



# MODERN COACH FACTORY

## ANNUAL REPORT 2019-20



**WE ARE THE FUTURE**



**आधुनिक रेल डिब्बा कारखाना, रायबरेली**  
**MODERN COACH FACTORY, RAEBARELI**

**Annual Report 2019-20**



मैं 31 मार्च 2020 को समाप्त हुए वर्ष के लिए आधुनिक रेल डिब्बा कारखाना, रायबरेली के कार्य की रिपोर्ट अग्रेषित कर रहा हूँ।

I, forward herewith, the report on the working of Modern Coach Factory, Raebareli for the year ending 31st March, 2020.

(विनय मोहन श्रीवास्तव)  
महाप्रबंधक

(Vinay Mohan Shrivastava)  
General Manager

सचिव  
रेलवे बोर्ड,  
नई दिल्ली।

The Secretary,  
Railway Board,  
New Delhi.



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## IMPORTANT MILESTONES

• Foundation stone	:	Feb' 2007
• Commencement of land acquisition	:	Aug' 2007
• Preparatory construction work commenced	:	Feb' 2009
• Actual Construction of Factory started	:	May' 2010
• Commissioning of 33 KV Transmission Line	:	Jan' 2011
• Finishing & Furnishing shop work completed	:	April' 2011
• First Coach Furnished from shell supplied by RCF/KXH	:	April' 2011
• Furnishing of 1st coach	:	April' 2011
• Furnishing of 1st LWSCZAC(Chair Car)	:	June' 2012
• Furnishing of 1st LWFCZAC(Ex. Chair Car)	:	July' 2012
• Dedication of factory to the Nation	:	Nov' 2012
• Furnishing of 1st LWACCW coach	:	Nov' 2012
• First Shell Assembly (Major sub assembly by RCF/KXH)	:	July' 2013
• Rolling out 100 <sup>th</sup> coach	:	July' 2013
• Assembly of First LHB coach shell by MCF	:	July' 2013
• Completion of Bogie shop	:	Feb' 2014
• Completion of Shell, Paint and Machine shops	:	Mar' 2014
• Rolling out 200 <sup>th</sup> coach	:	April' 2014
• Manufacture of first prototype fabricated Fiat bogie	:	Aug' 2014
• Manufacture of first LHB coach shell by RCF/RBL	:	Aug' 2014
• Furnishing of 1st LWSCN coach	:	Sep' 2014
• Completion of Administrative Building	:	Nov' 2014
• Complete Bogie Assembly	:	Dec' 2014
• Manufacture of first Fiat bogie	:	Dec' 2014
• Commissioning of 132 KV MRS	:	Jan' 2015
• First Bogie Manufacture	:	Feb' 2015
• 100 <sup>th</sup> Shell, Manufactured	:	June' 2015
• 1st LSCN Shell, Manufactured	:	July' 2015
• 100 <sup>th</sup> Bogie Manufactured	:	Dec' 2015
• RCF, Raebareli Renamed (MCF), Raebareli	:	Dec' 2015
• 300 <sup>th</sup> LWACCN Coach Furnished	:	Jan' 2016
• Rolling out 500 <sup>th</sup> coach	:	Feb' 2016

• 1st GS Shell Manufactured	:	April'2016
• Formed Recognised Technical Training centre	:	May' 2016
• IMS Certification	:	Oct' 2016
• 800 <sup>th</sup> Coach furnished	:	Oct' 2016
• 1st Rake of Humsafar coaches dispatched	:	Nov'2016
• Rolling out 1000 <sup>th</sup> coach	:	Jan' 2017
• 1st Rake of Antyodaya Coaches dispatched	:	April'2017
• 1st Power Car shell manufactured	:	May' 2017
• 1000 <sup>th</sup> Shell manufactured	:	May' 2017
• 5 <sup>th</sup> Rake of Humsafar coaches dispatched	:	June' 2017
• 1st Power Car handed over to ZR	:	Oct' 2017
• Rolling out 1500 <sup>th</sup> coach	:	Oct' 2017
• 1st coach of Deen Dayalu dispatched	:	Jan' 2018
• Total 25 nos. Power Car handed over to ZR	:	Mar' 2018
• 2000 <sup>th</sup> Coach Rolling Out	:	May'2018
• 1st SMART Coach dispatched	:	May'2018
• 1st LHB Under slung LDSLR Coach turned out	:	Jan'2019
• 1st LHB AC Pantry car turned out	:	Jan'2019
• 1st LHB Non-AC Chair Car turned out	:	Feb'2019
• 1st LHB Track Recording Car Turned out	:	Mar'2019
• 1st LHB LDSLR without DA for HOG dispatched	:	31st May 2019
• Green Co Platinum Rating Conferred to MCF	:	June'2019
• 1st LHB First AC Coach Turned out	:	Aug'2019
• Oscillograph cum Staff Car for RDSO dispatched		26th Aug 2019
• 1st LHB LWFAC inaugurated & dispatched	:	31st Aug 2019
• 4000 <sup>th</sup> Coach Rolling Out	:	Aug'2019
• Highest monthly dispatch of 220 coaches	:	Dec 2019
• 1st Smart Humsafar rake of Indian Railways dispatched:		17th Feb 2020
• 5000 <sup>th</sup> Coach Rolling Out	:	Feb'2020
• Total No. of Coach's Rolling out Date.31.03.2020	:	5285 Coach's

**GENERAL ADMINISTRATION**



**THE TEAM MCF**



**Shri Vinay Mohan Shrivastava**  
General Manager



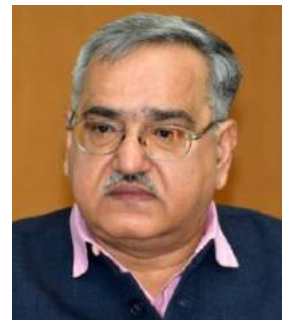
**Sh. Anoop Kumar**  
PCME



**Sh. Alok Kumar**  
CAO



**Sh.S.K.Agarwal**  
PCEE



**Sh. Shreekant Rai**  
PCMM



**Sh. A.K.Srivastava**  
PCPO



**Sh. R.B. Yadav**  
PCE



**Sh. R.K.Manocha**  
PFA



**Sh. Mahesh Kumar**  
CDE



**Sh. Inderjit Singh**  
CPLE



**Sh. Sandeep Shukla**  
CMM



**Sh. Pranjeev Saxena**  
CME/IT



**Sh. R.S.Bhidonia**  
CEDE



**Sh. Anil Kumar**  
CME/P



**Sh. R.N. Toppo**  
SDGM & CVO



**Sh. S. K. Katiyar**  
CPM



**Sh. R.N. Meena**  
CMM/Shell



**Sh. S.K.Rawat**  
CME/P-II



**Sh. B.L. Meena**  
FA& CAO/P



**Sh. A.P. Dubey**  
Sr. SC



**Sh. Amit Kumar Singh**  
Secy to GM



## PUBLIC RELATIONS & PUBLICITY

Annual Report 2019-20

### 1.0 CELEBRATIONS (DIVAS):-

#### 1.1 Bharat Ratna Dr. B.R. Ambedkar Jayanti.

128th Birth Anniversary of Bharat Ratna Dr. B.R. Ambedkar was celebrated on 15.04.2019 at Technical Training Centre Auditorium, MCF/RBL. On this occasion, speakers paid tribute to Dr. B.R. Ambedkar remembered his contribution to the society and the nation.



#### 1.2 Railway Week Award

64th Railway Week Award was celebrated on 17.04.2019 at Saraswati Auditorium, MCF, Raebareli. Shri Suneet Sharma, General Manager, MCF/RBL was the Chief Guest on the occasion. He presented awards to 13 Officers and 151 employees, besides group awards to employees for their outstanding services in their respective fields.



#### 1.3 National Technology Day

National Technology Day was observed on 11.05.2019. In which a technical programme was organised at the Main Conference Hall of Administrative Building MCF/RBL.



#### 1.4 World Environment Day

“World Environment Day” was celebrated at MCF/RBL on 05.06.2019. On this occasion for the purpose of environmental awareness, environmentalists were invited to give the presentations on the subject. Also Poster- Painting, Essay Writing & Lawn maintenance competition were organized. Different kinds of trees were planted in Workshop and Township premises of MCF/RBL.



#### 1.5 International Yoga Day

International Yoga Day was celebrated on 21.06.2019 in which a yoga camp was organised in Saraswati Auditorium of MCF/RBL where officers, staff and their families participated and practiced Yoga and Pranayam under guidance of a trained yoga instructor Smt. Krishna Priya as per protocol issued by Ministry of AYUSH.



#### 1.6 Independence Day

73rd Independence Day was celebrated on 15th August 2019 with full enthusiasm and fervour. National flag was hoisted by Sh. Suneet Sharma, GM/MCF/RBL. On this occasion, RPF Parade and cultural programme was organised in front of Saraswati Auditorium.



### 1.7 International Women's Day

On this occasion, a Nukkad Natak programme was organised on 06.03.2020 for creating awareness on women empowerment at Shopping Complex, MCF/RBL.



### 1.8 Swachhat pakhwada:

Swachhta Pakhwara was organised from 16.09.2019 to 30.09.2019 at MCF with great zeal. On 17.09.2019, massiv Shramdaan was organised in factory area. All the staff and officers were educated not to use single use plastic and to promote the use of cloth bag. After awareness speech, all the officers and staff did Shramdaan. The main focus was to collect plastic waste. During Swachhta Pakhwada, a pledge was taken by all officers/staff not to use "single use plastic". "Swachh-Samvad" was organized on 26.09.19 as part of "Swachhta Pakhwara". Speakers from NGO 'SAATH SAATH' participated and talked about the importance and utility of maintaining personal hygiene and overall swachhta to the participants of MCF dealing with cleaning and House-keeping activities.



### 1.9 Hindi Divas

Hindi Divas Pakhwada Organised from 10.09.2019 to 14.09.2019 at MCF/RBL. On this occasion various programs were organised like Hindi Quiz competition, essay writing competition etc. A meeting was also conducted to promote Hindi in day to day work.



### 1.10 Republic Day

Republic Day-2020 was celebrated with full enthusiasm, grandeur, gaiety and fervour at newly built Cricket Ground, MCF/RBL. Shri V.M. Shrivastava, GM/MCF addressed to employees and their families. Besides above, RPF parade and cultural programme was presented by students of Gyanda Bal Mandir and Kendriya Vidiyalaya.



### 1.11 Constitution Day

Constitution Day was observed in MCF on 26.11.2019 in which group reading of the preamble to the Constitution of India in Main Administrative Building, Factory area (furnishing shop) and Hospital. All the employees participated with fervour and enthusiasm. Pamphlets of Fundamental Duties and preamble were distributed to all staff & officers to create awareness about the values and philosophy of the Constitution of India.



## 2.0 SEMINAR:-

### 2.1 Vigilance Awareness Week 29.10.19 to 03.11.19

The Vigilance Awareness week, 2019 was observed at Modern Coach Factory, Raebareli from 29.10.2019 to 03.11.2019 as per directives issued by Railway Board. The main theme of this year's Vigilance Awareness Week was "Eradicate Corruption-Build a New India". Various activities conducted during this week like Vigilance pledge in administrative building & workshops premises, pamphlets, posters and hoarding exhibiting anti-corruption themes were distributed and displayed at prominent places in admin building, workshop and township premises.



**2.2 One Day Women’s Seminar was organised at Technical Training Centre Auditorium, Modern Coach Factory, Raebareli on 05.03.2020.**



**3.1 Visit of DG (Personnel) Railway Board- Shri Manoj Panday DG (Personnel) Railway Board visited MCF/RBL on 25.06.2019.**



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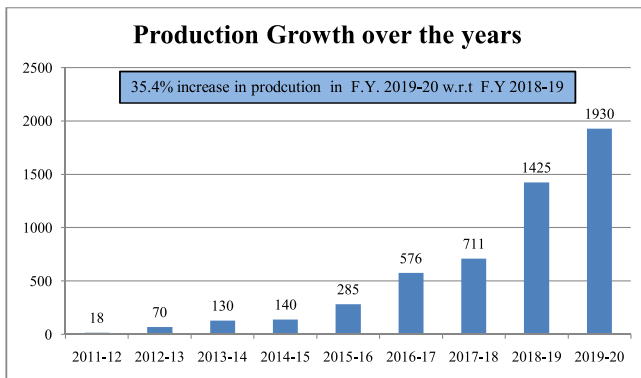
## MECHANICAL DEPARTMENT

### Annual Report 2019-20

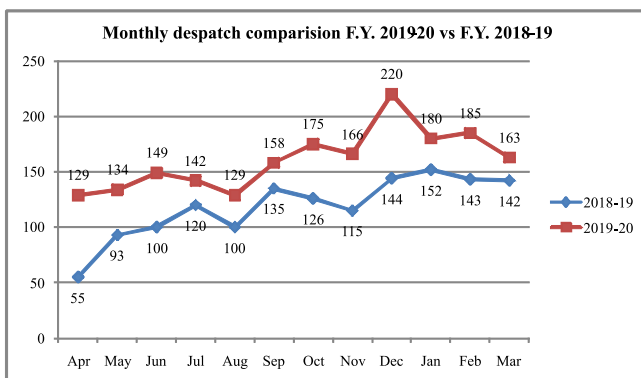
#### PRODUCTION

##### 1. Furnishing Shop

##### 1.1 Exponential growth of Production



**1.2 Increase in outturn:** During the year 2019-20, MCF despatched 1930 LHB coaches against 1425 coaches furnished in the year 2018-19 which is 35.4% higher than that of previous year outturn despite national lockdown from 22.03.2020 which resulted in the loss of 10 critical day in F.Y- 2019-20.



##### 1.3 Variant-wise coach breakup:

S.No.	Coach Type	Quantity
1.	LWACCN	279
2.	HUM.	88
3.	LWACCW	119
4.	LWSCN	811
5.	LWS/DD	289
6.	LWLRRM	145

7.	TRC/TRSC	01
9.	LDSLRL	09
10.	LSLRD without DA Set	01
11.	LWCBAC	79
12.	LWSCZ	92
13.	LWSCZAC	1
14.	LFCWAC	1
15.	LWFAC	15
<b>Total</b>		<b>1930</b>

##### 1.3 Monthly Performance:

S.N.	Month	Furnishing	Paint
1	Apr-19	130	144
2	May-19	133	156
3	Jun-19	149	155
4	Jul-19	142	170
5	Aug-19	129	145
6	Sep-19	166	164
7	Oct-19	175	184
8	Nov-19	158	212
9	Dec-19	220	230
10	Jan-20	180	236
11	Feb-19	185	195
12	Mar-19	163	142
<b>Total</b>		<b>1930</b>	<b>2133</b>

##### 1.5 Best ever figures:

Paint	236	Jan, 2020
Furnishing	220	Dec, 2019

##### 1.6 Milestones of Furnishing Shop 2019-2020:

- 1st LHB LDSLR without DA for HOG dispatched : 31st May 2019
- Oscillograph cum Staff Car for RDSO dispatched : 26th August 2019
- 4000th coach of MCF dispatched : 28th August 2019
- 1st LHB LWFAC inaugurated & : 31st August 2019

- dispatched
- 1st LHB LWSCZAC inaugurated : 30th Dec 2019 & dispatched
- Highest monthly dispatch : Dec 2019 of 220 coaches
- 5000th coach of MCF dispatched : 17th Feb'2020
- 1st Smart Humsafar rake of Indian Railways dispatched : 17th Feb 2020

### 1.7 Highlights of Furnishing Shop:

- First of its kind, Modern Coach Factory, Raebareli has manufactured Engineless HOG compliant LSLRD Coach No. 193797/NR/DLI on 31.05.2019.
- Modern Coach Factory, also manufactured SLR fitted with Single Onboard DA Set [195157/NR/DLI] on 30.06.19 for the first time.
- Remote Monitoring System being provided in all Power Car w.e.f. 30.04.2019 (LPC-184) to enable ONLINE monitoring of Engine performance and timely attention of faults.
- LHB AC Coaches are being fitted with SMART Switch Board Cabinet and Smart Roof Mounted Package Unit for better monitoring and Control of critical parameters related with coach operation.
- Third party inspection (TPI) and Testing of LHB Coaches by M/s RITES, New Delhi started w.e.f. 04.12.2019.

