEN/Bridges/JU. There is one Bridge Depot based at Jodhpur which is under the direct supervision of SSE/Bridge/JU. The SSE/Bridge inspection is assisted by JE/Bridge, Technicians and Bridgeman staff.

4.5.2 Bhavnagar Division:-

S.N	Category	GP	Pay Level	Sanction	O. R	Vac.
1	SSE/Bridge	4600	7	2	0	2
2	JE/Bridge	4200	6	1	1	0
3	Fitter MCF	4200	6	1	0	1
4	Fitter Gr.-I	2800	5	3	0	3
5	Fitter Gr.-II	2400	4	1	0	1
6	Fitter Gr.-III	1900	2	2	1	1
7	Sarang MCF	4200	6	1	0	1
8	Sarang Gr.-I	2800	5	5	0	5
9	Sarang Gr.-II	2400	4	3	0	3
10	Sarang Gr.-III	1900	2	2	1	1
11	Blacksmith Gr.-I	2800	5	2	1	1
12	Blacksmith Gr.-II	2400	4	1	0	1
13	Welder Gr.-III	1900	2	1	1	0
14	Trackman	1800	1	8	3	5
15	Khalasi	1800	1	12	1	11
Total				**45**	**9**	**36**

Dy. CE/Bridge is over all in charge of entire Bridge staff over BVP division, assisted by AEN/Bridges/ADI. There is one Bridge Depot based at BVP which is under the direct supervision of SSE/Bridge/BVP. The SSE/Bridge inspection is assisted by JE/Bridge, Technicians and Bridgeman staff.

CHAPTER-V

DUTIES OF STAFF AND JURISDICTIONS

5.1.0 MAIN DUTIES OF BRIDGE INSPECTOR AND OTHER STAFF:-

Duties of Bridge Inspector:

He is responsible for carrying out the detailed inspection of:

i) All welded, PSC, RCC, Composite girders & ROBs and their bearings.

ii) Girders kept under observation once a year or at intervals specified by the Chief Bridge Engineer.

iii) Technical inspections of Super structure including bearings of all steel grinders of span 12.2m and above, RCC, PSC once in five years on a planned basis, welded girders once in three years and distressed bridges every year or once in three months, as per the category defined.

iv) Other nominated steel structures like OHE Cranes are being inspected by him once in a year.

v) He has to record the details of each one of the inspection items in the bridge register maintained for the purpose.

vi) He has to maintain the following structures in good condition by taking immediate action to carry out necessary repairs, painting, oiling and greasing, etc.

(a) Superstructure and bearing of all steel bridges of span 12.2m and above, PSC girders.

(b) Other steel structures as specified by Chief Engineer.

(c) He is responsible for erection of steel grinders and PSC girders for all major bridges,

(d) He is responsible for the accountal and periodical verification of stores, tools and plants in his charge.

5.2.0 JURIDICTION OF SSE/BRIDGE/JU:-

5.2.1 Jodhpur Division:

a) SMR-BLDI Section

b) FL-DNA Section

c) RKB-JSM Section

d) LN-MJ Section

e) MTD-JU Section

f) SMR-BME Section

5.2.2 EOT CRANE:

1	EOT Crane at Workshop and C&W JU/BGKT	8 Nos.
2	EOT Crane at Workshop and C&W JU/BGKT	2 Nos. under construction

5.3.1 Bikaner Division:

a) BKN-HMH-BTI Section

b) SOG-APH Section

c) HMH-SDLP Section

d) RE-HSR-BTI Section

e) ROK-BNW Section

f) RE-SDLP Section

5.3.2 EOT CRANE:

1	EOT Crane at Workshop and C&W JU/BGKT	2 Nos.

5.7.0 JURIDICTION OF SSE/BRIDGE/BVP:-

a) SUNR-BVC Section

b) DAS-MHV Section

c) RLA-PPV Section

d) SBIT-BTD Section

e) KJV-VSW Section

CHAPTER-VI

CRITICAL ANALYSIS

6.0.0 Bridge engineering department of JU & BVP Division are working under the control of Dy. CE/Bridge line/NWR and Dy. CE/Bridge line/WR respectively. To arrive at a factual conclusion on requirement of Bridge staff of Jodhpur & Bhavnagar division, the team applied on-the-spot observations and held discussions at various levels and applied Bench Marking.

