WORK STUDY REPORT

ON

REVIEW OF CABINMAN STAFF

DUE TO INTRODUCTION OF

RRI/PANEL INTERLOCKING

OVER

FIROZPUR DIVISION

2018-19

WORK STUDY TEAM

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DATE OF START : 23/01/2018
DATE OF COMPLETION : /04/2018

GUIDANCE

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NO.16-CP/01/WS/2018-19

CENTRAL PLANNING CELL
NORTHERN RAILWAY
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EXECUTIVE SUMMARY

This study was allotted to the Central Planning Cell, HQ Office, on the directive of SDGM/NR to identify redundant/wasteful/unproductive activities and suggest ways to improve manpower productivity due to introduction of new technology and improved working system over Firozpur Division

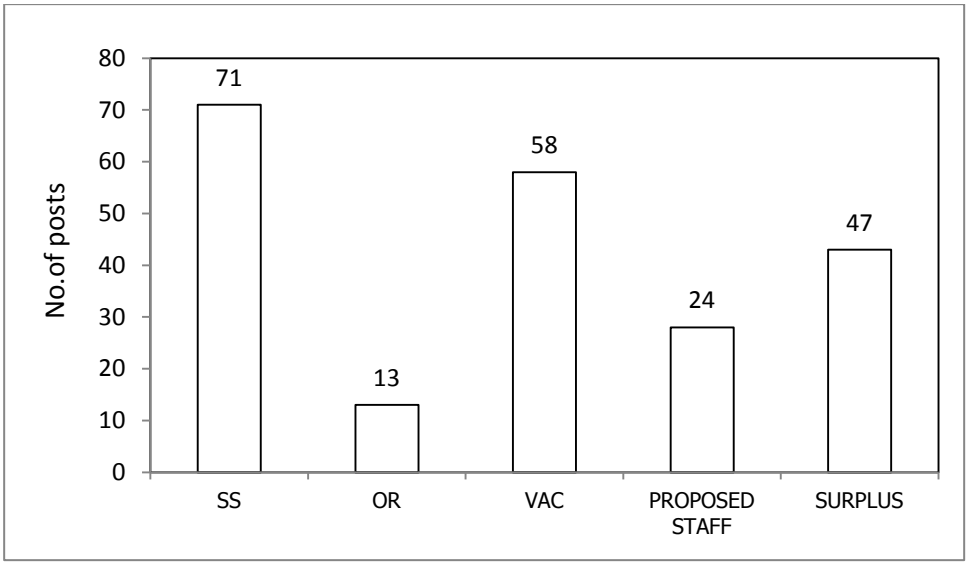
STAFF POSITION

The total sanctioned and on roll strength of Cabin man staff working over Firozpur Division is as under.

S.N.	Description	S/S	O/R	Vacancy
1	Cabin man	71	13	58
Total		71	13	58

No. of posts identified as surplus and recommended for surrender: -
Gr. 'C' = 47
Gr. 'D' = NIL
Total = 47 posts

FINANCIAL IMPLICATIONS
Anticipated recurring savings = ₹ 246.06 lakh per annum.
Capital saving = Nil
Total = ₹ 246.06 lakh per annum



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SYNOPSIS

Indian Railways plays a vital role as a national carrier of passengers and freight. It is imperative to use modern technologies in train operations so as to cope-up effectively with the ever increasing traffic quickly and safely. Panel interlocking is one such measure which enables safe, quick and full proof train operations. The up-gradations incorporated into the system involve increasing of huge expenditure rendering a lot of activities as redundant.

Stations over Firozpur Division are being modified by installing power-cabin; panel interlocking and electrical/electronic route relay interlocking (RRI) system by replacing old fashioned mechanical interlocking system from cabins. Consequently, SDGM/NR desired to conduct a review of cabin-man staff working over Firozpur division with a view to identify redundancies and improve manpower productivity and economy.

The staff strength of cabin-man was reviewed in accordance with the workload in extent. These recommendations have been incorporated in the report appropriately identifying 47 posts of cabin-man as surplus due to introduction of power cabin/route relay interlocking.

After implementation of the recommendations made in the report the railway administration is likely to achieve a recurring saving to the tune of ₹ 246.06 lakh per annum.