### Toilet Ventilation System

For improving the ventilation system of toilets/lavatories of coaches, following three pronged actions were taken:

- Inside the toilets, grill is provided for venturi suction. Venturi arrangement is provided in under frame for lavatory section for better suction of foul smell from toilets.
  - All hopper windows of toilets are modified with new design of louvers arrangement.
  - The floor slope of lavatories is improved to avoid spillage of water outside toilets.
- As a result of above implementation, the general hygiene is improved with reduction of foul smell and ventilation of lavatory compartment is highly improved.



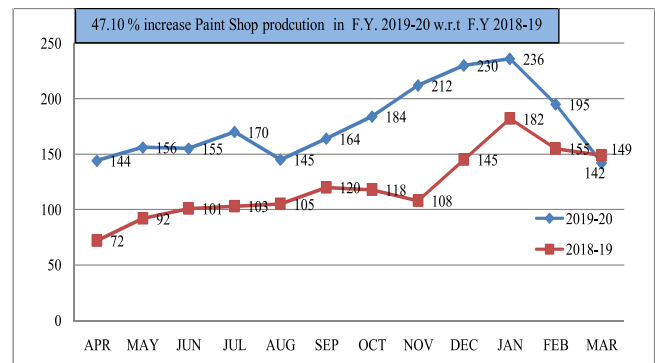
## 2. Paint & Carpentry Shop

### 2.1 PERFORMANCE PARAMETERS:-

- 2133 shells were painted in 2019-2020 as compared to 1450 shells in the previous year which is 47.10% Higher.
- 236 No Shells were painted in Jan.2020 which is ever highest out turn of Paint Shop.

S.N.	Month	Out-Turn of 2018-19 (Month wise)	Out-Turn of 2019-20 (Month wise)
1.	April	72	144
2.	May	92	156
3.	June	101	155
4.	July	103	170
5.	August	105	145
6.	September	120	164
7.	October	118	184
8.	November	108	212
9.	December	145	230
10.	January	182	236
11.	February	155	195
12.	March	149	142
<b>Total</b>		<b>1450</b>	<b>2133</b>

## 2.2 COMPARATIVE MONTHLY OUTTURN OF PAINT SHOP FOR 2019-20 & 2018-19.



### New Developments in Paint shop:-

- Exterior painting of shells by Wet-on-Wet process has been introduced to reduce the painting cycle time. As per current practice, exterior painting of a shell takes approximate 70 hrs while in Wet-on-Wet process, painting of a shell is completed in approx. 35-36 hrs. because there is no requirement of drying oven to dry the paint in putty, surface and top coat stages and all the activities are carried at one place which eliminates shunting and reduce paint cycle time by approx 50%.
- Stainless steel shot blasting plant has been commissioned for blasting of shells by an automatic plant in place of Garnet blasting which eliminated air pollution as this activity is done in a close chamber and dust generated during process is collected outside in a drum through duct while Garnet blasting was done manually under shed without close chamber and significant amount of dust particles were flown in the atmosphere.

### 3. Shell Shop

#### 3.1 Production performance:-

Description/ Item	Production of Assembly and Sub Assembly in FY 2019-20	% improvement as compared to last FY year.	Highest produced in the month of JAN'20 ie.
Production of Shell	2133	48 % Improvement	230
Production of Sidewall	1468	18 % Improvement	152
Production of Underframe	962	67 % Improvement	127
Production of Roof	780	148 % Improvement	137

### 3.2 Other Innovative Work performed during the Year:

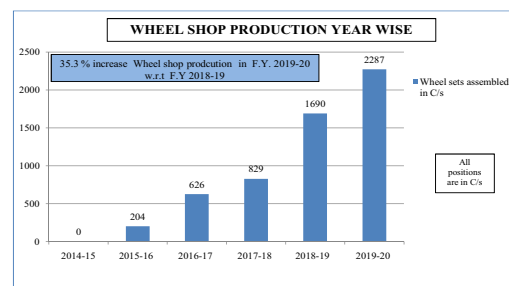
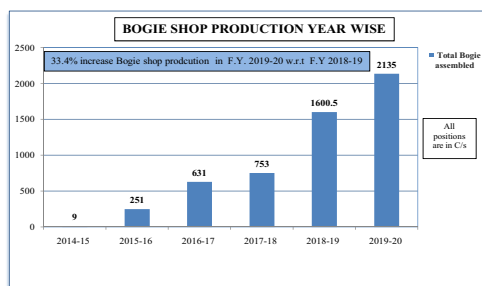
S.No.	Description
1.	Modular clamping arrangement made and implemented at sidewall framing stage. Resulted improvement in productivity and quality of sidewall.
2.	First DSLR Shell without DA set and First DSLR Shell with single DA set manufactured.
3.	First LWFAC Shell manufactured.
4.	Stainless steel trough for RMPU of AC coaches has been fitted.
5.	SPOTS spacing increased from 45mm to 65mm on sidewall on spot welding station of robotic sidewall line. This has improved productivity from 6 c/sets per day to 7.0 c/s from this spot welding station.
6.	First AC-SCN shell manufactured in DEC- 2019.
7.	First LSLRD shell manufactured in JAN- 2020.
8.	Shells for two rakes of Humsafar provided with arrangement of smart SBC.
9.	Five power car shells provided with arrangements of fitment of sound proof engine
10.	5-S standard maintained in shell shop.
11.	Two staff car and one TRC/OC manufactured.
12.	FIRST SLRD-AC shell manufactured.

### 4. Bogie & Wheel Shop

At present, Bogie shop is manufacturing LHB FIAT bogies of different types namely LWACCN, LWACCW, LWSCN, LWLRRM, LGS (LS5), LWCBC, LDSLR, LWSCZ with the help of robotic welding line. Wheel shop is also producing wheel set in every 18 mins. Bogie and wheel shop both are IMS, 5S and IRIS 22163-2017 certified. Beside this Bogie shop has also achieved ISO 3834-2005 certification.

Due to the above reasons, MCF/RBL has become OEM for manufacturing of bogie and wheel to other zonal railways and workshops.

#### 4.1.1 Production Statistics of Bogie Shop & Wheel Shop in C/sets



#### 4.1.2 Comparative performance of Bogie and Wheel for FY 2018-19 and FY 2019-20

S. N	Description	2018-19	2019 20	% Improvement
1	Fabrication of Bogie Frame	505	745	47.52
2	Fabrication of Bogie Bolster	516.5	801	55.08
3	Machining of Bogie Frame	505	687	36.04
4	Machining of Bogie Bolster	566.5	838.5	48.01
5	Bogie Assembled	1600.5	2135	33.39
6	Wheel set outturn	1690	2287	35.32

BOGIE ASSEMBLY POSITION 2019-2020															
S.No	MONTH						120 KN AIR SPRING					140 KN AIR SPRING			TOTAL
		LWACCN (C/S)	LWACCW LWACCZ LWACCB LWAFB (C/S)	LWSCN (C/S)	LWLRRM		LWACCN (C/S)	LWACCW (C/S)	LSCZAC LWCBAC LWFAC LWFCWAC (C/S)	LWLRRM		LGS/LS5 LWSCZ LWSCN (C/S)	LDSLRL		NORMAL
					SIDEI (C/S)	SIDEI (C/S)				SIDEI (C/S)	SIDEI (C/S)		SIDEI (C/S)	SIDEI (C/S)	
1	Apr-19	19	6	38	5	5	25	11	10	0	0	29	1	1	150
2	May-19	10	8	24	6.5	6.5	2	7	3	0	0	56	1.5	1.5	126
3	Jun-19	11	4	3	4	4	15	14	7	0	0	59	1	1	123
4	Jul-19	5	1	28	4.5	4.5	40	0	3	0	0	67	0	0	153
5	Aug-19	17	3	59	7.5	7.5	37	0	13	0	0	42	1	1	188
6	Sep-19	9	7	49	7	7	58	0	3	0	0	35	0	0	175
7	Oct-19	29	10	22	6	6	23	0	13	0	0	91	0	0	200
8	Nov-19	13	11	40	6	6	2	0	21	0	0	81	0	0	180
9	Dec-19	10	7	95	6.5	6.5	9	0	5	0	0	111	0	0	250
10	Jan-20	14	14	63	10	10	24	0	3	0	0	110	2	2	252
11	Feb-20	2	5	39	5.5	5.5	35	0	24	0	0	46	3.5	3.5	169
12	Mar-20	0	0	48	4	4	19	0	15	0	0	66	6.5	6.5	169
	<b>TOTAL</b>	<b>139</b>	<b>76</b>	<b>508</b>	<b>72.5</b>	<b>72.5</b>	<b>289</b>	<b>32</b>	<b>120</b>	<b>0</b>	<b>0</b>	<b>793</b>	<b>16.5</b>	<b>16.5</b>	<b>2135</b>

\*All positions are in C/s

#### 4.1.5 Wheel Shop Outturn (in C/sets) over the years

F. Year	Outturn
2015-16	204
2016-17	626
2017-18	829
2018-19	1690
2019-20	2287

#### INNOVATIONS IN WHEEL & BOGIE SHOP IN FY-2019-20

##### 4.1.3 Modification in BFMC I & II for reduction in machining time of bogie frame:

- Objectives
  - Productivity Improvement- 19.4%
  - Cutting Parameter Optimization
  - Cycle Time Reduction – 99 min from existing 8 Hr 30 min to 6 Hr 51 min
- **Component**
  - Bogie Frame, DRG. NO LW03007, LG03001
- **Machines**
  - SNK (GMB-B-M-5X10) (Twin Pallet Multi Axis machine with BT 50 Spindle)
- **Material**
  - Fabricated Steel
- **Existing production**
  - Existing Production volume 50 c/set bogie frame machining per month



##### Methods used for productivity improvement

- Machining process study
- Process balancing
- Tooling study
- Inside milling of control arm bracket is optimized
- Boring of hole in control arm is optimized
- Traction lever machining is optimized
- Programming Changes
- New Program loading in Controller

##### Advantages

- Productivity Increase of 19.4%
- Cycle Time Reduction 99 Min
- Additional Capacity generated 600 Bogies per Year
- Total Saving of Manpower with Tooling cost in a production year ₹ 64,20,051.00

#### 4.1.4 Installation of one additional electro magnetic chuck on the bed of CNC Edge milling Machine:

**Machine name:** CNC EDGE MILLING MACHINE

**Work:** Edge Preparation for welding of Bogie frame and Bogie Bolster components

**Supplied by:** M/S TosKurium, Czech Republic

**D.O.C:** 21/7/2014

**D.O.PTC:** 20/05/2015

**Installed Capacity:** 01 Bogie per shift

**Major parameter:-**

Longitudinal Transverse (X-Axis) 5000mm

Cross Transverse (Y-Axis) 1500mm

Vertical Transverse (Z-Axis) 1000mm

**Why Required:** This machine was installed to Edge milling of the components to fabricate Bogie frame and Bogie Bolster components. At present cumulative outturn of the mentioned below four components is 14.50 c/set per shift/month. If machine run in three shifts, outturn is 43.52 c/set per month. In this way Annual outturn of the machine is 522.24 c/set.

#### CALCULATION FOR TOTAL MACHINING TIME PER COACH SET ON SINGLE PLATFORM OVER EXISTING BED

S.No.	DESCRIPTION	DRG. No.	QPC	TOTAL MACHINING TIME/JOB (min)	TOTAL MACHINING TIME/COACH SET(min)
1	S/ F OUTER WEB	1267408	4	58	232
2	S/F INNER WEB	1267409	4	58	232
3	B/ UPPER WEB	1267440	2	28	56
4	BOLSTER SIDE WEB	1267443	4	38	152
<b>Total time</b>					<b>672 min.</b>

Total time available in one shift=6.5 hrs. (408min) x25 days =162.5hrs (9750 min)

Time required for machining one c/set=672 min.

Total production in one shift/month=9750/672=14.50 c/set,

**Total production in three shift/month=20.56X 3= 43.52 c/set,**

In this way we are able to provide only 43.52 coach/set of machined of these bogie frame and bolster components to bogie fabrication section. But the demand of these machine components has increased rapidly in Bogie fabrication line due to increase outturn target of MCF/RBL. To fulfill this increased demand it is necessary to increase outturn of CNC EDGE MILLING machine.

**How:** - To implement this plan, machine major parameter were checked and found that at present only 60% of the machine bed size is utilizing for machining of the components. Beside this, machine is idle during loading/unloading of the components due to availability of only one magnetic clamping fixture.

It was planned to utilize full length of the machine bed size and save idle time of machine during loading/unloading of the components. Several measurement processes was carried out and found that if we machine two components one by one with two

magnetic clamping fixtures on the existing machine bed, we can increase the production of four components. One set of magnetic fixture has been installed and commissioned on existing machine bed. Subsequently modification in CNC Program of the machine was done and components were machined on dual platform one by one successfully. In this way the full length of the bed size has been utilized and saving valuable idle time during loading /unloading of the components. Beside this an arrangement to fix two Bolster Side web components at single platform at a time in place of one component to save valuable idle time of loading /unloading. Previously only one component was loaded on single platform and production was 10 nos./shift. By this arrangement we are able to load 02 nos. components on single platform and 04 nos. components on dual platform, resulting in Bolster Side web production increased to 16 nos. /shift which is approx. 60% higher than previous arrangement.

#### CALCULATION FOR TOTAL MACHINING TIME PER COACH SET ON DUAL PLATFORM

S.No.	DESCRIPTION	DRG.NO.	QPC	TOTAL MACHINING TIME/JOB (min)	TOTAL MACHINING TIME/COACH SET(min)
1	S/F OUTER WEB	1267408	4	42	168
2	S/F INNER WEB	1267409	4	42	168
3	B/ UPPER WEB	1267440	2	17	34
4	BOLSTER SIDE WEB	1267443	4	26	104
<b>Total time</b>					<b>474 min.</b>

Total time available in one shift= 6.5 hrs. (408min) x25 days =162.5hrs (9750 min)

Time required for machining one c/set= 474 min.

