



WORK STUDY REPORT
ON
REVIEW OF CABIN MASTER,
CABIN SIGNAL MAN STAFF WORKING
IN OPERATING DEPARTMENT
OVER
MORADABAD DIVISION
2020-21

WORK STUDY TEAM

SH. LALIT KUMAR	AWSO	LEADER
SH. RAJEEV YADAV	CWSI	MEMBER
SH. YOGESH BADHWAR	CWSI	MEMBER

GUIDANCE BY
SH. ASHOK KUMAR AGARWAL
SWSO

DATE OF COMMENCEMENT: 26/10/2020
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No. 16-CP/22/WS/20-21

Central Planning Cell,
Northern Railway,
Headquarters Office,
Baroda House, New Delhi.

EXECUTIVE SUMMARY

This study was allotted to Central Planning Cell, HQ Office with a view to identify redundant/unproductive/obsolete activities due to introduction of technological up-gradation in the working of signaling system and to suggest ways and means to improve manpower productivity over Moradabad Division.

STAFF POSITION

The total sanctioned and on roll strength of Cabin master and CSM staff working over MB Division is as under:-

S.N.	Category	GP	S/S	O/R	Var.
1	Cabin master	2400	119	88	31
2	Cabin Signal man	2400	74	24	50
3	Cabin Signal man	1900	-	22	(+)22
Total			193	134	59

No. posts identified as surplus and recommended for surrender: -

Gr. 'C' = 63 posts

Gr. 'D' = NIL posts

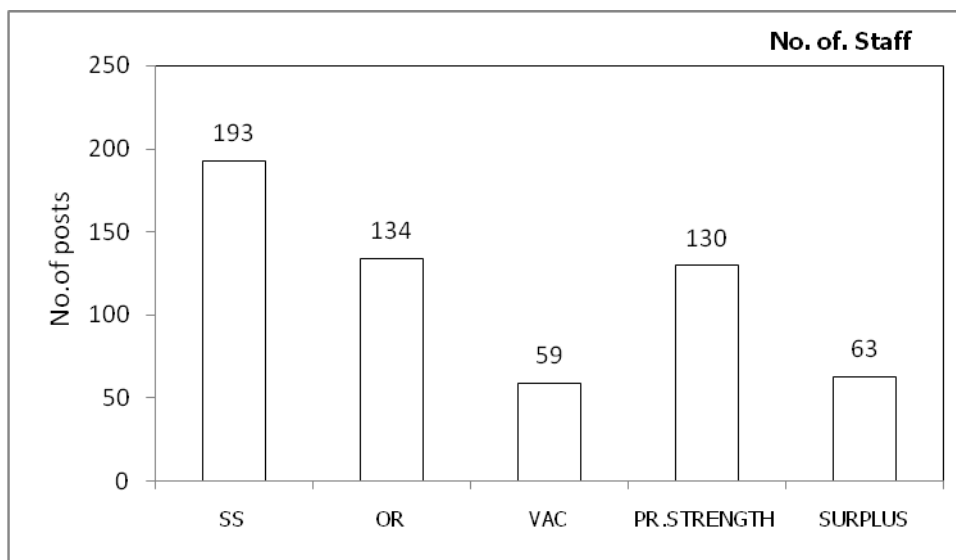
Total = 63 posts

FINANCIAL IMPLICATIONS

Anticipated recurring savings = ₹ 260.04 lacs per annum.

Capital saving = Nil

Total = ₹ 260.04 lacs per annum



I N D E X

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SYNOPSIS

Indian Railway is one of the largest and busiest rail network in the world and an important mode of public transportation in the country. Today, Indian Railway ranks among the top five National railway systems in terms of size and scale and is poised to emerge a world class railway system. Indian Railway has been performing a valuable social role in passenger and freight sector by providing affordable means of relatively safe and efficient transportation for millions of passenger daily.