6.1.0 APPLYING BENCH MARKING NORMS:-

Since manpower is the biggest component of expenditure of Indian Railway, rightsizing of manpower to reduce unit costs is an effective way to increase efficiency of Indian Railway

Benchmarking offers us a solution for reduction and redistribution of staff and can be a very handy tool for rightsizing of Indian Railway.

Benchmarking is the continuous process of comparing different units; identifying those who are the best, then learning how this excellence was achieved and then setting out to improve the efficiency of those which are trailing behind.

Bench marking is being implemented not only on Indian Railway, but also on units other than the Railways. Even for those Technical staff, for which specific yard sticks are derived, bench marking is being exercised, because the yard sticks were framed in olden days according to the then working pattern. Now in this competitive world of computer era with new technology, those yard sticks are outdated. Therefore, bench marking is being observed everywhere.

6.2.1 Calculation for No. of ITKM maintained in Jodhpur Division:-

a) Water way of Major & Important Bridges(Steel Bridges)

S.N.	Section	Water way in M
1.	FL-DNA Section	317.20
2.	MTD-JU Section	24.40
3.	SMR-BLDI Section	1823.9
4.	SMR-BME Section	61.00
5.	RKB-JSM Section	36.60
Sub-Total		**2263.1**

b) Water way of Major & Important Bridges (PSC Bridges)

S.N.	Section	Water way in M
1.	FL-DNA Section	207.40
2.	LN-MJ Section	414.80
3.	SMR-BLDI Section	353.80
Sub-Total		**976.0**

c) ROB & EOT Crane etc.

S.N.	Section	Water way in M
1.	FL-DNA Section	97.75
2.	JU-MTD Section	163.31
3.	RKB-JSM Section	62.73
4.	JU-LN Section	50.70
5.	LN-MJ Section	80.76
6.	SMR-BLDI Section	18.60
7.	SMR-BME Section	40.10
8.	SMR-MBF Section	97.45
9.	BKN-MTD Section	47.00
10.	EOT Crane	201.0
11	Newly constructed ROBs	1192.20
Sub-Total		**2051.6**
Total		**5290.70**

d) Calculation of ITKM of Jodhpur Division.

a) 100M of waterway of major & important Bridge per Track	=	3 ITKM
b) 3239.10 m of water ways of Major & Important Bridges	=	(3239.10 x 3) / 100
	=	97.173
	=	**Say 98 ITKM**
c) 100 M of water way of Minor Bridge, Tunnel, FOB, ROB etc per Track	=	2 ITKM
d) 2051.60 m of water ways of minor Bridges, FOB, ROB etc	=	(2051.6 x 2) /100
	=	41.032
	=	Say **41 ITKM**
No. of ITKM maintained by JU division (b+d)	=	**98 + 41**
	=	**139 ITKM**

6.2.2 Calculation for No. of ITKM maintained in Bikaner Division:-

a) <u>Water way of Major & Important Bridges (Steel Bridges)</u>

S.N.	Section	Water way in M
1.	SOG-BKN Section	122.0
2.	SOG-APH Section	170.80
3.	BTI-SOG Section	146.40
4.	RE-HSR Section	18.30
5.	HSR-BTI Section	219.60
6.	ROK-BNW Section	50.60
7.	HMH-SDLP Section	318.20
TOTAL		**1045.9**

b) Water way of Major & Important Bridges (PSC Bridges)

S.N.	Section	Water way in M
1.	RE-SDLP Section	243.80
TOTAL		**243.80 say 244.0**

c) ROB & EOT Crane etc.