Total production in one shift/month= 9750/474 = 20.56 c/set,

Total production in three shift/month= 20.56X 3= 61.70 c/set,

**Result:** - Comparative chart between single platform and dual platform with four components machined at dual platform.

Type of Bed	Out turn /shift/ month (in c/set)	Out turn in three shift /month (in c/set)	Monthly production increase (in c/set)	Annual production increase (in c/set)
Single Bed	14.50	43.52	<b>18.18</b> c/set/month if we switch to dual bed	<b>218</b> c/set/ year if we switch to dual bed
Dual Bed	20.56	61.70		
% Increase of Production if we shift single bed to dual bed	<b>41.77%</b>			



Single Bed



Dual Bed

**4.1.5 Installation of Integrated solution for High capacity Bogie Assembly Line**

Installed By : M/S Godrej & Boyce Mfg co. Pvt. Ltd  
 Cost : Rs. 9,47,00,000.00  
 Date of installation : 03/08/2019  
 Date of commissioning : 05/11/2019  
 Date of issue of PTC : 21.05.2020  
 Productivity : 9 c/set per day in three shift working basis

Benefit : With this line bogie assembly production capacity has been increased despite space constraint. It will help in achieving the enhance production target of MCF/RBL.

**4.1.6 Installation of footplate for observation of operation on OP-210(Surface Portal Lathe) at Wheel Shop**

At OP-210, the turning of wheel set is carried out. There is no facility to see the operation during machining due to which while turning if insert is broken, it affects the quality of turning of wheel set.

There are two channels working for turning of wheels. Sometimes, only one channel works, hence it increases rework time.

**Solution**

To avoid this one foot plate has been installed at the inspection glass side by which operator is available to see the complete operation on wheel set and it has reduced the rework occurring for the above said reason.

**Design**

Activities undertaken by design office during the year 2019-20 (up-to 31st March, 2020) have been listed in three heads: -

- 1. Various design improvements
- 2. New coach variants
- 3. Other initiatives

**1. Various Design Improvements:**

**1.1 Wheel Shelling and Wheel Breakages**

It has been concluded that one of the reasons for wheel shelling is due to malfunctioning of Disc brake system and with excessive wheel shelling and flat tyre. There are cases of wheel breakages during run which is most dangerous and unsafe situation. The primary cause in

disc brake system has been malfunctioning of WSP and improper hose connections including wrong electrical connections. MCF has already implemented adoption of proper choke size in dump valve and also proper flexible connection with the introduction of metallic joints. Further relocation of junction boxes for individual wheel has also been done to avoid wrong electrical connections.

Further MCF has placed PO on M/s Control Infotech, Bangalore with the scope of work includes design, development, supply, installation and commissioning of Wheel Shelling Prediction System (WSPS) for LHB AC Coaches to find out exact cause of wheel shelling so as to eliminate the problem of wheel shelling in the coaches. Wheel Shelling Prediction System (WSPS) for LHB shall comprise of the following:

- Electronic devices named as “Coach Edge Device (CED)” to collect data from the WSPD and other sensors installed in the LHB coaches, storage of the data and transmission of the data in designated cloud server.
- Software named as “Shelling Analytical Tool (SAT)” for analysing the collected data in real time basis and provide instant insights regarding the shelling status of the target wheels.



▼ 02

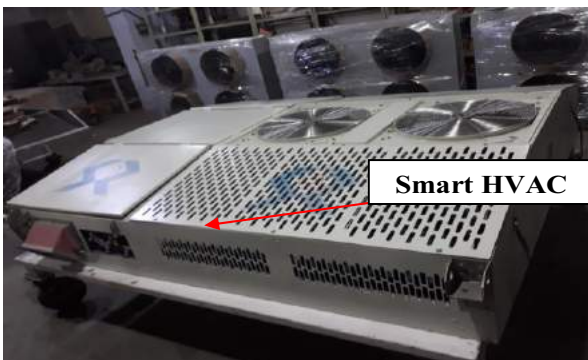
Hold Dump Valve Axle 1 0 2020-05-28 17:31:09 (IST)	Hold Dump Valve Axle 2 0 2020-05-28 17:31:09 (IST)	Hold Dump Valve Axle 3 0 2020-05-28 17:31:09 (IST)	Hold Dump Valve Axle 4 0 2020-05-28 17:31:09 (IST)
Linear Speed Axle1 36.3 km/h 2020-05-28 17:31:09 (IST)	Linear Speed Axle2 36.3 km/h 2020-05-28 17:31:09 (IST)	Linear Speed Axle3 36.3 km/h 2020-05-28 17:31:09 (IST)	Linear Speed Axle4 36.3 km/h 2020-05-28 17:31:09 (IST)
Refrence Speed 36.3 km/h 2020-05-28 17:31:09 (IST)	Vent Dump Valve axle 1 0 2020-05-28 17:31:09 (IST)	Vent Dump Valve axle 2 0 2020-05-28 17:31:09 (IST)	Vent Dump Valve Axle 3 0 2020-05-28 17:31:09 (IST)
Vent Dump Valve Axle 4 0 2020-05-28 17:31:09 (IST)	WSP Auto Test 1 2020-05-28 17:31:09 (IST)	WSPCU Status 1 2020-05-28 17:31:09 (IST)	WSP Manual Test 0 2020-05-28 17:31:09 (IST)



### 1.2 Smart HVAC

MCF in association with RDSO is in a process of developing new generation of Air Conditioning unit for coaches wherein Developmental PO has been placed for 100 coach sets and so far 10 sets has been fitted out of 32 coach sets has been received. The new generation HVAC has following improved features:

- Light-weight Aluminium/ composite body.
- Based on Inverter technology with VFD drive and VFD compressors to meet the just required cooling with energy efficiency.
- Provision of G3/G4 media air filters.
- Master controller to monitor fresh air intake based on CO2 level through sensors & motorised dampers.
- Solid state RH Sensor to control relative humidity
- Provision of smoke sensors with enabling provision for closer of fresh air dampers in case of smoke coming into passenger area.
- Clog filter sensor to monitor the condition of filters. (Predictive maintenance).
- Provision of UV bulbs, one each in return air chambers to kill the bacteria/virus coming in the return air from the passenger compartment.
- Microprocessor controller communication interface (RS 485 connector & USB port) for download on pen-drive/laptop/PICCU through an App software to be developed under LINUX.
- The data so downloaded by the App will generate fault alerts at least in respect of following.
  - Temp and humidity of conditioned space.
  - Duty cycle of compressor and blower per hour.
  - Nos of times of HP & LP tripping.
  - Nos of times of tripping of blowers & compressor motors.
  - Indication alarm for clogged filters



### 1.3 Smart Switch Board Cabinet

MCF in association with RDSO is also making effort to reduce the size of current switch board cabinet which is very bulky and take lot of usable space in the coach. Developmental PO has been placed for 100 coach sets Smart SBC against which 43 nos. has been fitted out of 81 nos. received. The Smart SBC has following improved features:

- Compact in size. (600x1280x1850 mm).
- It will have Master Controller CPU with Accessories. Also, to house coach computing unit (PICCU), RMPU controller.
- GUI TFT display module for display of the electrical parameters and HMI command to CPU through touch screen interface for complete operation & control.
- In case of malfunctioning of the interface, manual override
- Interface with RMPU controller, PICCU, Brake controller, Fire controller etc.
- To display own parameters and generated by RMPU controller, PIS/Destination Board/PICCU/any other futuristic device.
- To display the parameters such as Train No., Date, Time, Coach no., Current, Voltage, Power Energy, Power factor. Duty cycle of compressor, Faults of blower, heater, compressor, condenser, LP/HP of compressor, tripping status of MMR (Phase control relay 750/415 V), Status of Insulation fault relay with alarm, Battery voltage, Battery charging/discharging current, Pump status etc.
- Summary of trip data shall be downloadable and printable.
- Facility to transmit the data to remote centralized location through PICCU or otherwise.
- The software will be capable to be interfaced RMPU controller, PICCU and other third party equipments.
- Compatible with Window/Linux based OS.
- Data communication via RS-485 data bus. It will have minimum 8 RS 485 serial port for communication / interfacing with various device of AC coach.
- It will provide GPS based access to all the data at centralized location and on Mobile applications to be developed by third party.



Smart Switch Board Cabinet

#### 1.4 Technology Mission of Indian Railways (TMIR) at MCF

A memorandum of understanding (MOU) on Technology Mission of Indian Railways (TMIR) was signed by Ministries of Railways, Human Resource Development, and Science and Technology. A pilot project on development and implementation of industry 4.0 Protocols for Rail Coach Design & Manufacturing at MCF/RBL is proposed under TMIR. IIT Kanpur is leading and coordinating the TMIR project. The project has two components: (A) Manufacturing (B) Design. At MCF/RBL Manufacturing Execution System (MES) is responsible for (A) Manufacturing and Design Group is responsible for (B) Design.

This pilot project shall fill the knowledge gaps of MCF designers in the following field: -

1. Digital twinning for product development,
2. Capabilities for validation of smart features,
3. Simulation capabilities for testing noise,
4. Vibration and heat,
5. Virtual reality,
6. Seamless integration of design with resource planning and coach manufacturing.



#### 1.5 Development of an Indigenous On-Board Monitoring & Diagnostic System

- Memorandum of Understanding (MOU) No.RBL-MD54213 signed for the project on “Development of an Indigenous On-Board Monitoring & Diagnostic System” between MCF and IIT KANPUR, finance concurrence by PFA, GM approval obtained and sent to Railway Board for sanction of the proposal.

**Development of an Indigenous On-Board Monitoring & Diagnostic System for a bogie that will include: -**

- **Bearing Condition:** Bearing Condition will be monitored by measuring axle box temperature and vibration of be axle box.
  - **Axle Box Temperature:** With RTD sensors, temperature will be measured in 4 axle boxes of a bogie.
  - **Axle Box Vibration:** With accelerometers, vibration will be measured in 4 axle boxes of a bogie.
- **Wheel Conditioning:** Wheel Condition will be monitored by vibration signal picked from accelerometers placed on the axle box and bogie level. Wheel defects are identified by analysing these vibration signatures.
- **Primary & Secondary Suspension:** Condition of Primary and Secondary Suspension of a bogie is monitored by installing accelerometers before and after the suspension system.
- **Ride Index:** Ride Index will be calculated by monitoring vibration at coach floor level. Accelerometers will be installed in one selected location of the coach floor.
- **Load:** Bogie load will be monitored by strain gauges on the load bearing component of the bogie frame
- **Track Defects:** Track Defects will be monitored based on vibration signals measured from accelerometers installed in Axle box level and Bogie and by comparison of all the wheel signatures.
- **Coupler Effects:**
  - **Coupler force:** Coupler force will be measured by installing strain gauges on the coupler of the leading coach and instrumented coach (coach in which data logger will be kept). Strain measured at eight points (four on each coupler) on the coupler assembly will be used to measure coupler force.
  - **Coupler setup vibration:** Accelerometers installed on the couplers of the leading coach and instrumented coach will be used for measuring coupler vibration and many derived parameters.
- **Other Special Parameters that can be looked at a later stage:**
  - TGI (Track Geometry Index): Based on the various parameters recorded in data logger and with statistical distribution analysis of the recorded data, we can find various track defects like
  - Unevenness (Left & Right Rail),
  - Twists,
  - Curvature/Alignment (Left & Right Rail),
  - Primary Spring Breakages.

#### 1.6 Automatic Fire Suppression system in Power Cars

Arising out of three fire incidents in power cars, MCF has taken initiative to convert existing design of manual suppression system to fire detection and alarm system actuated automatic fire suppression system. The newly developed system was validated in a coach in MCF. MCF has taken action to replace all manual suppression system with automatic suppression system in all the power cars turned out by MCF so far and also adopted it on regular basis. This system will help immediately extinguishing of fire in power cars.



**Automatic Fire Suppression System**

### 1.7 EN 45545 complied Polysulfide Epoxy Resin Coating Lavatory Flooring Material for Indian Railway coaches

Polysulfide Epoxy Resin Coating is intended to prevent the covered surface from corrosion, water & moisture ingress and create a slip resistance, anti-scratch and aesthetically pleasing finish. Polysulfide epoxy resin coating compiles all essential Fire properties mentioned in EN45545 standard. The Polysulfide modified Epoxy resin system is intended to reduce the holding time of the coaches and increase the turn out by fast curing of the system (three components) within 4 hours. Prototype trial for the same has been done in coach fur. No. LWSCN- 1451.



**Polysulfide Epoxy Resin Coating Lavatory Flooring**

### 1.8 S-Trap with Poly Propylene material

S-Trap with Poly Propylene material has been developed. A fitment and trial have been done in coach number LWACCN-1387. Field trial report is awaited and expected to get in August, 2020.

**Salient features are as under:**

- Light in weight in comparison to Cast steel (Approx. 700-gram input weight)
- Cost advantages of 30%.
- The material is recyclable.
- Corrosion free.
- Inert material hence non-reactive to acids and alkali.



**S-Trap with Poly Propylene material**

### 1.9 Design modification of Square tube partition frame to C-Channel partition frame for Lavatory and passenger area

To remove the requirement of specific material & provide alternate options, design modification of Square tube partition frame to C-Channel partition frame for Lavatory and passenger area has been adopted. This design of partition frame can be prepared inhouse. To achieve the same, drawing nos. MMI00164 Alt-Nil to MMI00170 Alt-Nil have been prepared & issued.



**Square tube partition frame**

### 1.10 Direct Part Marking (DPM)

Direct part marking (DPM) is a process to permanently mark parts with Static Product information - part numbers, serial numbers etc.

**The key guiding principle is that any data included for marking must be relevant and must NOT change over the lifetime of the item.**

**This is done to allow:**

- Tracking of parts through the full life cycle.
- Birth to death including MRO activities.
- Requires AIDC technologies at the work place
- As per Railway Board directive implementation of DPM to be done by PUs on all new LHB Coaches.
- MCF has identified 29 parts for getting it marked under DPM.
- Drawings of the identified parts has been modified for providing locations for marking.
- Over a period of 6 months, the markings got distorted due to rust formation.
- The specification for DPM will be issued by CRIS and to be published through RDSO.



**Direct part marking (DPM)**

### 1.11 Radio Frequency Identification (RFID) Tag

- Two tags on each vehicle – diagonally located on the Left hand of the vehicle side as you face it.
- Each Tag shall store (called encode) some data pertaining to that vehicle:  
Current Vehicle Id (EPC Area) – company, owning

railway, type of coach, year, coach serial no., vehicle side etc.

