

Comparative Work Study of Benchmarking MPR of Building of Engineering Department of Sonepur and Samastipur Division

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SYNOPSIS OF THE STUDY

Study Number	ECR/Effi/WSR/SEE-SPJ/18-19/12&13
Name of Study	Comparative Work Study of Benchmarking MPR of Building of Engineering Department of Sonpur and Samastipur Division.
Proposed by	: E&R Directorate
Department	: Engineering
Division	: Sonpur and Samastipur.
Date of commencement	:08.06.2018
Date of Completion	:27.06.2018
Date of Submission	: 02.07.2018
No. of Recommendations	: 2
Sanctioned Strength	: SEE – 589 SPJ - 231
No. of Men studied	:SEE – 545 SPJ - 199
No. of vacancies	:SEE –44 SPJ - 32

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TERMS OF REFERENCE

A Comparative Work Study of Activity Centers having highest and lowest benchmark MPR is proposed vide letter number 2017/E&R/2(1)/1 dated 10.05.2018. For East Central Railway the comparative work study is proposed for Building staff of Engineering Department for ITKM of Sonpur and Samastipur Division.

The Work Study is included ECR/BM/ENGG/SEE-SPJ/18-19/12&13 for the year 2018-19.

BASE FOR STUDY

Comparative Work Study of Building staff of Engineering Department for ITKM of Sonpur and Samastipur Division of East Central Railway is proposed on the basis of these activity centers having highest and lowest benchmark MPR.

Benchmark MPR of Sonpur Division for Building staff of Engineering department is 0.49 ITKM and Benchmark MPR of Samastipur Division for Building staff of Engineering department is 0.04 ITKM

METHODOLOGY

1. Collection of data with reference to the calculation of Man Power Ratio of Engineering Department of respective Divisions
2. Collection of factors effecting the MPR of Sonpur Division as well as Samastipur Division
3. Calculation of MPR of Sonpur and Samastipur Division
4. Critical Analysis of variation in MPR of Sonpur and Samastipur Division
5. Observation and recommendations to improve MPR

SUMMARY OF OBSERVATIONS

Following observations are made for the variation in Benchmark MPR of Building staff of Engineering Department of Sonpur and Samastipur Division,

1. Structural difference like age of Service building, Residential building, Platform surface the MPR of Sonpur Division is higher than that of Samastipur Division.

SUMMARY OF RECOMMENDATION

Following steps are suggested for achieving better MPR of Building staff of Engineering Department of Sonpur Division,

1. Identification of areas where the activities can be done on contractual basis, for example the activities which are not directly related to safety aspect.

CHAPTER 1

CALCULATION OF MPR OF SONPUR AND SAMASTIPUR DIVISION

1.0 Benchmark MPR Building staff of Engineering Department: As per the benchmarking norm issued by E&R Directorate, Railway Board, Man Power Ratio of Engineering Department in 5 divisions of East Central Railways is given in following table,

Division	Non Suburban	Suburban
Sonpur Division	0.49	--
Samastipur Division	0.04	--
Moughalsarai Division	0.16	--
Danapur Division	0.45	--
Dhanbad Division	0.40	--

It can be seen that in East Central Railway highest benchmark MPR in Buildings in Sonpur Division that is 0.49 men per ITKM and lowest benchmark MPR for same cadre is in Samastipur Division that is 0.04 men per ITKM.

1.1 Formula for MPR: Above benchmarking MPR is derived by obtaining the ratio of 'total man on roll in Building in Engineering department' and 'Total ITKM' by following formula.

$$\text{MPR} = \frac{\text{Total man on roll in Building in Engineering department}}{\text{Total ITKM}}$$

For Calculation of Total Man on Roll for the cadre On roll Sonpur of Officers, all Supervisor staff and Ministerial staff, Technical Group 'C' and 'D' staff of Building in Engineering department of Sonpur & Samastipur division is taken into consideration.

1.2 Proforma: The Proforma for calculation of Man Power Ratio (MPR) for Building in Engineering department is as under,

Sr. No.	Name of Division	Total Men on Roll	ITKM	MPR Men On Roll per ITKM
1	Sonepur Division			
2	Samastipur Division			

Above Proforma is utilised for calculation of MPR i.e men on Roll per ITKM.

1.3 Methodology: For assessments of the reason for such wide variation in benchmark Man power Ratio, work study team collected sanctioned strength and man on roll in Building in Engineering department including Officers, all Supervisor staff and Ministerial staff, Technical Group 'C' and 'D' staff of Engineering organisation along ITKM for respective Division.

The data related to activities carried out in-house and number of staff deployed, best practices of the centre, practices need to be improved, practices/activities which may be further outsourced has not given by Division for assessment of such variation in MPR of said Divisions.

1.4 Man Power Ratio Calculation: Man power ratio for Sonepur & Samastipur Division is calculated in following paragraphs.

1.4.1 Sonepur Division:

Sonepur Division is entirely a Division. Scale check of Building in Engineering department and total ITKM is as under,

- Total Men on Roll in Engineering department : 545
- Total ITKM : 1250
- Man Power Ratio (MPR) : 0.43

, The MPR of Sonepur Division is 0.43 men per ITKM.

1.4.2 Samastipur Division: Division comprises of sections ITKM for each type is as under,

- Non-Suburban Section : 5187 ITKM
- Total Men on Roll in Engineering department : 199
- Total ITKM : 5187
- Man Power Ratio (MPR) : 0.04

The MPR of Samastipur Division is 0.04 men per ITKM

1.5 Summary: On the basis of the data provided in above para 1.4.1 and the Proforma as per para 1.4.2 the calculation of MPR for Building in Engineering department of Sonpur Division and Samastipur Division is given in following table,

Sr. No.	Name of Division	Total Men on Roll	Building ITKM	MPR (Menper ITKM)
1	Sonpur Division	545	1250	0.43
2	Samastipur Division	199	5187	0.04

The current IR Average Benchmark is 0.20 Men per ITKM.