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SUMMARY OF RECOMMENDATIONS

S No	Recommendations	Refer para no.	Accepting/ Implementing Authority
1	It is proposed that 47 posts of cabin-man in grade ₹5200-20200+1900 identified as surplus and recommended for surrender under the administrative control of Sr. DOM/FZR after commissioning of power cabin.	2.6.0	ADRM/FZR Sr.DOM/FZR Sr.DPO/FZR
2	It is proposed to expedite efforts to install/ commission RRI/Power cabin of the remaining stations over FZR division at the earliest to avoid escalation of cost which will improve productivity and efficiency.	2.7.1	ADRM/FZR Sr.DOM/FZR

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ACKNOWLEDGEMENT

The team is highly grateful to Sh. Sukhvinder Singh, ADRM/FZR, Sh. Jagtosh Shukla, Sr.DOM/FZR and Sh. Yusuf Kabir, Sr.DPO/FZR for giving their valuable guidance for conduct of the study. The team is also thankful to other functionaries for rendering their co-operation in providing relevant data/information during the conduct of study.

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1.0.0 INTRODUCTION

1.1.0 Indian Railway plays an important role in transportation of freight and passenger traffic from one place to another at an optimum level of safety, security, punctuality and reliability. The principal of train operation is to ensure optimum utilization of line capacity as well ensure maximum through-put. In this regard, potential of track, traction of locomotives and improved interlocking are the need based essential requirements. The changes adopted for technological up-gradation require incurring huge expenditure, which results in certain activities becoming redundant. The real value of up-gradation is realizing only by right sizing the staff strength, ensuring best utilization of assets and increasing manpower productivity and railway economy.

1.1.1 Keeping above in view, SDGM/NR allotted a work study on Review of cabin man working over FZR Division to the Central Planning Cell with a view to reduce wasteful expenditure by ensuring best utilization of assets/manpower.

1.2.0 TERMS OF REFERENCE:

The study has been conducted under the following terms of references:-

1. To review staff strength vis-à-vis existing workload.
2. To suggest ways and means to eliminate wasteful expenditure/ unproductive/redundant activities.
3. To suggest ways and means to improve the standard of cleaning activities.

1.3.0 METHODOLOGY ADOPTED

The following method study and work measurement techniques were Adopted to conduct the work study:-

1. Data collection and its critical analysis.
2. Physical check, Spot observations, work sampling, analytical Estimation & yard stick in vogue, if any.
3. Held discussions at various levels.

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2.0.0 BRIEF DESCRIPTION, STAFF POSITION, WORKLOAD, CRITICAL EXAMINATION, AND RECOMMENDATIONS

2.1.0 BRIEF DESCRIPTION

Firozpur Division is an important Division of Northern Railway. Traffic from all directions is dealt in Firozpur division vis Ambala, Delhi and Moradabad division. Firozpur division has Class-A-1, A & B standard stations for granting and obtaining line clear.

Modernization in railway working has resulted in introduction of modern and sophisticated equipments. Though technological developments involve huge costs in their commissioning but reduce wastages, especially in manpower. With the introduction of electrical panel interlocking in place of mechanical interlocking, the pulling/pushing of levers in cabins and the time consumed in exchanging private numbers and maintaining record/log books will be eliminated.

2.1.1 The installation of panel interlocking system has eased the operational working of station 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 tracks 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 cabin man from the end cabins/central cabins on the guidance of on duty station master as and when required. All operations for movement of trains are carried out by on duty station master and there is no necessity of cabins or cabin-man staff. Green aspect of the last stop signal is the authority to proceed.

2.1.2 Power cabins are provided at big junctions stations where the movement of trains is frequent from different directions. The panel operator operates the panel on the directives of log maintainer (who grants/obtains line clear) under the supervision of cabin master (who also oversees shunting operations and decides the line for a particular train movement). In this situation, the cabin-man staff is not required on cabin.

2.1.3 Operating staff (ASM/SM/Dy.SS) is responsible for setting the route and lowering the signals for a train, which are working under the administrative control of Sr.DOM through station superintendent.

2.1.4 Activities/works done by Cabin-man staff:-

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 massage/private numbers with entry in cabin log register for arrival/departure timings of trains.
4. Exchanging private numbers through telephone with gateman/station master for movement of trains.
5. Exchanging all right signals and ensuring complete arrival of train.
6. Maintaining the charge diary for taking over/handing over of daily charge.
7. Other misc. work and obeying duties assigned by their senior subordinates from time to time.