S.N.	Section	Water way in M
1.	BKN-BTI Section	227.53
2.	RE-BTI Section	377.56
3.	RTGH-RE Section	52.48
4.	LGH-PLC Section	15.30
5.	HMH-SDLP Section	68.21
6.	Newly constructed ROBs	1245.32
7.	EOT Crane	106.0
TOTAL		**2092.4**

d) Calculation of ITKM of Bikaner Division.

a) 100M of waterway of major & important Bridge per Track	=	3 ITKM
b) 1289.9 m of water ways of Major & Important Bridges	=	1289.90x 3/100
	=	38.697
	=	**Say 39 ITKM**
c) 100 M of water way of Minor Bridge, Tunnel, FOB, ROB etc per Track	=	2 ITKM
d) 2092.4 m of water ways of minor Bridges, FOB, ROB etc	=	2092.40 x 2/100
	=	41.848
	=	Say 42 **ITKM**
No. of ITKM maintained by JP division (b+d)	=	**39+42**
	=	**81 ITKM**

6.2.3 CURRENT BENCH MARK OF JU DIVISION:-

No. of ITKM is maintained by JU & BKN division = (139+81) = 220

On Roll Staff Cadre of the division = 29

Current Bench Mark = 29/220 Men/ITKM

= **0.13 Men/ITKM**

6.3.1 Calculation for No. of ITKM maintained in Bhavnagar Division:-

(i) Jurisdiction under SSE/Bhavnagar :

a) Water way of Major & Important Bridges (PSC Bridges)

S.N.	Section	Water way in M
1.	SUNR-BVC Section	1329.80
2.	DAS-MHV Section	488.00
3.	RLA-PPV Section	109.80
TOTAL		**1927.60**

b) Water way of Bridges in MG section (Under GC)

S.N.	Section	Water way in M
1.	SBID-BTD Section	405.30
2.	KJV-VSW	366.00
TOTAL		**771.30**

c) Water way of ROBs.

S.N.	Section	Water way in M
1.	SBID-BTD Section	592.38
2.	SUNR-BVC Section	253.40
3.	DAS-PPV Section	48.80
TOTAL		**894.58**

d) Calculation of ITKM of Bhavnagar Division.

a) 100M of waterway of major & important Bridge per Track	=	3 ITKM
b) 1927.60 m of water ways of Major & Important Bridges	=	1927.60x 3/100
	=	57.83
	=	**Say 58 ITKM**
c) 100 M of water way of Minor Bridge & ROB etc per Track	=	2 ITKM
d) 1665.88 m of water ways of minor Bridges & ROB etc	=	1665.88 x 2 /100
	=	33.31
	=	Say 34 **ITKM**
No. of ITKM maintained by SSE/BVP (b+d)	=	**58+34**
	=	**92 ITKM**

(ii) Jurisdiction under JE/Junagarh: (As given by JE/JND)