**User Area** – ID history & Maintenance (like dates of POH; IOH/ROH; last mtc; Base Stn; Next Mtc; due date) related information (Vehicle is standing)

- As per Railway Board directive (letter no. 2010/Dev. Cell/IMMI/12, dated 07.05.2020) RFID tags to be fitted in all new LHB Coaches.
- CRIS provided RFID Tags for 507 coaches.
- MCF fitted all these Tags till 23.12.2019.
- Procurement process for fitment of RFID Tags in all coaches being turned out from MCF is going on.
- 07 Vendors were approved by RDSO.



**Radio Frequency Identification (RFID) Tag**

## 2. New Variants of coaches

### I. AC Chair Car (LWSCZAC)

Modern Coach Factory (MCF) has been dispatched its first LHB AC Chair Car Variant (Coach No. CR197791/C) on 30.12.2019

The main features are Granular Gel coated interior paneling with pleasing Colour scheme, Honey comb partition Panels, Improved Colour scheme of seats with capacity of 78 passengers, Modular Toilets with pressurized flushing system, Polycarbonate Luggage Rake, Fire/Smoke Detection and alarm system, Energy Efficient Led lighting, Modified Pantry.



### II. AC Composite Coach (LFCWAC)

MCF has manufactured 1st AC First Cum AC Two Tier composite (LFCWAC) coach no. NCR-201380/C and it was dispatched on 31.01.2020.



The salient features are;

- 2½ cabins of AC First class and 5 cabins of AC 2 Tier,
- seating capacity in First AC as 10 and AC 2 Tier as 28 nos.,
- Automatic fire/smoke detection system,
- Pantry equipment (Hot Case & Deep Freezer etc.):

### III. AC First class (LWFAC)

MCF has manufactured 1st LHB first class AC coach (ECR196093/C) (LWFAC) which was dispatch to ECR on 31.08.2019.



The salient features are:

- Passenger capacity of 24,
- Automatic fire/smoke detection system,
- Pantry equipment,
- Fire extinguisher and waste bin.





#### IV. LHB Second Class Luggage with Guard Van HOG compliant (LSLRD)

Modern Coach Factory (MCF) has dispatched its first Second class cum luggage and brake van LSLRD Coach No. NR193797/C on 31.05.2019.



The main features are:

- Seating capacity for Disable passenger- 06 nos. (to seat) and 02 nos. to sleep,
- Other passenger (to seat) - 31 No.
- 01 No. Lavatory for Disabled passenger,
- Doors (920mm) for disable passenger's,
- Fire & smoke detector system with sensor in all passenger carrying compartment,
- Special destination board -02 nos.



#### V. Power Car with onboard single DA set

Modern Coach Factory (MCF) has manufactured 1st Power car (NR195157/C) with single on-board DA set (Non-AC variant) with compartment for Divyangjan which was dispatched to NR on 08.07.2019.



Two variants i.e. one AC and one Non-AC on board Power Cars were manufactured by MCF with 750 KVA & 500 KVA respectively. It has seating capacity for 6 nos. of disable passenger/attendant. 01 Lavatory for disabled passenger, Doors (920mm) for disable passenger, Fire & smoke detector system with sensor in all passenger carrying compartment, Special destination board -02 nos.

One Non-AC On-board Power car with capacity 500KVA has been manufactured at MCF & dispatched to Zonal Railways and One Shell of AC On-board Power car with capacity 750KVA is at Furnishing stage.

#### VI. Development of Smart Humsafar Rake



- First Smart Rake of Humsafar Coaches was dispatched on 17th Feb-2020 to WCR.

**Rake Details:** 201322, 201330, 201327, 201326, 201328, 201318, 208319, 201334, 201320, 2013, 201323, 201321, 201335, 201324, 201333, 201325, 201331, 201329 (LWACCN), 201338, 2013369 (LWLRRM)

Smart Humsafar Rake has been equipped with Smart Coach features as per MMDTS 18042. The main features in addition to existing features of Humsafar Rakes are as under:

**Passenger interface**

- PICCU- Passenger information coach computing unit
  - PA / PIS (passenger announcement/passenger information system)
  - Digital destination board
  - WI-FI infotainment system
- Security & surveillance monitoring: CCTV, Emergency Talkback

**On Board condition monitoring system**

- Wheel node sensors for monitoring of-bearing health, Wheel health, Track health, Ride Index
- Monitoring of Brake and WSP

**Monitoring of other subsystem**

- HVAC
- Toilet Occupancy Sensor
- Energy Metering Module
- Water Level in water tanks
- Lavatory choked Filter

**3. Other Initiatives**

**I. Aluminium Body Coaches**

DPR for manufacture of 500 Aluminium body coaches per annum at MCF/RBL was sent to Railway Board on dated 02.07.2018 for sanction of Rs.212.02 Cr for additional infrastructure & TOT required for Aluminium car body fabrication at MCF. DPR has been duly vetted by associate finance for detailed estimate of Rs.212.02 Cr. Including cost of TOT of Rs. 150 Cr.

Railway Board vide its letter no. 2018/M(C)/137/2 dated 09.01.2019, has sanctioned Rs. 150 Cr. for the work "TOT for Design, Development, Manufacturing and testing of Aluminium Body passenger coaches" under umbrella work "Up gradation of critical work centre of workshops of Indian Railways" of Plan Head 42.

Accordingly, Tender document and. has been prepared for "TOT for Design, Development (Prototyping), Manufacturing & Testing of Aluminium Body Passenger Coaches at MCF, Raebareli" for BG Loco-hauled coaches (08 nos.) and SG (Standard gauge) Metro coaches (03 nos.) and design for BG Self propelled coaches to enable MCF to manufacture Train sets consisting AC Chair Car, AC Executive Chair Car and AC Chair Car cum Driver/Guard Cabin with design speed potential of 225 KMPH.

Tender was floated on 25.04.2019 for "TOT for Design, Development (Prototyping), Manufacturing & Testing of Aluminium Body Passenger Coaches at MCF, Raebareli" at estimated cost of Rs.135.46 Cr.

Tender opened on 17.05.2019 and LOA has been issued to M/s Dawonsys, Korea through Authorised Indian Representative M/s R.T. Vision on 30.08.2019.

Total contract value = Rs. 128.68 Cr (Rupees One

Hundred Twenty-Eight Crore and Sixty-Eight Lacs Only) inclusive of all taxes, levies, duties, charges such as GST, Custom, freight, insurance etc.

Contract agreement has been signed on 04.10.2019.

The revised layout and general arrangement drawings of SG Metro received from M/s Dawonsys complying all requirements of Kolkata Metro has been sent to Kolkata Metro for their approval. Revised shop layout of size 344 m x 80 m with details like Flow chart, standard timeline of activities, Tools, Jigs & Fixtures and M&Ps has been shared by M/s Dawonsys, Korea and are under study.

**II. Export Orders**

Representatives of Mozambique Railway Mr. M.J. Matabel, Chairman/CFM Board along with its other members visited MCF on 06.03.2019 and inspected the capabilities and facilities at MCF. During inspection the officials of Mozambique Railways were briefed regarding various production activities going on, coach quality and various standards being followed in MCF. The tentative layouts along with technical specifications of various coaches as required by them has been shared to RITES on 27.03.2019 & 25.05.2019.

Further during meeting held between RITES and MCF on 04.01.2020 and 08.01.2020, it was decided to involve only those firms who are credentials and sound experience of executing export projects of Indian Railways in a time bound manner. The specifications (13 Nos.) for initiation of procurement have been shared with RITES for further process. The drawings for various subassemblies for Cape Gauge Bogie, AC first class and power Car cape gauge coach has also been shared with RITES. Further development of component drawings and validation of cape gauge bogie is under progress.

MCF has got order for supply of 90 passenger coaches to Mozambique Railways. The various variants are as under:

1. 1st Class AC 2 Tier – 06 nos.
2. 2nd Class AC 3 Tier – 10 nos.
3. Non-AC 3rd Class (GS) – 20 nos.
4. 2nd Class AC sitting Coach – 12 nos.
5. AC Restaurant Car – 04 nos.
6. Generator Car – 04 nos.
7. Luggage Van – 04 nos.
8. DEMU (sets of 6 Coach i.e. 1 DPC + 4 TC + 1 DTC) – 05 Rakes.

**III. Development of Vendors for EN45545 complied PU Foam Cushion**

Railway Board vide its letter no. 2017/M(C)/142/4 pt IV dated 16.09.2019 has nominated MCF to define physical and performance related properties and for making complete specification for Flexible Load Bearing Polyurethane Foam Cushion conforming to EN 45545 HL3 for passenger Coaches and development of vendors for the same. Accordingly, MCF has completed the vendor approval process and the details of vendors approved as regular sources are M/s Metzeler

SchaumGmbH, Germany & M/s Sheela Foam Ltd.,  
Noida, U.P.



## Planning

### 1 Shell Planning:

- Procurement of 8 variants of shell kits has been done.
- Roof of LWFAC coach has been procured using CRF (Cold Rolled Forming) technology. By using this technology, we can reduce welding joints in roof sheets thus, enhancing the strength.
- Development of Humsafar Vr.3 shell kit with Automatic Sliding Door and corrugating S/W has been initiated.
- Bio-toilet Lavatory in all variant coaches is inbuilt with venturi system which exhale out foul smell accumulated inside the lavatory.
- Manufacturing of new variant of shell coaches like LWFAC, LFCWAC and LSCZAC coach has been started this year.
- Approximately 62 no. of PLs have been reduced due to procurement of shell kits and shell item kits.
- Cost is reduced of shell items of 10 variants (UF kit, SW kit & Roof kit) due to component kit.

### 2 Bogie Planning:

- Costing of FIAT Bogie of LWSCN coaches (both air and coil spring type suspension) with different module such as:- (1) by In-house manufacturing, (2) by trade of Bogie frame and Bolster, (3) manufacturing by Railways employee and (4) manufacturing by contract work. Costing has been done to assess the optimum and economical way for procurement of FIAT Bogie.
- Kitting of Bogie item (by means of similar manufacturing process or fitments in coaches etc) to reduce the number of PL. Total 23 nos. of kit of Bogie item has been prepared and procurement of 15 nos. newly kit has been intimated.
- Planning of MEMU and KMRC (SG) type's coaches.

Non stock Indent preparation of complete Bogie,

Wheel, Axle, EP brake system of TC and DMC type Bogie of MEMU coaches. One non stock indent is prepared for complete rake of Kolkata Metro (SG) coaches.

- Preparation of PPS of MEMU and KMRC (SG) type's coaches. Schedule of technical requirement is prepared to procure genuine and standard material as per requirement/ specification of MEMU and KMRC (SG) type's coaches.

### 3 Furnishing Planning:

- Non stock demands have been prepared for TEJAS and 3PH MEMU.
- Furnishing of new variants like LWSCZAC, LWFAC, LWFCWAC are planned on turnkey basis which help uninterrupted production of coach in 2019-20.

### 4 Process Planning:

- Issuing of monthly production plan for material planning, work contracts and turn key projects.
- Issuing batch wise work order for regular production of coaches as per internal production plan.
- Issuing of special work order for in-house manufacturing of trade failure/critical items.
- Monitoring of variant/rack wise coach manufacturing for dispatch to various division as per defined priority.
- Study, Draft and issue of work instruction of Air spring Coaches Bogie, LWCBAC, LWSCZ LWFAC Coaches Shell & Furnishing.
- Status of Coach Manufacturing Railway v/s out sources Man Power in house Production v/s Trade Supply.
- Revise Packing Instruction.
- Material assists to Zonal .Rly./PU's/Division/Coaching Depots as per requirement.

Name of Work	RSP P.B. No.	Sanction Year	Completed	Remarks/ Balance
Complete assemble FIAT Bogies (376 nos.)	613/19-20, 643/18-19, 732/17-18	2017-18	376 Nos.	Completed.
Complete assemble FIAT Bogies (160 nos.)	714/19-20, 1246/18-19	2018-19	35 Nos.	125 Nos.
Complete assemble FIAT Bogies (408 nos.)	733/19-20, Suppl. Demand of Grant 2018-19	2019-20	64 Nos.	344 Nos.
Wheel sets (500 nos.)	640/19-20, 671/18-19, 38/17-18	2017-18	500 Nos.	Completed
Wheel sets (354 nos.)	710/19-20, 1242/18-19	2018-19	293 Nos.	61 Nos.
Wheel sets (340 nos.)	1219/19-20	2019-20	12 Nos.	328 Nos.
Toilet up gradation (100 Coach)	652/19-20, 683/18-19, 1246/17-18	2017-18	90 Nos.	10 Nos.
Provision of GPS based PAS/PIS (50 AC/Non-AC coaches)	707/19-20, 1239/18-19	2018-19	3 Nos.	47 Nos.

#### 5 Other work by planning department:

- After sanction of augmentation plan of capacity augmentation of 1000 to 2000 from Railway Board, proposal of additional 1542 non gazetted posts sent to Railway Board.
- After getting certification for IRIS, preparation of surveillance audit done in precise manner and first surveillance audit got conducted in planning office successfully.
- Preparation of different Budget Estimates for F.Y. 2019-20 like B.E, R.E. and FME under plan head WMS 7200 for MCF prepared on the basis of departmental/ sectional estimates of MCF, Coach Costing & Earning Estimates revised time to time, estimate of plan head 7100 store suspense under the guidance of finance department/MCF and CPLE.
- Maintenance of Liability Register 2019-20 under Plan Head WMS 7200 done.
- Approx 1800 proposals of different department/ sections of MCF/RBL related to fund certification/ cancellation from WMS disposed off during the year.
- Coach costing of all variants.

#### Quality

##### 1. Furnishing Quality Control:

No. of Coaches inspected	Audit inspection	Bio Tank Testing	RSC Uploaded
1930	190	1930	1502

#### Activities of furnishing quality control:

- Coaches furnished at Furnishing & Finishing shops are inspected at stages of Floor & PVC, Window & Ceiling, Partition & Panelling, Moulding & Door, Plumbing, Lavatory and Seat & Berths with Self Inspection (SIP), Quality Control Inspection (QCI), Cross examination (X-Point) and final inspection for ensuring complete quality of product.
- RSC (Rolling Stock Certificate) prepared and uploaded at MCF website for easy and early availability to concerned Railway.
- 1717 coach details are uploaded in CMM portal.
- Humsafar (80 Coaches) inspected for quality of additional fitting.
- Deendayalu: 282 coaches inspected.

##### 2. Bogie Quality Control:

No. of bogie frame, bogie bolster and components measured on 3 D CMM	QCI. of bogie frame and bogie bolster	Inspection of bogie assembly load testing
662	408	2346

#### Activities of Bogie Quality Control:

- Bogie fabricated at bogie assembly inspected thoroughly in accordance with SIP (self inspection proforma) submitted by production.
- Screws are checked for proper torque and air brake pipe fitting are also checked.
- Bogie final assembly is inspected for load testing.
- After completion of all records & SIP, the complete set of SIP submitted to Quality Centre office for filling in

concern coach file for record.

- Bogie RSC prepared and submitted to furnishing quality for uploading.