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2.2.0 STAFF POSITION

The staff position of cabin-man staff is collected from "P" branch of Divisional office as well as from each SS/TI over FZR division. The station wise sanctioned strength has been taken into consideration as supplied by "P" and on roll position as provided by each SS/TI of the station. The detail of the same as annexed as annexure No II in the report and the summarized position is tabulated below:-

S. No.	Station	Category	Sanction strength	On roll	Variation (+/-)
1	Amritsar (ASR)	Cabinman	25	05	20
2	Firozpur City (FZP)		08	02	06
3	Ludhiana (LDH)		09	01	08
4	Pathankot (PTK)		12	02	10
5	Jammu Tawi (JAT)		17	01	16
6	Other location		--	02	+02
Total			71	13	58

The above table reveals that the on roll position of cabin-man staff is 13 against the sanctioned strength of 71 and 58 posts are lying vacant.

2.3.0 WORKLOAD

The activities/works carried out by cabin man staff is assessed in accordance with the number of trains which are dealt daily at the stations keeping in view the safety. The team collected average No. of M/Exp, Passenger, Goods trains and shunting powers per day for which the cabin-man has to operate the levers in different directions. Station wise work load in terms of cabins and No. of trains has been depicted as Annexure No. III in the report and the summarized position of the same is tabulated as under:

S. N.	Station	No. of Cabins	Total No of M/Exp, Pass, Goods and powers/ Day	Average workload per shift
1	Amritsar (ASR)	03	108	36
2	Firozpur City (FZP)	02	21	11
3	Ludhiana (LDH)	02	95	32
4	Pathankot Jn. (PTK)	03	65	22
5	Jammu Tawi (JAT)	01	90	30

2.4.0 CRITICAL EXAMINATION

2.4.1 The up-gradation in assets/working systems are introduced to achieve better utilization of available resources. In the panel interlocking system, no cabin-man is required as in mechanical/rudimentary interlocking. In the mechanical/rudimentary interlocking system, the operation for train movement involves working of rods, wires, levers, gears, bolts, keys etc. which are operated by the Cabinman 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 diagrams/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 man staff for end cabins/central cabins. The panel interlocking is more economical, safer and faster in comparison to mechanical interlocking which has also abolished the deployment of cabin man staff.

The Electrical/electronic panel interlocking is quicker and safer, therefore it increases line capacity as well as through put of the sections and improves operating ratio. It is more economical because it reduces manual activities performed by cabin man etc.

Firozpur division comprises of different category of stations viz A-I, A-II, Class-B etc;. The working of cabins will get shifted to Power Cabins after commissioning of RRI and the cabins will become obsolete and thus the necessity of deploying cabin-man staff will be eliminated and the cabin-man staff will be rendered as surplus.

2.5.0 REQUIREMENT OF CABIN STAFF: The safety aspects in the working of operating staff have great importance, which necessitates continuous deployment of staff to man the assets for smooth working of trains. However except the shift wise deployment of staff for carrying out operational duties, there is no other yardstick to assess the requirement of manpower. During the conduct of study, team visited the cabins where cabin-man staff has been deployed. It has been observed that at some stations i.e. ASR and FZP, the RRI work is in progress. After RRI and commissioning of power cabins the utility of cabin man staff will be rendered surplus and necessity of deploying Cabinman staff will be eliminated. The work study team has taken in to consideration, the deployment of staff, held discussions at various levels and working conditions while proposing the requirement of cabin man staff where cabins are still working. The station wise requirement of cabin man staff is as under:

2.5.1 AMRITSAR (ASR): During the course of study, the team visited all the cabins of Amritsar. The work of RRI for centralized power cabin is in progress. The activity of setting the points and signals will be operated by pressing the requisite buttons on panel by SM/ASM on duty instead of pulling/pushing levers by cabin-man. Consequently upon commissioning of panel interlocking system from power cabins at ASR, all the cabins at ASR will become inoperative and redundant. The activities of cabin-man staff will become redundant. It is obvious that the cabin-man staff sanctioned prior to commissioning of power cabin will become surplus.

At present existing 03 cabins are in working and 12 men (5 cabin man & 07 points man) are involved in movements of total 108 trains/DSL/ELC Power and load formations etc per day.

Movements trains/DSL/ELC Power and load formations etc as under:

S. N.	Station	Location of Cabins	Average No of trains/DSL/ELC Power per day				Total	Remark
			M/Exp	Pass	Goods	DSL/ELC Power		
1	Amritsar (ASR)	East Cabin	64	24	10	10	108	Average/ shift = 36 (3 shifts)
		West Cabin						
		E/C Cabin						

At present to cope up the above existing work load, 05 cabin man and 07 points man are deployed to work at 03 cabins against the sanctioned strength of 25 cabin man. RRI work at ASR is in progress and as apprised it is likely to be completed by the end of March-2018.