CHAPTER 2

CRITICAL ANALYSIS OF VARIATION IN MPR OF SONPUR AND SAMASTIPUR DIVISION

2.0 The MPR of Sonpur Division is 0.43 whereas the MPR of Samastipur Division is 0.04 ITKM. For assessment and critical analysis of the variation in this MPR between Sonpur and Samastipur Division, work study team has gone through the procedure of working and other conditions affecting the workload of Building in Engineering department

2.1 **Factors affecting the MPR of Sonpur Division**

Following points are noted by work study team for comparative higher MPR in Sonpur.

1. Buildings are old and requires regular maintenance .
2. Some work of maintenance and up-keeping are done departmentally.
3. Some work is done by Engineering department of Sonpur Division i.e. water supply, Horticulture etc.

2.2 **Factors affecting the MPR of Samastipur Division**

In comparison to above, Samastipur Division has less MPR than that of Sonpur, due to following points,

1. Buildings are old and requires regular maintenance .
2. Maximum work of maintenance and up-keeping are contractual .
3. Maximum activity is outsourced by Engineering department of Samastipur Division.

2.3 **Summary of observation:**

On the basis of above para 2.1 and 2.2 following can be summarized,

Sr.	Description of Asset/Workload /Activities	Samastipur Division	Sonpur Division
1	Activities out sourced	Maintenance of various Service & Residential buildings through various	Some Activity Outsourced like 1. Zone no.13 Sonpur

		<p>Zone Contracts in SPJ Division like</p> <ol style="list-style-type: none"> 1. Zone-24-Medical and Std. colony at SPJ. 2. Zone-25-RPF and D.S.Colony at SPJ 3. Zone-27/A Officer Bunglow 4. Zone-28 Service building. 5. Zone-30 Road zone. 6. Spl. repair to Lav.Drain etc. in Type iv and Type v Bunglow. 7. Repair to damaged AC sheet in Diesel shead 8. Repair to damaged roof of lavatory & bathroom in RPF Colony 9. Contract of three unit type –II Quarters in RPF colony. 10. Zone-32 Horticulture 	<p>North area.</p> <p>2. Zone no. 12 Sonapur South area.</p> <p>3. At SEE: raising of courtyard floor of residential quarters in Barbatta colony.</p> <p>4. At SEE: Replacement of damaged septic tank, sanitary fittings, floor wall, plaster, roof slab doors and windows in accounts colony.</p>
2	Maintenance of Assets	Some maintenance done departmentally	Maximum maintenance done departmentally
3	Age of Assets	More than 50 years.	More than 50 years.
4	Zonal outsourcing	Service & Residential buildings maintained through Zonal contract.	Service & Residential buildings maintained through Zonal contract.
5	Water supply	Only Samastipur station outsourced	Departmentally
6.	Best practices of the centre	First time, all the zone contracts of SSE/W/Sout/SPJ unit has been surrendered and a new contract for day-to-day maintenance work of staff quarter & service buildings at Samastipur, based on CPWD pattern, is under process of vetting for our sourcing for one year.	Departmentally
7.	Officer Rest House	Cleaning and up-keeping outsourced.	Departmentally.

CHAPTER 3

OBSERVATION AND RECOMMENDATIONS TO IMPROVE MPR

3.0 On the basis of critical analysis of the variation in MPR of Building in Engineering department of Sonpur and Samastipur Division.

following observation and recommendations are made by Work study team.

3.1 **Observation:**

It is observed that, the difference in MPRs of Samastipur Division and Sonpur Division is following .

Samastipur divison

Current I R Average benchmark is 0.20 men per ITKM

Sanctioned Strength -231

Men on Roll -199

ITKM-5187

As per Current I R Average benchmark

Staff Requirement- $5187 \times 0.20 = 1037$

Staff required= $1037 - 199 = 838$

Maximum work Outsourced

Sonpur divison

Current I R Average is benchmark is 0.20 men per ITKM

Sanctioned Strength -589

Men on Roll -545

ITKM-1250

As per Current I R Average benchmark

Staff Requirement- $1250 \times 0.20 = 250$

Excess staff= $545 - 250 = 295$

Minimum work Outsourced

3.2 **Recommendations:**

Following steps are suggested for achieving better MPR in Building in Engineering department of Samastipur and Sonpur Division,

1. Identification of areas where the activities can be done on contractual basis, where the work is more contractual MPR will be less i.e. in Samastipur Division.

2. Identification of areas where the activities are less contractual MPR will be more i.e. in Sonpur Division.

Note:

Subject- 63rd Railway week award (National Level) function 2018.

A Innova vehicle got hired for the official use of SDGM/ECR for four days at the rate of Rs 2500/- per day during his official stay at Bhopal on the occasion of national exhibition held at Bhopal from 15th April to 17th April 2018 .

Due to health problem(Self sickness) the bill of said vehicle could not be produced by me ,it is there requested to kindly arrange payment of Rs 10000/-(2500x4) to me after getting delay condemnation of the same as payment was done by me.

K.N.Sahay
Efficiency Inspector/HJP
PF no.08387151

Note:

Subject- 63rd Railway week award (National Level) function 2018.

A jio fi (Dongle) was purchased at Bhopal during Railway exhibition held at Bhopal from 15th April to 17th April 2018 to display the RTTM system at EC stall the cost of the said dongle was Rs 1999/-. The cost of the same was paid by me.

It is there requested to kindly arrange payment of Rs 10000/-(2500x4) to me after getting delay condemnation of the same as payment was done by me.

K.N.Sahay
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