### 3. Wheel Quality Control:

S.No.	Nos. of axle measured for seat and roughness values	Nos. of wheel disc measured for bore and roughness values	Nos. of complete wheel set checked in audit inspection	Nos. of CTRB Checked in audit inspection
01	1341	1109	2611	2611

#### Activities of wheel quality control:

- Machining of semi finished axles and wheel discs, pre-fitting of brake discs and complete fitment of machined and bought out components is observed at all stages of integrated wheel and axle assembly line.
- QC has advice to adjust the roughness values of axle seating area during grinding operation and wheel disc bore during boring operation for achieving better interference in pressing operation.
- QC has advice to ensure measurement of complete wheel set for wheel distance, wheel diameter, axle journal seat, wheel disc and brake disc seats on regular audit basis.
- QC has taking special attention for proper fitting of CTRB's with its axial clearance, proper tightening torque of M20X60 mm bolts and application of sealant in back ring of CTRB.
- Proper handling of finished wheel set is also watch by QC during despatch of wheel set for further use.
- QC has also ensuring work of third party inspection by M/s BVI.

### 4. Shell Quality Control:

No. of Assemblies inspected	Audit inspection of Assembly shell components	
2144	Shell- Stage-I	584
	Shell- Stage-III	505
	Roof	98
	Under frame	115
	End Wall	02
	Side Wall	222
	SMS	328
	<b>Total</b>	<b>1854</b>

#### Activities of Shell Quality Control:

- All shell assembly are inspected according to SIP, quality control inspection (QCI), Cross examination (X-Point) and final inspection for ensuring complete quality of product.
- Audit inspections of Shop made and bought out items are carried out.

### 5. Activities of Coach Complaint and Monitoring Cell (CCMC):

Cases of failure reported by Railway	Mechanical	Electrical	Total
Cased received	510	399	909
Case closed with finalization of warranty claim.	544	413	957

### 6. Performance of CCMC:

- Failure within 100 days.

Year	Coach Complaint (within 100 days)	Coach turn out	Coach complaint per 100 coach
2018-19	27	1425	1.89
2019-20	17	1930	0.88

### ii. Customer Complaint index (Mech)

Year	Coach Complaint	Coach turned out	Coach complaint per 100 coach
2018-19	412	2136	19.2
2019-20	510	3355	15.20

#### Activities of CCMC:

- Coach complaint portal at MCF site is checked daily and complaint if any received in portal is put-up for further action.
- Monitoring of warranty claim compliance is done accordingly.

### 7. Coach Mitra:

Junior Scale, Sinor Scale and JAG officers are send to all major coaching depots for first hand observation of our coach quality and to establish good communication with are customers i.e. Zonal Railways. The main advantage of Coach Mitra is direct linkage of coaching depot to concerned Coach Mitra regarding warranty claim, facing problem in coach items fitment, design related issue etc. Coaching depot raise the issue of new modification in coaches, quality of material, maintenance problem of items day to day, safety and passenger amenity items.

### 8. Activities carried by third party:

Inspection of Coaches manufactured by MCF/RBL is being carried out through third party inspection by M/s B.V. (India) Pvt. Ltd as internationally resounded organization.

M/s B.V. (India) Pvt. Ltd. is also engaged for the stage audit inspection of in process assembly and sub assemblies manufactured in-house. Further the inspection of jigs & fixtures for Shell & Bogie assembly is also carried out by M/s B.V. (India) Pvt. Ltd.

### 9. M&C Lab and RI wing:

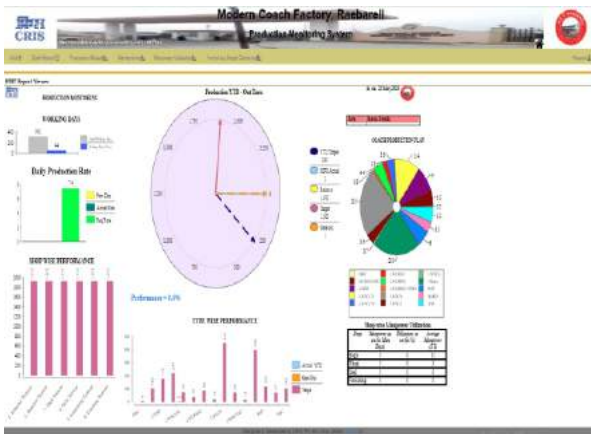
- Testing of 1184 samples received in consignee, audit and prototype done in this year.
- 35 number of NCRs are received from shop floor are scrutinised and conformed.
- 9148 axles are checked by NDT technique –MPI in wheel shop.
- 2133 number of Shells checked by DPT in Shell shop.
- 1930 number of painted shells are inspected and

cleared from initial to final stage with help of outsourced inspectors.

- M&C Lab performed Ultra sonic audit on 139 axles.
- 61 numbers of Bogie Frames/Bolsters checked for Paint quality on Audit basis.
- 388 number of painted coach checked in different stations of Zonal Railways for Paint Quality.
- New M&P procured and installed like Optical Emission Spectrometer, UTM 40 tonne, and Automatic abrasive cutting machine to enhance the efficiency of lab.
- 24 material modifications suggested after detailed study of different type of alternative materials.

### Information Technology

1. Production Planning Dashboard Application: Dashboard Application initially developed for viewing online status of coach production across various shops in MCF has been further enhanced with shop wise production module, Machines Maintenance module and Manpower utilisation or shift management modules.



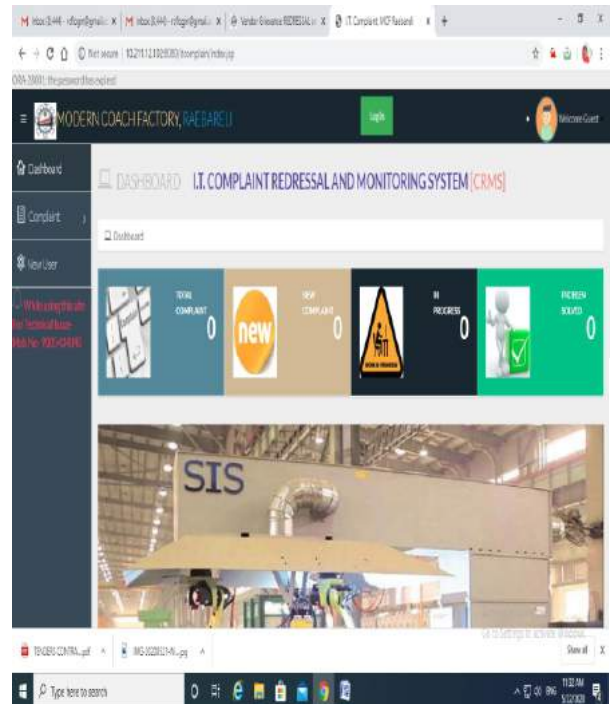
The application helps in monitoring progress and getting productivity results, critical alerts, and reports of all coach variants on different sections/stages. All shop wise production, maintenance and shift related reports are available for daily use.

#### 1.1 Customisation in IPAS, IMMS, WAMS and HRMS applications:

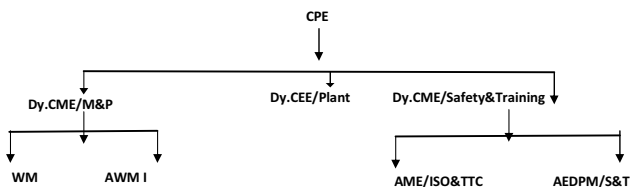
- New module for important production plan for review of access/shortage of material availability is implemented in IMMS application.
- New module for staff quarter's allotment is implemented in IPAS application. All deductions are being done through this module.
- Stock verification module has been implemented and Workshop General Register (WGR) module of WAMS application is under finalisation.
- HRMS application has been updated by porting relevant employees' service records data from DSR application developed in house last year.

2. I.T. Complaint & Monitoring System: A software application has been developed in house for reporting

of Computer Hardware, Software related complaints online by a PC connected on MCF LAN. The utility is available at address link <http://10.211.12.102:8080/itcomplain>.



## Machinery & Plant



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### A. Annual Performance Report of M&P

#### 1. OBJECTIVE OF PLANT DEPARTMENT:

- Maintenance of all CNC, Non-CNC machines, EOT cranes, Hoists, Jib cranes, wire rope, & slings, Traversers, Lifting jacks, Transfer trolleys, Compressors, Blasting machines, Painting machines, Industrial and transport vehicles and various others equipments.
- Maintenance and safety measures of LPG installation, Gas tank, Testing rigs and weigh bridges, automated storage & retrieval system (ASRS) etc.
- To draw and implement periodical preventive maintenance schedules.
- Planning and procurements of maintenance spares (Mechanical & Electrical).
- Calibration of Measuring Instruments of the working

area and traceability to national/ international standards in calibration.

- Maintenance of electronic and electrical equipments of all Machinery & Plant including material Handling equipments.
- Planning and procurement of spares for the electronic and electrical requirement of Machinery & Plant including SRM items.
- Calibration of Electrical & electronic instruments of the working area and traceability to national/international standards in calibration.
- Industrial Safety and to identify safety provisions required on M&P's and to ensure their compliance.
- Repair and maintenance of more than 1000 nos small tools (hand drills, cutter etc)
- Working and deployment of Firefighting equipments and sensitization of staffs.
- To identify instructions for safe working of operations/users/visitors and to display them on equipments and plants prominently.
- Implementation of ISO standards like: ISO 3834:2005, GreenCo, ISO 22163 (IRIS), NABL, 5S etc. and others in Plant area.
- Implementation, operation and providing training of Industry 4.0 in MCF.

#### 2. OVERVIEW OF PLANT DEPARTMENT: STAFF SUMMARY:

Types of staff	Total Number
Senior Supervisor (SSE)	15
Junior Engineer (JE)	13
Sr. Tech	14
Tech-I	24
TECH-II	35
Tech-III	31
Helper	13
<b>Total</b>	<b>145</b>

#### 3. MACHINE SUMMARY:

Types of Machines	Number
1. CNC Machine	75
2. Non CNC Machine	70
3. Crane and sling	166
4. Laboratory installations	28
5. Materials handling Equipments	437
6. Transport Vehicles	150
7. Welding sets	275

#### Total machines 1201

\* Complete Critical machines list attached as Annexure-B

**3.1 SHEET METAL SHOP:** The latest technology machines like Laser Cutting Machine, Laser Cutting & Welding

Machine, CNC Press Brakes, CNC Hydraulic Press, Stretch Bend Forming machine have been provided to manufacture shell components with highest quality and repeatability.



**3.2 FABRICATION SHOP:** The fabrication shop has been provide with four integrated Robotic lines for manufacture of under frame, sidewall, roof and end walls using high quality Fanuc Robots for MIG welding and Spot welding. Also B&C spot welding machine is available for side wall and roof welding using electrode type welding.



**3.3 SHELL SHOP:** Side wall, under frame, roof and end walls are further assembled together on a Robotic cathedral Jig having flexible arrangement to assemble the shell and provide access to robotic arms to complete welding work automatically. Skin tensioning machines have been provided to strengthen the skin and prevent drumming effect.



**3.4 BOGIE SHOP:**

In the Bogie Shop major machines such as Plate Straightening Machine, Under Water Plasma Cutting Machine for cutting of the various plates in profiled shapes, Edge Milling machine, Painting line, Plate Blasting machine etc. have been installed. Plasma cutting machine is provided with angular cutting facility

to reduce machining for edge preparation.

In this shop an automatic bogie frame, bogie bolster manufacturing line with a set of welding robots are working in tandem with automatic guided material movement (AGV), where complete welding of the bogie frame and bogie bolster is done automatically through 8 numbers of the robots. Further, conveyerised bogie blasting and bogie painting line has been set up for efficient painting of the bogie frames and bogie bolsters. For machining of the bogie frame and bogie bolster 6-axis bogie machining centre and bolster machining centre has been provided. The final qualities of the bogie frame and bogie bolster are ensured by checking all the critical dimensions on 3-D Co-ordinate Measuring Machine in a single setting.

**3.5 WHEELSHOP:**

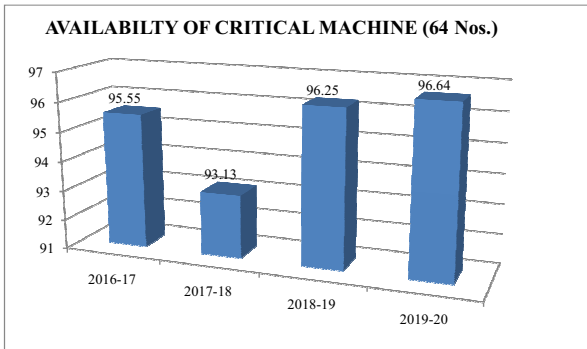
Wheel Line is totally automatic line where various stations work in tandem with synchronized gantry to perform all the machining operations on axle and wheel disc. Ultrasonic and Magnaflux testing, axle washing and auto dimensions measurement for matching the dimensions, pressing of wheel discs and brake discs have been also been provided. Portal wheel lathe and wheel balancing machine are provided for maintain final geometrical dimensions and balanced wheel sets. From this line one wheel set is produced in 18 minutes with minimum human interface.



**3.6 PAINT SHOP:**

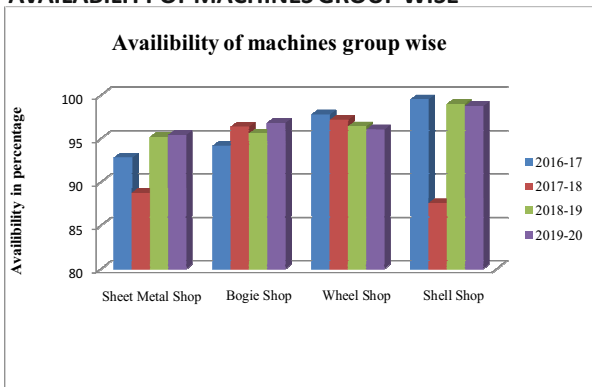
Paint shop has been provided with the semi-automated painting facilities i.e. semi-automatic painting booth with environment control. PU painting is being done with electrostatic guns for airless spray painting and LPG ovens have been installed for drying painted coaches for achieving high level of productivity. For meeting environment and pollution control norms, integrated ETP plant has been provided.

**4. PERFORMANCESUMMARY OF PLANT DEPARTMENT:**



\*Complete Critical machines list attached as Annexure-A

**5. AVAILABILITY OF MACHINES GROUP WISE**



**INNOVATION, IMPROVEMENT & ACHIVEMENT:**

**6. SHEET METALSHOP:**

**6.1 Laser cutting Welding machine-I:**

The Danfoss Make compressor of chiller unit got defective. The AMC firm M/s SIS corporation asked for at least 45-60 days for arranging new compressor which could have hampered the production. So the M&P department got the compressor repaired in-house with little help from local AC service provider and made significant saving in the down time of the machine.



**6.2 Laser cutting Welding machine-I:**

There was a persistant problem of smoke inside operator cabin. So M&P constructed a partition to mitigate the problem and now the smoke problem in the cabin has greatly been reduced significantly

improving working environment.