After commissioning of panel interlocking system from power cabins at ASR, all the cabins at ASR will become inoperative and redundant and consequently sanctioned strength of **25** cabin-man staff will also be rendered redundant and surplus. Therefore the proposed requirement of cabin-man staff will become **NIL** after RRI and **25** posts of cabin man staff will become surplus and recommended for surrender.

2.5.2 FIROZPUR CITY (FZP): During the course of study, the team visited all the cabins of FZP. The work of RRI for centralized power cabin is in progress. The activity of setting the points and signals will be operated by pressing the requisite buttons on panel by SM/ASM on duty instead of pulling/pushing levers by cabin-man. Consequently upon commissioning of panel interlocking system from power cabins at FZP, all the cabins will become inoperative and redundant. The activities of cabin-man staff will become redundant. It is obvious that the cabin-man staff will become surplus after the commissioning of power cabins.

At present existing 02 cabins are in working and cabin man staff are involved in movements of total 21 trains/DSL/ELC Power and load formations etc per day.

Movements of trains/DSL/ELC Power and load formations etc as under:

S. N.	Station	Location of Cabins	Average No of trains/DSL/ELC Power per day				Total	Remark
			M/Exp	Pass	Goods	DSL/ELC Power		
1	Firozpur City (FZP)	North cabin South cabin	02	10	06	03	21	Average/ shift = 11 (2 shifts)

At present to cope up the above existing work load 02 cabin man and 02 points man are deployed to work at 02 cabins against the sanctioned strength of 08 cabin man. RRI work at FZP is in progress and as apprised likely to be completed by the end of March-2018.

After commissioning of panel interlocking system from power cabins at FZP, both the cabins at FZP will become inoperative and redundant and consequently sanctioned **08** cabin-man staff will also be rendered surplus. Therefore the proposed requirement of cabin-man staff will become **NIL** after commissioning of RRI. Therefore **08** posts of cabin man staff identified as surplus and recommended for surrender.

2.5.3 LUDHIANA (LDH): Ludhiana is an important station on main line. RRI/panel interlocking have already been commissioned but still 02 cabins namely east and west cabin are in operation through cabin man staff. During the course of study, the team visited all the cabins of Ludhiana. During discussion the team was apprised that Ludhiana station has 19 running lines, out of which line No. 1 to 8 are operated for M/Exp, Passenger, goods trains through power cabin, line No. 9 to 15 are operated by both means i.e. by power cabin as well as cabins while line No. 16 to 19 are solely operated by cabins which are manned by cabin man staff for yard shunting.

Movements of trains/DSL/ELC Power and load formations etc is as under:

S. N.	Station	Location of Cabins	Average No of trains/DSL/ELC Power per day				Total	Remark
			M/Exp	Pass	Goods	DSL/ELC Power		
1	Ludhiana (LDH)	East Cabin West Cabin	00	00	25	70	95	Average/ shift = 32 (3 shifts)

At present to cope up the above existing work load 01 cabin man and 05 points man are deployed to work at 02 cabins against the sanctioned strength of 09 cabin man.

Proposed Requirement of Staff:

Keeping in view the No. of cabins where lever operation exists the proposed requirement is as under:

S N	Cabin	Sift			Total
		0-8	8-16	16-24	
1	East Cabin	01	01	01	03
2	West Cabin	01	01	01	03
Total		02	02	02	06
LR+RG @ 12.5+16.5% = 29%					1.74
Grand Total					7.74 Say 08

The proposed requirement of Cabin man staff comes to **08** against the sanctioned strength of **09** and **01** post of cabin man identified as surplus and recommended for surrender.

2.5.4 PATHANKOT Jn. (PTK): Pathankot Jn. is an important station on Jalandhar–Jammu section. During the course of study, the team visited the Pathankot Jn. Station and observed that 03 cabins are in operation which is handled by cabin man staff. At PTK there are broad gauge as well as narrow gauge lines. All the three cabins are operated manually by cabin men

Movements of trains/DSL/ELC Power and load formations etc is as under:

S. N.	Station	Location of Cabins	Average No of trains/DSL/ELC Power per day				Total	Remark
			M/Exp	Pass	Goods	DSL/ELC Power		
1	Pathankot Jn. (PTK)	A Cabin B Cabin NG Cabin	16	38	06	05	65	Average/ shift = 22 (3 shifts)

At present to cope up the above existing work load 02 cabin man and 07 points man are deployed to work at 03 cabins against the sanctioned strength of 12 cabin man.