Indian Railway has successfully adopted to the changing needs of travel and transport and observed the advancement in railway technology to meet with the requirement of moving large volume of passengers and freight traffic. The efficient, safe, fast and reliable operation needs multiple aspect colour light signaling, panel interlocking, SSI, Automatic block signaling system, block proving by axle counter etc. Great emphasize has been laid for enhancing safety of signaling system through provision of track circuiting at stations. The panel interlocking is one of the prime safety measures, which enables safe, secure and reliable train operation at stations. The Moradabad division has 151 block stations and 06 IBH. Out of 151 block stations of MB division 116 stations have been equipped with panel interlocking by replacing the obsolete mechanical interlocking system.

Keeping in view of above, SDGM/NR has allotted this work study to Central Planning Cell, HQ Office, to Review Cabin master and Cabin signal man staff due to introduction of Panel interlocking over MB Division to eliminate wasteful expenditure as a result of modernization after installation of PI/RRI at 116 block stations.

In this review 63 posts of Cabin master and Cabin Signal man have been identified as surplus. After implementation of all the recommendations made in the report in toto, the railway administration will achieve a net recurring annual saving to the tune of ₹ 260.04 lacs per annum.

SUMMARY OF RECOMMENDATIONS

<u>Rec.No</u>	Recommendations	Refer para No.	Accepting/ implementing authority.																
1	<p>It is proposed that 63 posts of Cabin master and Cabin Signal man staff identified as surplus from MB division due to introduction of panel interlocking be surrendered.</p> <table border="1"> <thead> <tr> <th>S.No.</th><th>Category</th><th>Grade Rs.</th><th>No. of post identified at surplus</th></tr> </thead> <tbody> <tr> <td>1</td><td>Cabin master</td><td>5200-20200-2400</td><td>31</td></tr> <tr> <td>2</td><td>Cabin signal man</td><td>---do---</td><td>32</td></tr> <tr> <td colspan="3">Total</td><td>63</td></tr> </tbody> </table>	S.No.	Category	Grade Rs.	No. of post identified at surplus	1	Cabin master	5200-20200-2400	31	2	Cabin signal man	---do---	32	Total			63	2.5.5	ADRM/MB Sr.DOM/MB Sr.DPO/MB
S.No.	Category	Grade Rs.	No. of post identified at surplus																
1	Cabin master	5200-20200-2400	31																
2	Cabin signal man	---do---	32																
Total			63																

ACKNOWLEDGEMENT

The work study team is highly grateful to Sh. Maan Singh Meena, ADRM/MB, Sh. Naveen Kumar Jha, Sr.DOM/MB and Sh. Vipul Goel, Sr.DPO/MB and other functionaries for giving their valuable guidance and extending full cooperation in providing requisite data/information during the conduct of study.

1.0.0 INTRODUCTION

1.1.0 The main objectives of the operating department in the Indian Railways is to ensure maximum utilization of line capacity as well as maximum through put with the available resources/assets. All these objectives can be achieved by upgrading the technology in signal and telecommunication, standard of interlocking, strengthening of track and bridges, modernization of rolling stock, replacement of overaged assets etc. To get these objectives, right sizing of staff strength, increase the manpower productivity and economy in expenditure are in the line

1.2.0 Keeping in view of above, SDGM/NR has assigned a work study to review staff strength of Cabin master and Cabin Signal man due to introduction of panel interlocking over MB Division to Central Planning Cell, HQ Office with a view to eliminate wasteful expenditure and to ensure optimum utilization of manpower and assets

1.3.0 TERMS OF REFERENCE:

The following terms of reference have been adopted to conduct the study:-

1. To review staff strength vis-à-vis existing workload.
2. To identify redundant/unproductive activities with a view to eliminate wasteful expenditure.
3. To suggest ways and means to improve the efficiency and productivity of the system.