**7. SHELLSHOP:**

**7.1** In MIG welding stations welding torch cooling pump shaft was frequently breaking nearer to rotor assembly, after thorough investigation, it was observed the root cause of broken shaft was dirty coolant which was not changed for a long time, only top up was being done due to which dust particles were made hindrance of free movement of rotor in its housing causing breakage of shaft just nearer to rotor. This problem has been rectified by draining the coolant every month and now complete coolant is being changed in every three months. By doing so shaft breaking cases of MIG welding stations has been eliminated.



**7.2** Auto drive of End Wall MIG welding machine was burned due short circuited by welding wire, firm engineer arrived MCF for repair of this item and after investigation he told that auto drive would be replaced and its cost would be Rs 3 lacs approx.. After investigation it was observed this failure was occurred due to worn out thread of outer guide assembly holding stud. Another stud was made in MCF tool room shop and replaced defective stud and machine given ready for production, thus by changing this stud MCF has save Rs3 lacs.



7.3 Spot gun of spot welding machine of Side wall line was giving trouble frequently due to sluggish to and fro motion and was getting stopped after some time. After investigation, it was observed that its solenoid valve was not working properly, after dismantling solenoid valve its relock block was found jam due to moisture and this solenoid valve was not working properly. This problem has been rectified by cleaning this solenoid valve in every fortnightly schedule and also operators have been trained to remove the moisture by opening drain cock of FRL unit.



7.4 Laser Curtain sensors have been installed on the Robotic Shell Assembly Jig and Robotic End Wall line to prevent the damage of projected parts of Jig with EOT Crane operation.



## 8. BOGIESHOP:

8.1 Modification in dust chamber of Airless shot blasting machine:

Airless shot blasting machine provided for Shot blasting of bogie fabrication component of the bogie shop was producing dust inside the bogie shop. It was not only harmful to healthy for the staff working in bogie shop and was also harmful to working of precious adjoining CNC machines and Robots. Same has been modified with new exhaust system discharging.



## 9. WHEELSHOP:

M&P supervisors and staff of wheel shop took greater initiative and worked hard in maintaining the machines, increasing their availability and performance. Increased availability of machines has resulted increase in production of wheel set from last year's 1690 coach set to 2287 coach set in FY 2019-20. Various achievements in wheel shop are as follows:

9.1 OP-30 CNC AXLE GRINDING MACHINE BREAK DOWN DUE TO STEADY REST NOT WORKING:



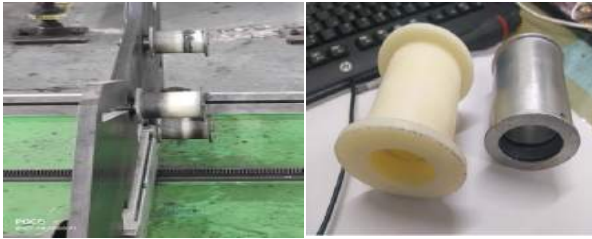
On 03.09.2019 there has been serious damage of axle furnishing lathe machine of the integrated line due to damage of a critical part name Study Rest. This part was not locally available and was required to be imported from Germany having approximate cost of 35 Lacs, damage component was disassembled and then identified the broken part having many levers & connectors. AutoCAD drawing was prepared for these component requiring new profile hiving and was prepared on high accuracy tool room machining centre and the damaged part was ready in 03 days time and the production from wheel assembly line started, in this way not only save Rs. 35 lacs of compound cost but also a month time a production loss which may be intune of 6.4 cr. would have caused due to time required in arranging for the new part.

9.2 OP-10 CNC END FACING MACHINE BREAK DOWN DUE TO WINDOWS NOT STARTING:



CNC End Facing machine was not booting due to windows corrupted and required version of windows XP which was not available in the market. Accordingly M&P took the challenge and corrupted window was corrected by M&P staff using repairing tool management data in set files.

### 9.3 OP-220 CNC DYNAMIC WHEEL BALANCING MACHINE :



D Drive belt of OP-220 was frequently slipping and getting damaged during balancing of wheel sets. Due to this problem on 22.08.19, one roller was broken and alignment of belt was also got disturbed. The problem could not be resolved after replacing with new roller. Finally the design of rollers got modified with provision of high collar and new roller was replaced on 15.11.19. Since then machine is working without any belt slipping.

### 9.4 OP-100 CNC VERTICAL TURNING LATH:



Machine was Frequently Tripping during Auto Operation since 06/11/2019, which was not only causing production loss but rejection of material also, after series of diagnosis, it was found that cable of tool magazine door limit switch was damaged due to hitting of chips and coolant was entering in the limit switch. This problem was rectified by providing protection cover on 06.12.2019 to protect limit switch from coolant ingress and since then no problem of such type was repeated.

### 9.5 OP-220 CNC DYNAMIC WHEEL BALANCING MACHINE:

There was repeated problem of safety door lock OP-220 machine the circuit of door lock was modified by M&P staff and the machine restarted without any problem.



### 9.6 OP -210- MODIFICATION IN OP-210:

On OP 210 Portal wheel lathe, there was frequent problem of dropping of existing Flap type telescopic cover during chip cleaning. To overcome this problem, Flap type telescopic cover was replaced by plate type telescopic cover which is mounted between both the cutting head.



### 10. ADDITIONAL WORK:

- STAINLESS STEEL CUT WIRE BLASTING PLANT successfully commissioned in Paint shop.
- NC Shearing machine successfully commissioned in Sheet metal shop.

### 11. TRANSPORT SHOP:



1. Average percentage availability of Fork Lifters was maintained more than 96% throughout the year.
2. Two nos. of 20 ton capacity Road mobile crane were made operational, which were under breakdown since long time.
3. RRV-II was derailed on date: 10/11/2018 and the front rail guide system got damaged. Required spare parts were arranged from old defective rail guide system and RRV-II made ready within one week. The cost of new front rail guide system is more than Rs. 27 Lakhs.
4. For staff welfare, bus movement to LKO on every Sunday is being made.
5. Periodic schedule maintenance of Road transport vehicles is being done in time to improve availability.

6. Insurance of vehicle, Fitness and pollution certificate are being maintained without fail.
7. Maintenance of Inspection car and E- rickshaw is being carried out at Transport shop.
8. Maintenance of staff canteen has also been assigned to plant and is being maintained to maximum satisfaction of users.
9. Transport shop has been maintained well, with regular cleaning and systematic working even though maintenance works are being carried out with engine oil, grease, diesel etc.

## 12 SPECIAL WORK COMPLETED:

### 12.1 TRANSPORT SHOP:

RRV 2 was derailed during Shunting of coaches on date 31/01/2020 which damaged front rail guide wheel attachment (T-section) holder. After proper fault diagnosis, RRV was made ready on date 02/02/2020 by interchange with old defective rail guide assembly.

- 12.2 RRV-2 was under breakdown on date 11/09/2019. After investigation it was found that fuel pump got defective. It was made ready in house on date 14/09/2019 by interchange fuel pump spares/components with old defective fuel pumps assembly available in transport shop.

## 13 INDUSTRIAL GAS SYSTEM:

- 13.1 Installation of addition 13kl Argon tank and tri gas mixture. Due to increase in production, consumption of di and tri gas mixture increased significantly resulting low pressure in gas line and hampering robotic welding work frequently. To cater this problem an additional argon tank of capacity 13kl was installed in addition to the existing 13kl argon tank. Also, an additional gas mixture of capacity 250m<sup>3</sup>/hr for tri mix was also installed. With installation of additional argon tank and tri gas mixture, now issues of pressure drop in pipeline has been completely eliminated.



## 14 PAINT SHOP:

### 14.1 MAGNETIC RESONATORS AT THE INTAKE OF OVENS IN PAINT SHOP:

Magnetic resonators were installed at the intake of ovens in paint shop. These resonators polarize the contact area between air and fuel molecules which in

turn maximises combustion efficiency. These results in less consumption of fuel which reduces carbon foot print.

## 15 SURVEILLANCE & 3D MAPPING/GIS:

MCF is having latest technology drone & software for GIS mapping, with the help of which security concern as well as progress of project can be regularly monitored. Following are major advantage of it:

- Arial Surveillance
- Surveying
- Law enforcement by RPF
- Mapping -2D as well as 3D
- Monitoring of the project progress
- Live streaming
- High Quality image capture
- Easy Managing geographical area



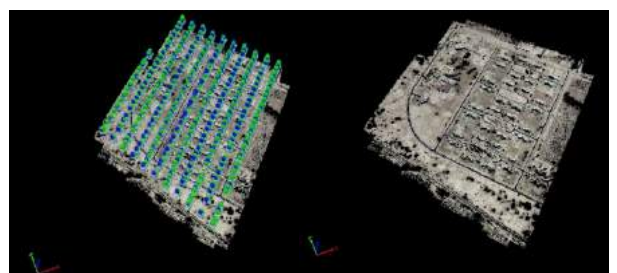
## 16 GIS MAPPING OF SCRAP YARD AND DUMP YARD

GIS mapping of scrap yard and dump yard had been done to calculate the amount of waste and scrap accumulated there. With the help of this map area of the scrap spread had been calculated. The high as well as low density area of scrap and waste had been easily marked. This map helped to calculate the approximate amount of scrap and wasteland finally segregation and disposal of the scrap and waste from scrap yard as well as dump



GIS map of the factory area and dump yard

GIS map of the scrap yard



3D GIS Map of Type -2

**17 VEHICLE MANAGEMENT:**

Vehicle management got transferred to Plant from Civil department and Dy.GM (G). Under this section tendering management and controlling of vehicles are being done with the use of existing staffs. Due to improvement in tender condition and distribution of service between two contractors, a better service is now being provided. Currently approximately 58 vehicles are running.



**18 PRESERVATION OF HERITAGE OF ROLLING STOCK:**

A condemned NG locomotive NDM 5-84 was transported from Kalian (CR), 2 NG coaches SECR 09407 GS and 840RA was transported on truck from Raipur division (SECR). These NG locomotive and both NG coaches were renovated thoroughly and installed in MCF township for public display and preserving rich heritage of Indian Railways.



**19 INDUSTRY 4.0**

MCF has become first factory to adopt Industry 4.0. Industry 4.0 will bring revolution in automation and optimum utilization of the available machines so that optimum production can be achieved.

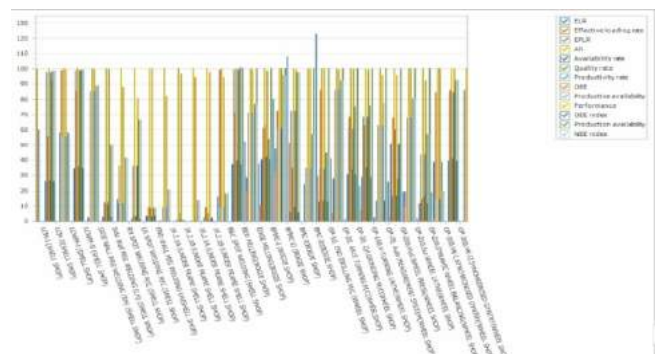
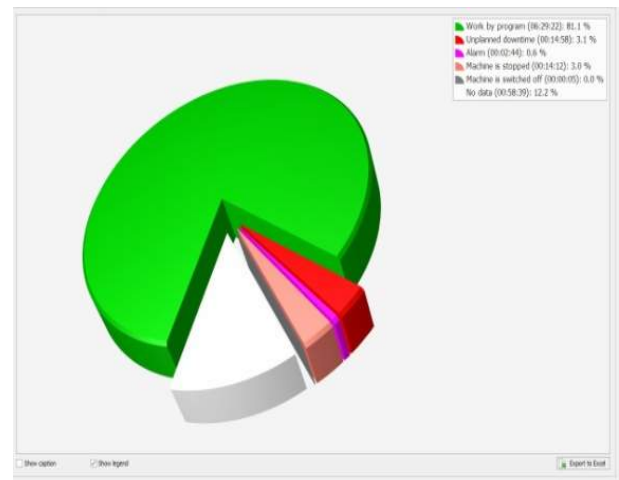
With the help of it, machines working, idle as well as break down time can be monitored. The predictive maintenance can be done with this software to maximize machine availability. Following are the main advantage of using it.

- Reliability and continuous productivity
- Machine safety
- Product lifecycles increases
- Industry value chain
- Workers education and skills
- Less down time of machines
- Optimums utilization of the resources

All the connected machines can be monitored from the server and the report regarding their working and utilization can be generated on various desk top computers and also it can send automated message /SMS/Email to assigned persons.

- In continuation with MCF lead in Industry 4.0 and digital manufacturing, further 20 Machine of Shell & Bogie shops in this year have been connected through industry 4.0. This will enable improvement in productivity and machine availability.
- Total 127 officers & staffs of different Workshop & PU's got training on Industry 4.0 at MCF/RBL.

**19.1 REAL TIME CONNECTED MACHINES**



**KEY PERFORMANCE INDICATOR**

**20 SPARE MANAGEMENT SYSTEM:**

**20.1 Industrial grade bar code based material management system for M&P spare cell:**

For transparent account of M&P spares and its real time availability on mobile/computer of all M&P supervisor, a need was felt to develop an inventory management system. Through this system now tracing of material is being done using barcode which is placed on material when it first arrives in store. This system stores crucial information about an item like date of receipt, date of issue, quantity, cost, associated machine, PL number, quantity, minimum quantity limit, lead time, supplier etc. By implementation of the software inventory management has become hassle free and transparent. Login Id's at all levels have been provided like store supervisor, shop supervisors & officers to enable transparency about availability of spares. This helps in proper planning of procurement of spares.

20.2 Proper identification of spares on rack has been developed to search required spare in minimum time.

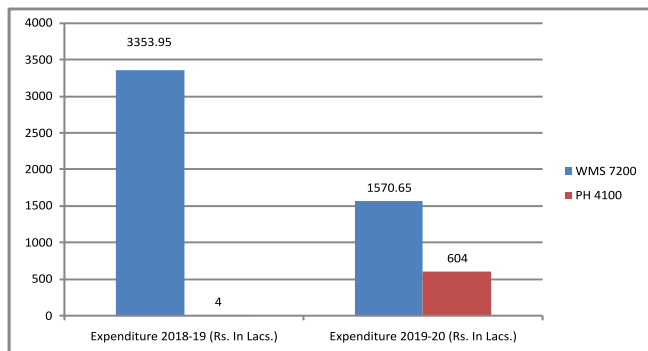
20.3 Google sheet of spares on Google drive has been developed so that shared person can be seen the status of available in spares cell.