Proposed Requirement of Staff:

Keeping in view the No. of cabins where lever operation exists the proposed requirement of cabin man is as under:

S N	Cabin	Sift			Total
		0-8	8-16	16-24	
1	A Cabin	01	01	01	03
2	B Cabin	01	01	01	03
3	N/G cabin	01	01	01	03
Total		02	02	02	09
LR+RG @ 12.5+16.5% = 29%					2.61
Grand Total					11.61 Say 12

The proposed requirement of cabin man staff comes to **12** against the sanctioned strength of **12** and there is no surplus post.

2.5.5 Jammu Tawi (JAT): JAT is an important station of FZR division. During the course of study, the team visited the JAT Station and observed that 01 cabin (west cabin) is in operation which is handled by cabin man staff. West cabin is being operated manually by cabin man. End panel interlocking controls all the six lines and yard by Dy SS/ASM and no cabin man is deployed. West cabin is operated by the cabin man staff by operating lever for movements of trains/DSL/ELC Power and load formations etc.

Movements of trains/DSL/ELC Power and load formations etc is as under:

S. N.	Station	Location of	Average No of trains/DSL/ELC Power per day				Total	Remark
			M/Exp	Pass	Goods	DSL/ELC Power		
1	Jammu Tawi (JAT)	West cabin	46	04	10	30	90	Average/ shift =30 (3 shifts)

At present to cope up the above existing work load 01 cabin man and 05 points man are deployed to work at west cabin against the sanctioned strength of 17 cabin man.

Proposed Requirement of Staff:

Keeping in view the No. of cabin where lever operation exists the proposed requirement of cabin man is as under:

S N	Cabin	Sift			Total
		0-8	8-16	16-24	
1	west Cabin	01	01	01	03
Total		01	01	01	03
LR+RG @ 12.5+16.5% = 29%					0.87
Grand Total					3.87 Say 04

The proposed requirement of cabin man staff comes to **04** against the sanctioned strength of **17** and **13** posts of cabin man staff is identified as surplus and recommended for surrender.

2.6.0 THE STATION WISE SUMARISED POSITION OF SANCTIONED, PROPOSED AND SURPLUS POSTS OF CABINMAN STAFF WORKING OVER FZR DIVISION.

S. No.	Station	Category	Sanction strength	Proposed staff	Surplus
1	Amritsar (ASR)	Cabinman	25	00	25
2	Firozpur City (FZP)		08	00	08
3	Ludhiana (LDH)		09	08	01
4	Pathankot (PTK)		12	12	0
5	Jammu Tawi (JAT)		17	04	13
Total			71	24	47

Above table reveals that the proposed requirement comes to **24** against the sanctioned strength of **71** and **47** posts of cabin man staff identified as surplus and recommended for surrender over FZR.

RECOMMENDATION NO.1

It is proposed that 47 posts of cabin-man staff over FZR division in grade ₹ 5200-20200+1900 identified as surplus and recommended for surrender under the administrative control of Sr. DOM/FZR after commissioning of power cabin/RRI.

2.7.0 GENERAL OBSERVATIONS

2.7.1 During the course of study, the team observed that the work of the yard cabin is not operated through RRI/power cabins. At some stations end panel interlocking is installed but yard cabins still exists due to which cabin man staff are still deployed. The work study team is of the opinion that all the stations over FZR division be equipped with RRI/power cabin so that the diminishing cadre of cabin man staff will be rendered surplus.

RECOMMENDATION NO.2

It is proposed to expedite efforts to install/commission RRI/Power cabin of the remaining stations over FZR division at the earliest to avoid escalation of cost which will improve productivity and efficiency.

3.0.0 FINANCIAL IMPLICATIONS

Anticipated saving due to surrender of **43** posts of cabin man identified as surplus will be as under:

S.N.	Category	Grade Rs.	Refer Recom. No.	No. of surplus posts	Monthly value per posts Rs.	Anticipated annual recurring saving Rs.
1.	Cabinman	5200-20200-1900	1	47	43 628	2,46,06,192/-
Total				47		2,46,06,192/-

No. of posts identified as surplus: -

Group 'C' = 47 Posts
Group 'D' = Nil Posts
Total = 47 posts

Anticipated recurring saving = ₹ 246.06 lakh per annum
Capital saving = Nil
Total saving = ₹ 246.06 lakh per annum

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4.0.0 PRODUCTIVITY

4.1.0 The total annual expenditure incurred on establishment of 71 sanctioned posts of cabin-man staff over FZR division.