1.4.0 METHODOLOGY ADOPTED

The following work study techniques were adopted to conduct the study:-

1. Data collection and its critical analysis
2. Sample check, personal spot observations, activity sampling, analytical estimation and application of yardstick in vogue, if any.
- 3 Held discussions at various levels.

- 2.0.0 BRIEF DESCRIPTION, CRITICAL ANALYSIS, REQUIREMENT OF STAFF AND OBSERVATIONS.
- 2.1.0 Moradabad division has 151 block stations and 06 IBH. Out of these 151 block stations of MB Division, 116 station are already equipped with RRI/PI and train operation has become centralized and pulling/pushing of levers for setting of routes and lowering of signals from end cabins/central cabins have been totally eliminated and rest 35 block stations except RK which has end panels are working on standard-III/rudimentary system.
- 2.2.0 The installation of panel interlocking system has eased the operational working of stations masters. These panels are provided at a centralized place of the station building. It consists of various types of push buttons for operation of motor points and colour light signals. The route and track circuits are exhibited by LEDs. After the introduction of panel interlocking the operation work is carried out by station master on duty. Prior to this the same operation was done by leverman cum cabinman from the end cabins/central cabins on the guidance of on duty station master.
- 2.3.0 The power cabins are commissioned at major junction stations whereas road side stations have been equipped with axle counter block system/SGE type block instrument for granting/obtaining line clear for reception/dispatch of trains.
- 2.4.0 Activities which are done by Cabin master and Cabin Signal man.
- 1) Cleaning and maintaining the operational equipments provided at cabins.
 - 2) Operation of levers for setting of points, locks and opening/closing of barrier operated gates.
 - 3) Recording of messages/private numbers with entry in cabin log register for arrival/departure timings of trains.
 - 4) Exchanging private number through telephone with gateman/station master for movement of trains.
 - 5) Exchanging all right signals and ensuring complete arrival of trains.
 - 6) Maintaining the charge diary for taking over/handing over of daily charge.
 - 7) Other misc. works and obeying duties assigned by their senior subordinates from time to time.

2.5.0

CRITICAL ANALYSIS

2.5.1

The upgradation in assets/working systems are introduced to achieve better utilization of available resources. In the panel interlocking system, lesser human involvement is required than mechanical/rudimentary interlocking. In the mechanical/rudimentary interlocking system, the operation for train involves working of rods, wires, levers, gears, bolts, keys etc. which are operated by the Traffic Asstt.(Switchman, Cabin master, Cabin man, Lever man) staff from the end cabins whereas in the panel interlocking the working of stations for trains has become centralized and carried out through electrical devices by pressing various knobs provided on illuminated diagram/mimic board. After installation of panel interlocking, all these operations are carried out by station master on duty and there is no requirement of Cabin master and Cabin Signal man staff for these PI/RRI stations. The panel interlocking is more economical, safer and faster in comparison to mechanical interlocking which has also abolished the deployment of Cabin master and Cabin Signal man staff.

2.5.2

Moradabad division has 151 block stations. Out of 151 block stations 116 stations have been equipped with RRI/PI. So there is no requirement of Cabin master and Cabin Signal man at these 116 block stations. The team calculated the bare requirement of Cabin master and Cabin Signal man staff for the rest 09 block stations which have end cabins, 01 station which has central cabin and 01 station which has end panels.

S.No.	No. of stations	Type of inter locking	Requirement of Cabin master/cabin signal man
1	116	PI/RRI	No requirement
2	06	IBH	-
3	01	End Panel	Required.
4	09	End cabins	Required.
5	01	Central Cabin	Required.
6	16	MACL(Standard-I)	No requirement as Points man staff is utilized.
7	09	Two aspect LQ (Non interlocked) rudimentary system.	No requirement as Points man staff is utilized.
Total	157		

2.5.2 The provision of panel interlocking has increased the line capacity and through put of the Section. In train operation safety has great importance which we derive from panel interlocking/route relay interlocking system. Hence, considering the aforesaid facts involves in the working of operating staff i.e. Cabin master and Cabin Signal man over MB Division, the review has been conducted to eliminate wasteful expenditure which is imperative due to redundant/obsolete activities as a result of modernization after commissioning of panel interlocking at the 116 block stations and to calculate the bare requirement of Cabin master and Cabin signal man staff for the balance non 10 non PI/RRI stations and 01 end panel station.