INTEGRATED TRACK KILOMETER (ITKM) DETAILS UNDER JE(B)JND									
Sr. No.	**Br. No.**	**Km**	**Bet. Stn.**	**Type of Bridge**	**NS-1**	**SP-1**	**NS-2**	**SP-2**	**Linear waterway in M**
IMPORTANT BRIDGES.									
1	9	70/0-4	VRR-NUD	PSC-box. Gd.	14	18.3			256.2
2	27	116/2-6	SHH-BNTH	OWG-Th.	11	30.5			335.5
3	66	168/6-8	CVR-ADE	PSC-F.B	4	15.8	6	17.7	169.52
4	46	161/6-8	SPD-UA	PSC-I. Sec.	8	18.3			146.4
5	67	193/6-8	PLM-JDH	PSC-I. Sec.	8	18.3			146.4
					Total =				**1054.02**
MAJOR BRIDGES.									
1	57	900/4-5	GPP-BNVD	PFPG	2	12.2	1	24.38	48.78
2	86	918/7-8	BNVD-JSPR	PFPG	5	12.2			61
3	93	923/4-5	JSPR-WSJ	PFPG	1	12.2			12.2
4	95	925/4-5	WSJ-TRSR	PFPG	5	18.3			91.5
5	96	926/3-4	WSJ-TRSR	PFPG	3	12.2			36.6
6	97	930/2-3	TRSR-SKR	PFPG	4	18.3			73.2
7	114	944/9 - 945/0	RWO-PBR	Semi-Th.steel	1	18.3			18.3
8	119	956/3-4	RWO-PBR	PFPG	10	12.2			122
9	10 (MG)	1/7.-8	JND-BILK	PFPG	1	12.2			12.2
10	11(MG)	1/8-9.	JND-BILK	PFPG	1	12.2			12.2
11	3	82/6-7	JLR-CKE	PSC-I.Sec.	3	12.2			36.6
12	6	86/6-7	CKE-VAL	PSC-I.Sec.	6	12.2			73.2
13	9	89/2-3	CKE-VAL	PSC-I.Sec.	1	12.2			12.2
14	10	89/5-6	CKE-VAL	PSC-I.Sec.	2	12.2			24.4
15	11	90/2-3	CKE-VAL	PSC-I.Sec.	2	12.2			24.4
16	16	98/0-7	VAL-JND	PSC-I.Sec.	5	12.2			61
17	17	98/4-5	VAL-JND	PSC-I.Sec.	4	12.2			48.8
18	18	101/1-2	VAL-JND	PSC-I.Sec.	3	12.2			36.6
19	26	115/7-9	SHH-BNTH	PSC-I.Sec.	5	12.2			61
20	29	119/5-6	BNTH-LAL	PSC-I.Sec.	6	12.2			73.2
21	32	126/9 - 927/0	LAL-BDDR	PSC-I.Sec.	1	12.2			12.2
22	35	132/2-3	BDDR-KSD	PSC-I.Sec.	3	12.2			36.6
23	65	168/3-4	CVR-ADE	PSC-F.B	5	15.8			79.15
24	73	181/9 - 182/0	ADE-VRL	PSC-I.Sec.	3	12.2			36.6
25	61	184/2-4	PLM-JDH	PSC-I.Sec.	5	18.3			91.5
26	10	69/9 - 70/0	VRR-NUD	PSC-Box. Gd.	1	18.3			18.3
							Total =		**1213.73**

ROB's.									
1	ROB-76'A'	10./3-4	BKNG-RKY	PSC-I.Sec.	1	42.7			42.7
2	ROB-33'B'	161/2-3	SPD-UA	PSC-I.Sec.	1	41.9			41.9
3	ROB-49'A'	164/4-4	UA-BHY	PSC-I.Sec.	2	22.8			45.62
4	ROB-11'A'(MG)	129/7-8	JTP-JLR	Steel composit	2	28.8			57.6
5	ROB-11'B'(BG)	76/4-5	NUD-JLR	Steel composit	2	34.2			68.46
								Total =	**256.28**
MINOR BRIDGE.									
1	55 (BG)	899/1-2	GPP-BNVD	RSJ	3	6.1			18.3
2	76(BG)	911/6-7	BNVD-JSPR	RSJ	3	6.1			18.3
3	63	904/3-4	GPP-BNVD	PFPG	1	8.2			8.2
4	EOT-VRL	VRL-YARD	SMNH-VRL	PFPG	6	9			54
								Total =	**98.8**

Equated track kilometers due to bridge :-
100 meters of major bridge per track = 3 ET KMs
100 meters of minor bridge per track = 2 ET KMs
Total waterway :
IMP Bridge = 1054.02 M
Major Bridges =1213.73 M
Minor Bridges = 98.80 M
ROB's =256.28 M
Hence **ITKM** = 3/100X1054.02+3/100X1213.73 +2/100X98.80 + 2/100X256.28 = 75.1316 **Say 75 ITKM**

Total ITKM of BVP Division: 92+75 = 167

6.4.0 CURRENT BENCH MARK OF BVP DIVISION:-

No. of ITKM is maintained by BVP division	=	167
On Roll Staff Cadre of the division	=	9
Current Bench Mark	=	9/167 Men/ITKM
	=	**0.053 Men/ITKM**