S.N.	Category	Pay Scale + Grade Pay	Monthly value per posts	S/strength	Total annual expenditure
1	Cabinman	5200-20200+2400	55,965/-	02	13,43,160/-
2	Cabinman	5200-20200+1900	43,628/-	69	3,61,23,984/-
Total				71	3,74,67,144/-

The above table reveals that the Railway incurs ₹3,74,67,144/-per annum on the sanctioned strength of 71 posts of cabin-man staff over FZR.

4.2.0 The total annual expenditure incurred on establishment of 28 proposed posts of cabin-man staff over FZR division.

S.N.	Category	Pay Scale + Grade Pay	Monthly value per posts	S/strength	Total annual expenditure
1	Cabinman	5200-20200+2400	55,965/-	02	13,43,160/-
2	Cabinman	5200-20200+1900	43,628/-	22	1,15,17,792/-
Total				24	1,28,60,952/-

The above tables reveals that after the implementation of the work study report, the expenditure on the proposed staff will come to ₹ 1,28,60,952/-Therefore the expenditure will be reduced from ₹ 3,74,67,144/- to ₹ 1,28,60,952/-

WORK STUDY REPORT DETAILED CHART

Department : - Operating

Name of study : - Review of Cabinman staff due to introduction of RRI/Panel interlocking over Firozpur Division,

Activity centre : - Firozpur Division.

S.N.	Sub activity	Brief description of workload	Actual staff deployed	Work Study recommendation	Representative workload
1.	Traffic centre at ASR, FZP, LDH, PTK & JAT	Cabinman staff exchange private numbers with SM/ASM to set line and signals for particular train by pushing/ pulling levers close/open level crossing gates by lowering/lifting barrier if any	S/S= 71 posts O/R=13 posts Vac= 58 posts	Proposed staff= 24 surplus= 47 posts	Work load of cabin-man staff will be reduced after commissioning of RRI/Power cabin over Firozpur division.

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LIST OF ANNEXURES

S.N.	Description	Annexure No.
1	GM/CPC's Letter No. 16-CP/01/WS/18-19 dt. 23.01.2018 as authority to conduct the study	I
2	Category and grade wise Sanctioned and on roll position of Cabinman staff working over Firozpur Division.	II
3	Work load of cabin man staff in terms of average number of trains per day over FZR division	III

ANNEXURE NO. I

ANNEXURE NO.II

CATEGORY AND GRADE WISE SANCTIONED AND ON ROLL POSITION OF CABINMAN STAFF WORKING OVER FZR DIVISION.

S.	Station	Category	Pay scale + Grade Pay	Sanction strength	On roll	Variation (+/-)
1	Amritsar (ASR)	Cabinman	5200-20200+2400	02	02	20
			5200-20200+1900	23	03	
2	Firozpur City (FZP)		5200-20200+1900	08	02	06
3	Ludhiana (LDH)		5200-20200+1900	09	01	08
4	Pathankot (PTK)		5200-20200+1900	12	02	10
5	Jammu Tawi (JAT)		5200-20200+1900	17	01	16
6	Other location		5200-20200+1900	--	02	+02
Total				71	13	58

ANNEXURE NO. III

DETAIL OF WORKLOAD OF CABIN-MAN IN TERMS OF AVERAGE NUMBER OF TRAINS PER DAY OVER FIROZPUR DIVISION.

S.	Station	Location of Cabins	Average No of trains/DSL/ELC Power per day				Total	Remark
			M/Exp	Pass	Goods	DSL/ELC		
1	Amritsar (ASR)	East Cabin West Cabin E/C Cabin	64	24	10	10	108	Average/ shift = 36 (3 shifts)
2	Firozpur City (FZP)	North cabin South cabin	02	10	06	03	21	Average/ shift = 11 (2 shifts)
3	Ludhiana (LDH)	East Cabin West Cabin	00	00	25	70	95	Average/ shift = 32 (3 shifts)
4	Pathankot (PTK)	A Cabin B Cabin NG Cabin	16	38	06	05	65	Average/ shift = 22 (3 shifts)
5	Jammu Tawi (JAT)	West cabin	46	04	10	30	90	Average/ shift =30 (3 shifts)