2.5.3 STAFF POSITION

The total sanctioned and on roll strength of Traffic Asstt.(Switchman, Cabin master, Cabin man, Lever man) staff working over LKO Division is as under:-

S.N.	Category	GP	S/S	O/R	Var.
1	Cabin master	2400	119	88	31
2	Cabin Signal man	2400	74	24	50
3	Cabin Signal man	1900	-	22	(+)22
Total			193	134	59

The above table reveals that the total sanctioned strength of Cabin master and Cabin Signal man staff working over MB Division is 193 with on roll strength 134 and 59 vacant posts.

2.5.4. REQUIREMENT OF STAFF AND RECOMMENDATIONS

(A) At cabins

S.No.	Station name with code	Location	Requirement of staff
1	RK	02 end panels	(Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin signal man staff = $1 \times 3 \times 02 = 06$, RG/LR = 02, Total = 08 staff.
2	RBD	02 end cabins	(Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin signal man staff = $1 \times 3 \times 02 = 06$, RG/LR = 02, Total = 08 staff.

3	SAN	02 end cabins.	(Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06,RG/LR=02, Total= 08 staff.
4	UTA	02 end cabins.	Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06,RG/LR=02, Total= 08 staff.
5	DLQ	02 end cabins.	Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06,RG/LR=02, Total= 08 staff.
6	BLM	02 end cabins.	Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06,RG/LR=02, Total= 08 staff.
7	CBJ	02 end cabins.	Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06,RG/LR=02, Total= 08 staff.
8	SAR	02 end cabins.	Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06,RG/LR=02, Total= 08 staff.
9	RMU	02 end cabins.	Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06,RG/LR=02, Total= 08 staff.
10	QSR	01Central cabins	Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x01=03,RG/LR=01, Total= 04 staff.
Total			76 staff.

(B) At those stations which have been paneled but cabin operated gates are still being manned by the cabin master and cabin signal man staff due to the shortage of gateman staff.

S.No.	Station name with code	Location/ Level Xing no.	Requirement of staff
1	KKJ	C-227 Yard	(Cabin staff works in 8 hrs shift.) Requirement of Cabin master/Cabin signal man staff to operate one gate =1X3x01=03, Total = 03 staff.
2	MLD	C-233 Yard	(Cabin staff works in 8 hrs shift.) Requirement of Cabin master/Cabin signal man staff to operate one gate =1X3x01=03, Total = 03 staff.
3	DIL	C-236 Yard	(Cabin staff works in 8 hrs shift.) Requirement of Cabin master/Cabin signal man staff to operate one gate =1X3x01=03, Total = 03 staff.
4	NRS	C-379	(Cabin staff works in 12 hrs shift.) Requirement of Cabin master/Cabin signal man staff to operate one gate =1X3x01=03, Total = 03 staff.
5	DUN	C-390 & C-391	Cabin staff works in 08 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06, Total= 06 staff.
6	MIL	C-389	(Cabin staff works in 8 hrs shift.) Requirement of Cabin master/Cabin signal man staff to operate one gate =1X3x01=03, Total = 03 staff.
7	DAN	B-374	Cabin staff works in 8 hrs shift.) Requirement of Cabin master/Cabin Signal man staff

			=1X3x01=03, Total= 03 staff.
8	PKRA	C-367	(Cabin staff works in 8 hrs shift.) Requirement of Cabin master/Cabin signal man staff to operate one gate =1X3x01=03, Total = 03 staff.
9	BTO	B-371	Cabin staff works in 8 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x01=02, Total= 03 staff.
10	MPH	C-407 & C-408	Cabin staff works in 8 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06, Total= 06 staff.
11	DAM	C-394 & C-395	Cabin staff works in 8 hrs shift.) Requirement of Cabin master/Cabin Signal man staff =1X3x02=06, Total= 06 staff.
Sub total			42
RG/LR@29% on 42			12.18
G.Total			54.18 or say 54 staff
Total (A+B)			76+54=130 staff.