Tracking system of storage in spare house

**21 FINANCIAL SUMMARY OF FINANCIAL YEAR:**

S. No.	Budget Sub Head	Allocation Head	Expenditure 2018-19 (Rs. In Lacs)	Expenditure 2019-20 (Rs. In Lacs)
1	Contract	WMS 7200	3353.95	1570.65
2		PH 4100	4.00	604.00
Total			4924.60	608.00



**22 SAFETY AND ENVIRONMENTAL MEASURES TAKEN BY PLANT DEPARTMENT:**

There are various safety measures and environmental measures has been taken by plant department as under :

**22.1 Safety Measures:**

- Proximity sensor on SIS End wall robotic welding line to avoid collision by crane hanging item to machine.
- Counseling and training of staffs for safe working is routine work also being done periodically like refresher courses, technical seminars, and safety courses etc.
- Mock drills are being organized periodically to keep system update and staffs & people alert.
- Emergency rescue plan for LPG installation has been prepared for the first time in MCF and mock drill done.
- A training regarding safely operation of Fork Lifters was conducted by Plant maintenance department on 20.01.2020 and 21.02.2020 in conference hall of TTC. The OEM of Fork Lifters i.e. M/s Godrej gave presentation and provided refresher training to Forklift drivers. Total 125 participants including 07 supervisors get benefited from the training.

**22.2 Environmental Initiatives:**

- Green house awareness program organized to sensitize staff towards environmental issues like global warming etc.
- Cycle day was organized to spread awareness in staff to reduce per capita carbon footprint.
- MCF Raebareli working towards obtaining various certifications related to environmental measures.
- On 17.09.2019 all officers & staffs of Plant Maintenance department assembled in Transport Shop for Shramdaan on cleanliness. All the staff and officers were educated not to use single use plastic and to promote the use of cloth bag. After awareness speech, all the officers and staff did Shramdaan to clean the Transport Shop and adjoining area. The main focus was to collect plastic waste. The plastic waste and other waste were collected in separate bins. During swachhta pakhwada, a pledge was taken by all officers /staffs not to use "single use plastic."



**23 POSITION OF NEW M&P:****23.1 M&P under PH 4100 (Railway Board)****23.1.1 PROCURED THROUGH COFMOW**

(Cost in Lacs Rupees)					
S. No.	M&P Detail	Qty.	PO/Indent no.	Cost (in Rs.)	Remarks
<b>A. For Year 2017-18</b>					
1	Robotic Welding System for Bogie Side Frame & Bolster	01 no.	OP G-706440	349.58	Order placed to M/s Tiesse Robot Italy. GAD approved on 26 -06-19, PDC - July' 2020.
<b>B. For Year 2018-19</b>					
1	Road Mobile Crane (20T)	01 no.	OP-508110, 17.08.2018	142.99	Order placed to M/S TIL Limited, Material received on 02/05/2019. PTC issued on 14-10-2019. 100% payment completed on 04-02-2020.
2	Lifting Jack (20T) (1set: 04 nos.)	02 set	ME78170059, 16.02.2018	69.89	01 set Material collected from Jamalpur and arrived at MC F on 18/07/19. Second delivered on 24 -01-2020. Verified Adjustment memo for 1 set (4 nos.) has been dispatched to JMP on date 26 -02-2020 for payment of Rs. 22, 33,740. Payment done.
3	CNC Robotic Spot Welding Machine	1	G-708240, 05-04-2019	3989.40	PO placed to Bisiach & Carru S.p.A Corro, Italy. Indian Agent - A.J. Machine Tools, New Delhi, DP-30/11/2020.
4	CNC Air Plasma Cutting machine	1	OP-905940, 20.09.2018	295.68	PO placed to Pro-arch, Pune. GAD approved on 27-08-19, to be supplied by Oct'2020.
5	Bogie Load Testing Machine (50T)	1	OP-906270, 11.01.2019	125.22	PO placed to M/s UROMAC Systems - Spain. Indian agent M/s Swastik Overseas, New Delhi -110066. M&P to be supplied by Aug'2020.
6	Rail cum Road Vehicle 600T	1	G-805210, 11.02.2019	537.60	Tender Opened on 11.02.19. Price bid opened on 20.06.19, under final TC preparation.
		<b>Total</b>		<b>5510.36</b>	
<b>C. For Year 2019-20</b>					
1	Laser cutting and Welding Machine	1	---	2256.71	T/ No. G -608340 published on 05 -03-2020 and opening due on 22-06-2020.
2	Fork Lift Cap. 5T	18	---	366.94	Vetted Indent uploaded on COFMOW app on 23 -09-19 and submitted at COFMOW on 03 -10-19. Specification approved by MCF in Dec 2019, Now Specification approved by PCME/ COFMOW.
3	Fork Lift Cap. 10T	4	---	125.42	Vetted Indent submitted at COFMOW on 03 -10-19 with specification for procurement. Specification approved by PCME/ COFMOW.
4	Fork Lift Cap. 3T	8	---	93.26	
		<b>Total</b>		<b>2842.33</b>	

## D. For Year 2020-21

1	Single Station Shell assembly with Robotic Welding system		---	361.47	Specification under preparation
2	Tipper Truck Hydraulic		---	39.26	Specification under preparation
3	EOT Crane, Cap. 20 T		---	106.15	Vetted Indent MCF72036730, dated 12-03-2020 sent to COFMOW on 05-05-2020.
4	EOT Crane, Cap. 15 T		MCF72036630, dated 12-03-20	283.34	Vetted Indent MCF72036630, dated 12-03-2020 sent to COFMOW on 05-05-2020.
5	Electrically operated Screw Jacks Cap-20T		MCF72036730, dated 12-03-20	90.00	Indent under preparation.
6	Bogie Frame Machining Centre		MCF72034820, dated 18.02.20	<b>2440.00</b>	Vetted Indent sent to COFMOW on 11-05-2020.
7	Shower Testing arrangement at Shell shop RBL End.		---	<b>376.32</b>	Letter has been sent to PCE on 17-02-2020 for procurement of shower testing arrangement (Qty. – 04 nos.) through engineering department.
			<b>Total</b>	<b>3696.54</b>	

## 23.1.2 Procured through MCF/RBL:

S. No.	M&P Detail	Qty.	PO/Indent no.	Cost (Rs. in Lacs)	Remarks
1	Fork Lift Truck (5T)	2	09685095.R1895119, Dated 08/12/2018	24.50	Material received and Payment done
2	Fork Lift Truck (10T)	2		40.50	
3	Shower Testing Plant	3 sets	758/CE/MCF/RBL/WS/STP/2018, 27.08.2018	73.84	Work completed and 100% payment done.
4	Electro powered Telescopic Magnetic lifting beam	2	PO placed to Krishna International –Delhi. PO No. 15195216100071	21.24	DP-07-04-2020
5	Tipper Truck (8.5 CUM)	1	---	28.78	Under Technical scrutiny.
6	Stackable Flat Pallets (1800x1200x1200mm)	400	---	61.38	PO placed to M/s Saraswati Engineering Private Limited-Kanpur.
7	Flat Pallets (2500x1300mm)	400	---	105.99	Vetted Indent to be sent to Store Deptt. Tender opening due on 07-11-19. Received for TS on 20-11-19. TS done and sent to account on 26-12-19.
8	Multi Station Machine	1	PO. No.-15195217100184	53.10	PO placed to M/s HMI Enterprises - Raebareli.

## 23.2 POSITION OF M&amp;P UNDER PH 4100 (GM LUMP SUM)

S. No.	Approved M&P	Qty	Consignee	Sanction Year	PO Cost (Rs. In Lacs rupee)	Delivery	Bill/ Payment	Payment date	Remarks
<b>A. For Year 2018-19</b>									
1	Plastic Reverse Vending machine	2	Dy. CME/CO-ORD.	2018-19	14.51	19/01/18	11.61	30-03-19	Material Received
2	Electrolyte Analyser	1	CMO	2018-19	1.12	Delivered on 31/12/18	1.12	May'2019	Material Received
3	HBA1C Analyser	1	CMO	2018-19	15.05	Delivered	15.05	23-08-19	Material Received
4	Bogie Frame Manipulator	1	CME/P	2018-19	29.00	DP-17/04/2019	---	---	Material Received
5	Bolster Manipulator for full welding	2	CME/P	2018-19	4.98	DP-17/04/2019	11.55	16-10-19	Material Received
6	Side Frame Manipulator	8	CME/P	2018-19	12.98	DP-17/04/2019			Material Received
7	Virtual welding simulator	1	CPE	2018-19	33.63	03-04-19	68.95	08-05-19	Material Received
8	Intelligent Monitor MIG/MAG welding Machine	1	CPE	2018-19	12.98	26-03-19			
9	Battery operated ARC welding Machine	1	CPE	2018-19	4.13	26-03-19			
10	TIG (AC/DC) Welding Machine with digital programmable	1	CPE	2018-19	5.90	26-03-19			
11	Teach ware set (Welding set)	1	CPE	2018-19	3.54	26-03-19			
12	Portable ARC Welding Machine	1	CPE	2018-19	1.06	06-04-19			
13	Fume Extraction system	4	CPE	2018-19	16.00	06-04-19			
14	Submerged welding machine	1	CPE	2018-19	6.75	06-04-19	25.00	20-12-19	Material Received
15	Plasma cutting Machine	1	CPE	2018-19	2.20	06-04-19			
16	Trainer welding demonstration stand with fume extraction system	1	CPE	2018-19	25.00	13-05-19	25.00	20-12-19	Material Received

17	Universal testing Machine	1	CPE	2018-19	3.00	15-07-19	5.50	20-12-19	Material Received
18	Metallurgical Microscope	1	CPE	2018-19	2.50	15-07-19			Material Received
19	Panel Saw Machine	1	CME/P	2018-19	6.37	04-05-19	5.11	27-08-19	Material Received
20	Circular saw machine	1	CME/P	2018-19	3.24	04-06-19	3.12	27-08-19	Material Received
21	Pillar Mounted Jib Crane with Electrical Hoist (1 Ton)	2	CME/P	2018-19	19.94	---	---	---	TS done & sent to store on 27/06/19. Retender to be done.
22	Multi Station Machine (Drilling, Cutting, shearing etc.)	1	CME/P	2018-19	22.07	21-09-19	15.59	18-10-19	Material Received. 80% payment done.
23	Hydraulic Lift	2	CME/P	2018-19	23.68	27-09-19	17.97	30-10-19	Material Received. 80% payment done.
24	Ultra Sound Machine	1	CMO	2018-19	28.00	---	---	---	With Hospital /MCF since 08/05/19 for TS.
25	Portable welding Machine	2	PCE	2018-19	0.76	26-12-19	0.76	29-04-2020	Material Received
26	Supply of Humanoid Robot (Technical interaction & services)	1 set	Dy. CME/CO-ORD.	2018-19	6.51	15-11-19	6.51	07-01-2020	Material Received
27	Computerized universal testing Machine (UTM), capacity 40 T	1	Dy. CCMT	2018-19	25.96	19-11-19	20.65	03-01-2020	Material Received. 80% payment done.
28	Tractor shunter	1	Dy. CME/FP	2018-19	10.89	10-01-2020	10.89	25-04-2020	Material Received
29	Door Frame Metal Detector	2	RPF	2018-19	1.35	07-06-19	1.35	Aug'19	Material received.
30	Hand Held Metal Detector	15	RPF	2018-19	0.43	10-06-19	0.43	Aug'19	Material received.
31	Micro Polisher	1	CPE	2018-19	1.52	31-08-19	1.49	11-01-020	Material Received
32	X-Ray Bag Scanner Machine	1	RPF	2018-19	12.74	21-08-19	12.74	18-11-019	Material Received
							<b>252.38</b>		

## ANNEXURE- A

MODERN COACH FACTORY, RAEBARELI				
YEARLY BREAKDOWN AVAILABILITY %AGE OF CRITICAL MACHINES				
Sr. No.	Equipment No.	Equipment Description	Shop	% Age Availability
1	13100002	CNC FOLDING MACHINE - II	SMS	99.20
2	10100001	CNC HYDRAULIC PRESS BRAKE 120-Ton-I	SMS	97.60
3	41800004	AUTOMATIC STORAGE AND RETRIAVLE SYSTEM	SMS	100.00
4	13100001	CNC FOLDING MACHINE- I	SMS	99.05
5	11020002	CNC LASER CUTTING & WELDING MACHINE - II (SIS KOREA) (3-AXIS)	SMS	90.41
6	11020001	CNC LASER CUTTING & WELDING MACHINE-I (SIS KOREA) (3-AXIS)	SMS	87.15
7	11010002	CNC LASER CUTTING MACHINE -II (SIS KOREA) (3-AXIS)	SMS	97.41
8	11010001	CNC LASER CUTTING MACHINE - I (SIS KOREA) (3-AXIS)	SMS	76.28
9	10950001	CNC SHEAR CENTRE HNC 4113 , BAYKAL	SMS	94.50
10	10910001	FOUR COLUMN HYDRAULIC PRESS 800 -Ton-I	SMS	98.20
11	10500001	STRETCH BENDING & FORMING MACHINE	SMS	92.35
12	10200001	CNC HYDRAULIC PRESS BRAKE 800-Ton (5-AXIS)	SMS	97.30
13	10170002	CNC HYDRAULIC PRESS BRAKE 440-Ton-II (5-AXIS)	SMS	99.25
14	10170001	CNC HYDRAULIC PRESS BRAKE 440-Ton-I (5-AXIS)	SMS	98.30
15	10100002	CNC HYDRAULIC PRESS BRAKE 120-Ton -II (5-AXIS)	SMS	99.45
16	10150001	CNC HYDRAULIC PRESS BRAKE 160-Ton (5-AXIS)	SMS	99.60
17	10910002	FOUR COLUMN HYDRAULIC PRESS 800 -Ton-II	SMS	96.37
18	12100001	SIDE WALL ROBOTIC SPOT WELDING MACHINE -I (RH)	SIDE WALL	98.04
19	12800001	CNC ROBOTIC SPOT WELDING MACHINE	SIDE WALL	96.21
20	12130002	END WALL ROBOTIC MIG WELDING MACHINE -II	SIDE WALL	95.51
21	12130001	END WALL ROBOTIC MIG WELDING MACHINE -I	SIDE WALL	100.00
22	12120002	CARLINE ARCH ROBOTIC MIG WELDING MACHINE-II (LH)	SIDE WALL	100.00
23	12120001	CARLINE ARCH ROBOTIC MIG WELDING MACHINE-I (RH)	SIDE WALL	100.00
24	12110002	ROOF BEARER ROBOTIC MIG WELDING MACHINE -II (LH)	SIDE WALL	100.00
25	12090001	SIDE WALL ROBOTIC MIG WELDING MACHINE -I (RH)	SIDE WALL	99.41
26	12100002	SIDE WALL ROBOTIC SPOT WELDIN G MACHINE-II (LH)	SIDE WALL	98.14
27	12090002	SIDE WALL ROBOTIC MIG WELDING MACHINE -II (LH)	SIDE WALL	99.07
28	12110001	ROOF BEARER ROBOTIC MIG WELDING MACHINE -I (RH)	SIDE WALL	100.00
29	17040001	CNC VERTICAL TURNING LATHE MACHINE (OP -100)	WHEEL SHOP	92.21
30	17010001	CNC END DRILLING, COUNTER SINKING,TAPPING & RE - CENTERING M/c (SM-2)(OP-10)	WHEEL SHOP	97.37
31	17020001	CNC AXLE TURNING MACHINE ( TCN-16-2T ), (OP-20)	WHEEL SHOP	96.22
32	17050001	ELECTROMAGNETIC CRACK DETECTOR ( OP -50 )	WHEEL SHOP	96.01
33	17060001	ULTRASONIC FLAW DETECTOR LATERAL & LONGITUDINAL ( OP-40 )	WHEEL SHOP	100.00
34	17070001	AUTOMATED MEASUREMENT SYSTEM, (OP -70)	WHEEL SHOP	98.01
35	17080001	CNC HYDRAULIC WHEEL PRESS (RP 3000 2PP) (OP-200)	WHEEL SHOP	98.24
36	17090001	CNC SURFACE WHEEL LATHE MACHINE ( DPL -2600-CNC ),(OP-	WHEEL SHOP	95.16