CHAPTER- VII
REASON FOR VARIATION IN MPR OF JODHPUR AND BHAVNAGAR DIVISION

1. In order to get the information, NWR Work Study Team visited Jodhpur Division, HQ of Western Railway and ADEN/Bridge of ADI, For assessment of the reason for such huge variation in Benchmark man power ratio, Work Study Team collected relevant data and documents from the concerned divisions
2. Indian Railway average Benchmark for Bridge staff is 0.11; however a work study report has already been circulated by the NWR by marking 16 bridge staff as surplus at JU & BKN division. It is worth mentioned here that BKN Division has no separate unit of Bridge section, all maintenance work have been done by the Bridge unit of JU Div.
3. As per Railway Board letter No. 2017/E&R/2(1)/1 Dated 10.05.2018, MPR of Bridge staff of BVP Division is 0.02 Men/ITKM (11/476) whereas the actual MPR of Bridge staff of BVP Division is 0.05(9/167). MPR of Bridge staff of JU & BKN Division is 0.35 Men/ITKM (54/154.63) whereas the actual MPR of Bridge staff of JU & BKN Division is 0.13(29/220).
4. The reason for the abnormal high MPR of 0.35 Men/ITKM of JU& BKN Division NWR is due to wrong projection of men on roll 54 against 154.63 ITKM by the Engineering Department. When the actual men on roll staff are 29 against the 220 ITKM. Similarly the data bridge staff of BVP Division which are sending by Engineering department of WR is also not correct. According to them, the men on roll were 11 against the 476.40 ITKMs, whereas the actual men on roll are 9 against the 167 ITKMs.
5. Thus, on the basis of above the actual MPR of JU division is 0.13, whereas the actual MPR of Bridge staff of BVP Division is 0.05.
6. Though the actual MPR of BVP division is 0.05, this is still lower MPR than that of JU Division 0.13. This is simply because
    a. it was informed by the Bhavnagar (BVP) Division that the sanctioned strength of the Bhavnagar Division is 45 out of which only 09 staff are on roll, this acute shortage of staff is causing trouble in performing day to day work.
    b. At present following works are being performed through outsourcing–
        i. Corrosion protection of steel girders by sand blasting and metalizing.
        ii. Corrosion protection of steel girders by schedule painting.
        iii. Special Repair/replacement of corroded, pitted, perforated member of steel girders and strengthening and improvement work.
        iv. Replacement of corroded, pitted and head lost rivets of steel girders.
        v. Epoxy painting on PSC Girder bridges.

vi. Transportation of man and material for inspection and maintenance by pickup van.

c. It was informed that as and when man power required, is being received from the other units.

d. Moreover, at present Gauge conversion work of most of MG section of BVP division is in progress, this will lead to increased number of bridges with still girders, which requires more maintenance. Resultant MPR of BVP Division will be increased.

CHAPTER-VIII

CONCLUSION & RECOMMENDATION

8.0.0 On the basis of above work study the conclusion and Recommendation is as under:-

On the basis of critical analysis of the variation in MPR of Bridge staff of Jodhpur and BVP Division observations and recommendations are as under:-

Observations :-

1. On calculation of the Benchmarking with existing factual data, it was found that there is no considerable difference in the Bench Marking of JU and BVP Division, as informed in letter No. 2017/E&R/2(1)/1 dated 10.05.2018.

   It was observed that huge variation in the Benchmarking was visible due to wrong projection of data by the JU Division. The data which were sending by the BVP Division was also not correct although there was not very wide difference; it is varied from 0.02 to 0.05 men per ITKM.

2. The reason for lower MPR of BVP Division is due to acute shortage of staff and6 the work is not going smoothly, even for routine work required manpower utilized from other units.

Recommendation

During field visit, it has been observed that Data being send for purpose of calculating benchmarking are not being monitor appropriately, resulting in to false projection of the figures. Hence, needful corrections may be proposed to ensure receipt of correct and updated data.