2.5.5

SUMMARY OF EXISING AND PROPOSED STAFF

S.N	Station	Category	Sanction Strength	Proposed strength	Identified surplus	Remarks
1	RK	Cabin master/ Cabin signal man	193	08	59	For end cabin/end panel/central panel stations.
2	RBD	--do--		08		
3	SAN	--do--		08		
4	UTA	--do--		08		
5	DLQ	--do--		08		
6	BLM	--do--		08		
7	CBJ	--do--		08		
8	SAR	--do--		08		
9	RMU	--do--		08		
10	QSR	--do--		04		
11	KKJ	--do--		54		For operation of cabin operated gates.
12	MLD	--do--				
13	DIL	--do--				
14	NRS	--do--				
15	DUN	--do--				
16	MIL	--do--				
17	DAN	--do--				
18	PKRA	--do--				
19	BTO	--do--				
20	MPH	--do--				
21	DAM	--do--				
Total			193	130	63	

The above table reveals that the total sanctioned strength of Cabin master and Cabin Signal man staff over MB division is 193 and the bare requirement for 09 non paneled stations, 01 end panel station and 11 stations at which this staff is working on cabin operated gates against gateman comes to 130 staff. Hence, 63 posts of Cabin master and Cabin Signal man staff are identified as surplus and recommended for surrender.

RECOMMENDATION NO.1

It is proposed that 63 posts of Cabin master and Cabin signal man staff are identified as surplus and recommended for surrendered.

S. No.	Category	GP	No. of posts identified as surplus
1	Cabin master	2400	29
2	Cabin Signal man	2400	34
Total			63

2.5.6 GENERAL OBSERVATION

During the course of study it was observed 54 staff of Cabin master/Cabin signal man are being utilized as gate man. Prior to provision of panel interlocking at the KKJ,MLD,DIL,NRS,DUN,MIL,DAN,PKRA,BTO, MPH and DAM stations, the cabin operated gates were manned by Cabin master and Cabin signal man staff. Due to non availability gate man staff at the above said stations at 14 level xings gates, 54 cabin master/cabin signal man staff are being utilized. After the availability of gateman staff at these 11 stations, 54 cabin master/cabin signal man will become surplus. So the team proposes that these 54 staff be surrendered after the provision of gate man.

3.0.0 FINANCIAL IMPLICATIONS

3.1.0 The annual expenditure as per 7th CPC on Cabin master and Cabin Signal man staff working in Traffic department over MB division is as under:-

S.N.	Category	Grade Rs.	S/S	Monthly value per post (in ₹)	Annual expenditure (in ₹)
1	Cabin master	5200-20200-2400	119	34398	49120344.00
2	Cabin Signal man	5200-20200-2400	74	34398	30545424.00
Total			193		79665768.00

The above table reveals that the annual expenditure being incurred on 193 sanctioned posts of Cabin master and Cabin signal man staff working in Traffic department over MB division is Rs. 79665768.00

3.1.1 The annual expenditure as per 7th CPC on the proposed strength of Cabin master and Cabin signal man staff working in Traffic department over MB division is as under:-

S.N	Category	Grade (in ₹)	Monthly value Per post	Prop. Strength	Annual Expenditure (in ₹)
1	Cabin master	5200-20200-2400	34398	88	36324288.00
2	Cabin Signal man	5200-20200-2400	34398	42	17336592.00
Total				130	53660880.00

The above table reveals that the annual expenditure on the proposed 130 posts of Cabin master and cabin signal man staff of Traffic department over MB division will be reduced to Rs. 53660880.00 instead of Rs. 79665768.00 and the net recurring saving will be Rs. 26004888.00 per year.

3.3.0 ANTICIPATED RECURRING SAVING

S.N.	Category	Grade (in ₹)	Refer Recom. No.	No. of posts identified as surplus	Monthly value per post	Annual expenditure (in ₹)
1	Cabin master)	5200-20200-2400	2.5.16.	31	34398	12796056.00
2	Cabin signal man	5200-20200-2400		32	34398	13208832.00
				63		26004888.00

No. of posts identified as surplus: -

Group 'C' = 63 posts

Group 'D' = NIL

Total = 63 posts

Anticipated recurring saving = ₹ 260.04 lacs per annum

Capital saving = Nil

Total saving = ₹ 260.04 lacs per annum

WORK STUDY REPORT DETAILED CHART

Department : Operating
 Name of study : Review of Cabin master and Cabin signal man staff due to introduction of PI/RRI over MB division.
 Activity centre : Over Moradabad Division.

S.N.	Sub activity	Brief description of workload	Actual staff deployed	Work Study recommendations	Representative workload
1	Operational duty performed by Cabin master and Cabin Signal man staff to set route and lowering of signals from end cabins/ central cabins before introduction of PI.	Out of 151 block stations of MB division, 116 stations have already been equipped with PI/RRI, therefore mechanical/ rudimentary interlocking has been replaced at these stations. Bare requirement of Cabin master and cabin signal man staff have been calculated to rest 09 non PI/RRI stations and 01 end panel station.	SS= 193 OR=134 Vac=59	The work study team have identified 63 posts of Traffic Cabin master and Cabin signal man and recommended for surrender.	After commissioning of PI/RRI at 116 stations of MB division workload of cabin master and cabin signal man has diminished.

LIST OF ANNEXURES

S.N.	Description	Annex. No.
1	Statement showing staff position of Cabin master and Cabin signal man staff over MB Division.	I
2	Letter of C.P. cell to initiate the work study No. 16-CP/22/WS/20-21 dated 26/10/2020	II

Annexure No. I

STATEMENT SHOWING STAFF POSITION OF CABIN MASTER AND CABIN
SIGNAL MAN STAFF WORKING IN TRAFFIC DEPARTMENT OVER MB DIVISION.

S.N	Category	Grade Rs.	S/S	O/R	Var.
1	Cabin master	5200-20200-2400	119	88	31
2	Cabin signal man	5200-20200-2400	74	24	50
3	Cabin signal man	5200-20200-1900	-	22	+22
Total			193	134	59

Salient features of the work study

Name of the Work study: Review of Cabin master and Cabin Signal manstaff due to introduction of PI/RRI over MB division.

No. 16-CP/22/WS/20-21

1. The study is conducted to provide the actual requirement of Cabin master Cabin signal man at 09 non PI/RRI stations, 01 end panel station and 11 stations at which cabin master and cabin signal man staff is working at cabin operated gates prior to panel. MB division has 151 block station. Out of 151 block stations, 116 stations are equipped with PI/RRI. After the installation of PI/RRI, the workload of Cabin master and Cabin signal man has been diminished.
2. The team calculated the bare requirement of Cabin master and Cabin signal man for the rest 10 stations which are non PI/RRI and 14 level xing gates of 11 stations.

(A) Staff proposed and identified surplus:-

Total sanctioned strength	193
On roll strength	134
Vacancy	59
Proposed strength	130
Identified surplus for surrender	63

(C) Net recurring saving.

If the recommendations made in the report are accepted and implemented in toto, a net recurring saving to the tune of ₹ 260.04 lacs per annum will be achieved after surrendering of 63 posts identified as surplus and will also economize the system.