37	17100001	DYNAMIC WHEEL BALANCING MACHINE (OP-220)	WHEEL SHOP	94.13
38	17120001	SYNCHRONISED & AUTOMATED WHEEL HANDLING & CONVEYING SYSTEM, VK-I (OP-300)	WHEEL SHOP	96.57
39	17130001	SYNCHRONISED & AUTOMATED AXLE HANDLING & CONVEYING SYSTEM, VK-II (OP-300)	WHEEL SHOP	96.32
40	17140001	WASHING MACHINE (OP-60)	WHEEL SHOP	97.49
41	17030001	CNC CYLINDRICAL GRINDING MACHINE ( HG-72 3000 S ), (OP-30) *	WHEEL SHOP	95.07
42	14600001	CNC BOGIE FRAME MACHINING CENTER - I	BOGIE SHOP	81.47
43	44010001	SHOT BLASTING & PAINTING SYSTEM (BOGIE FRAME & BOGIE BOLSTER)	BOGIE SHOP	94.21
44	14800002	3-D Co-ORDINATE MEASURING MACHINE -II	BOGIE SHOP	99.40
45	14700002	CNC BOLSTER MACHINING CENTRE-II FUWQ 125 OR/8	BOGIE SHOP	98.60
46	14600002	CNC BOGIE FRAME MACHINING CENTER - II	BOGIE SHOP	98.55
47	14000002	CNC (UNDER WATER) PLASMA PROFILE CUTTING MACHINE -II (ITALY)	BOGIE SHOP	92.58
48	14000001	CNC (UNDER WATER) PLASMA PROFILE CUTTING MACHINE -I (ITALY)	BOGIE SHOP	87.11
49	13050001	CNC EDGE MILLING MACHINE (TOS KURIM)	BOGIE SHOP	97.20
50	13000001	CNC BED MILLING MACHINE FUQ150 VR/A5 (TOS KURIM)	BOGIE SHOP	85.24
51	10180001	CNC HYDRAULIC PRESS BRAKE 700-Ton	BOGIE SHOP	99.30
52	14100001	CNC OXY-ACELYLENE GAS CUTTING MACHINE	BOGIE SHOP	96.40
53	14700001	CNC BOLSTER MACHINING CENTRE-I FUWQ 125 OR/8	BOGIE SHOP	97.5
54	44040002	PAINT BOOTH WITH MOVABLE GANTRY, SCISSOR LIFT PLATFORM, RECIPROCATION FOR PAINT Etc.	PAINT	99.15
55	44070001	EFFLUENT TREATMENT PLANT & DE-SLUDGE SYSTEM (SLUDGE PIT)	PAINT	100.00
56	44060002	DRYING OVEN WITH HOT AIR FAN,BURNER CHAMBER,OVEN ENCLOSURE, LPG BURNER/FLOW METER/LEAK DETECTOR etc.	PAINT	99.45
57	44060001	DRYING OVEN WITH HOT AIR FAN,BURNER CHAMBER,OVEN ENCLOSURE, LPG BURNER/FLOW METER/LEAK DETECTOR Etc.	PAINT	99.30
58	44050001	AIR SUPPLY UNIT WITH AIR SUPPLY FAN, LOUVERS, BAG FILTERS, WIRE MESH BIRD SCREEN Etc.	PAINT	100.00
59	44040001	PAINT BOOTH WITH MOVABLE GANTRY, SCISSOR LIFT PLATFORM, RECIPROCATION FOR PAINT Etc.	PAINT	100.00
60	44050002	AIR SUPPLY UNIT WITH AIR SUPPLY FAN,LOUVERS,BAG FILTERS,WIRE MESH BIRD SCREEN Etc.	PAINT	100.00
61	12910001	CNC VERTICAL SPINDLE MOULDER MACHINE (BMW-C5111AE)	CARP	99.60
62	41800002	AUTOMATIC STORAGE AND RETRIAVLE SYSTEM	FURN. STORE-I (Main)	100.00
63	41800003	AUTOMATIC STORAGE AND RETRIAVLE SYSTEM	FURN. STORE-II (Main)	100.00
64	41800001	AUTOMATIC STORAGE AND RETRIAVLE SYSTEM	SHELL STORE (Main)	98.22

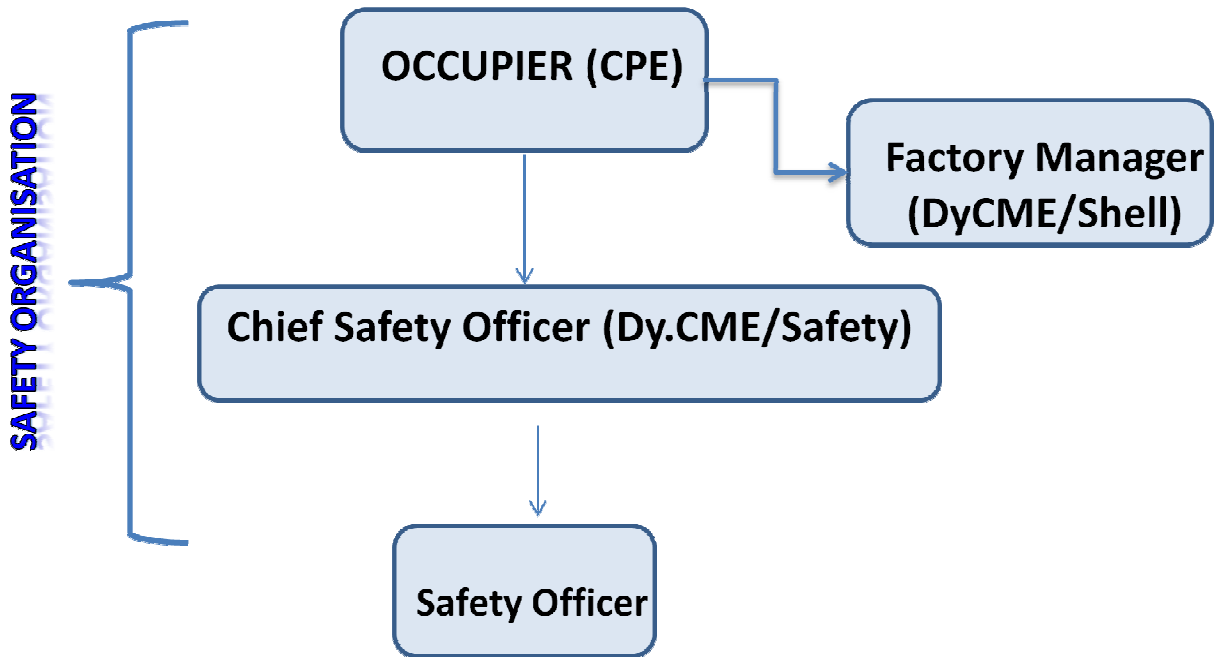
Average % Availability is 96.64 %

B. Annual Performance Report & Safety



SAFETY CELL  
MODERN COACH FACTORY  
RAEBARELI, 229120

24 SAFETY ORGANIZATION



**25 BRIEF INTRODUCTION OF SAFETY CELL**

S.No.	Item	Details		
1	<b>General</b>			
	(a) Name of the Section	Safety Cell, Modern Coach Factory, Lalganj, Raebareli		
	(b) Address of Safety Cell	Mini Admin Building, Modern Coach Factory, Lalganj, Raebareli, Uttar Pradesh-229120		
	(c) Address of Fire Station	Fire Station , Factory premises, Modern Coach Factory, Lalganj, Raebareli, Uttar Pradesh-229120		
	(d) Telephone numbers of Safety Cell	Railway :- 62457	DOT/MTNL(with STD code)-Nil	Fax-Nil
	(e) Telephone number of Fire Station	Railway :- 101, 102	DOT/MTNL(with STD code)-0535-2704278	Fax-Nil
	(f) Name of Occupier	Shri Anil Kumar Singh, CPE/MCF		
2	Details of the In-charge			
	(i) Name	Shri B. K. Kapur		
	(ii) Designation	Dy.CME/Safety		
	(iii) Mobile Number	07318060428, 9650837342		
	(iv) Email address	Bkkapur5@gmail.com		
	(v) Date (dd/mm/yyyy) of posting in safety cell	16-05-2020.		
	(vi) Scale of Pay and Level	71,200/- & L-12		

**26 OBJECTIVE OF SAFETY CELL**

- To Advise and assist the MCF/RBL administration in the fulfillment of statutory obligation or otherwise concerning prevention of personal injuries and to maintain a safe working environment.
- Compliance of statutory (safety) obligation related to The Factories Act 1948 & The U.P. Factories Rules 1950.
- Counselling to inculcate safety awareness among railway employees & contractor staffs.
- To design and conduct Shop floor and class room safety training programmes for the prevention of personal injuries at MCF/RBL.
- Statutory testing examination & certification of lifting Machine, Chains, Ropes & lifting tackles, pressure vessel.
- To organize, campaigns, competition, contests and other activities to inculcate safety awareness among workers in the organization.
- To carry out safety inspection of regular working like various shops and stores depots in order to observe the physical conditions of work and the work practice procedures followed by the workers and to render advice on measures to be adopted for reducing the unsafe physical conditions and preventing unsafe actions by workers.
- To investigate fatal and serious accidents, industrial disease and dangerous occurrences reportable under Rules 110 & 112 of the U.P. Factories Rules 1950.
- Fire fighting operation inside/outside of factory premises. Maintenance (breakdown & Preventive) of Fire hydrant & Fire alarm system, Fire tenders, Fire Extinguishers.

**27 INFRASTRUCTURE OF SAFETY CELL**

<b>A) INFRASTRUCTURE</b>	
(i) Total length of Fire Hydrant pipe line (in meters)	22,000 (approx)
(ii) Total no. of Fire pump house.	3 Nos.
(iii) Total no. of Hydrant Point	276 Nos.
(iv) Total no. of Fire Fighting Personal.	18+03 Relievers
(v) Total no. of Fire Extinguishers	1273 Nos.
(vi) Total no. of Fire Tender	3 Nos.
(vii) Total no. of Fire trolley pump.	1 No.
(viii) Total no. of Fire Alarm panels	2 Nos.

(ix) Total no. of addressable manual call points	142 Nos.
(X) Total no. of loop powered addressable base mounted sounder	66 Nos.
(XI) Total no. of Optical beam smoke detector.	70 Nos.
(xii) Total no. of Breathing Apparatus	4 No.
(xiii) Total no. of Portable water pump.	1 No.
(xiv) Total no. of Parameter of Hydraulic Spreading Cutter.	1 No.
(xv) Total no. of Hydraulic pump.	1 No.
<b>B)Medical facilities</b>	
i)Name of medical centre:	Railway Hospital, MCF/RBL
ii) Whether in Campus?	Yes
iii) Emergency Telephone No.	0535-2704290
iv) Ambulance No. Hospital (Township) (Mini Admin)	8917700809 62102, 8917700807

<b>C) Maintenance of Fire Fighting Equipments.</b>	
a) Fire Tenders	Outsourced
b) Fire Extinguisher	Outsourced
c) Fire Hydrant & Alarm System	Outsourced
d) Fire Fighting Personal	Outsourced
<b>a. Details of Maintenance arrangements for Fire Tenders</b>	
i) Name of the contractor	M/s. Shivam Enterprises, Rudra Nagar Colony, Pahari Gate DLW, Varanasi-221108.
ii) Scope of work	Non-comprehensive AMC of Fire Fighting Equipments mounted on 04 Nos. of Fire Fighting Vehicles for 3 years.
iii) Contract value	Rs. 6,16,818.00
iv) Duration of Contract	36 Months.
<b>b. Details of Maintenance arrangements for Fire Extinguishers</b>	
i) Name of the contractor	M/s. A. M. Trade Linkers, 538/KA/586/1 Triveni Nagar III, Sitapur Road, Lucknow-226020.
ii) Scope of work	AMC of Fire Extinguishers at MCF/RBL for 3 years.
iii) Contract value	Rs. 9,36,479.00
iv) Duration of Contract	36 Months.
<b>c. Details of Maintenance arrangements for Fire Hydrant &amp; Alarm System</b>	
i) Name of the contractor	M/s. Thermo system Pvt. Ltd, B-134, 2 <sup>nd</sup> Floor, Sector -2, Noida, Gautam Budha Nagar, Uttar Pradesh -201301
ii) Scope of work	Comprehensive Annual Maintenance Contract (CAMC) including spare parts for Fire Hydrant Pipelines and Fire Alarm System for 5 years.
iii) Contract value	Rs. 14,28,219.00
iv) Duration of Contract	60 Months.
<b>d. Details of Maintenance arrangements for Fire Fighting Personal</b>	
i) Name of the contractor	M/s. Ravi Firetech Safety Engineers (P) Ltd. Flat No. GI, Navya Krishna Homes, HDFC Bank Building, Road No. 1, R. K. Puram, I.T. Colony, Hyderabad – 500035.
ii) Scope of work	Service Contract for Fire Fighting Personnel at MCF/RBL for 2 years.
iii) Contract value	Rs. 1,15,87,547.76
iv) Duration of Contract	24 months.

**28 STEPS TAKEN TO IMPROVE SAFETY IN MCF/RBL**

- ❖ Night inspections have been commenced by the plant and safety officers to ensure safe working by Railway & Contractor employee.
- ❖ Safety poster and signage have been displayed in all shops to create awareness about safety at work place.
- ❖ Counseling and firefighting training have been more frequently involving Railway and Contractor employee in order to familiarize the employee with firefighting equipments.
- ❖ Lectures on the safety related issues are being frequently organized by TTC.
- ❖ Safety seminar was organized by MCF in association with M/s ASKA Equipments Ltd & M/s 3M India Ltd during National Safety Week – 2020.
- ❖ Safety committee meeting are being held quarterly, as per Factory Act-1948, to discuss on safety related issues last safety meeting was held on 25.02.2020.
- ❖ Fire audit was done on 16th & 17th Dec-2019 by BBC Tech Associates, Lucknow of entire factory area.
- ❖ Daily safety inspection has been conducted by the safety cell.
- ❖ Fire mock drill conducted on 19.10.2019 at 13:00 hrs, 25.12.2019 at 01:40 Hrs. and Ambulance mock drill conducted on 09.11.2019 at 11:00 hrs.

**29 SPECIAL WORK AND SYSTEM IMPROVEMENT TO ENSURE SAFETY:**

- ❖ Provision of speed breaker & speed restriction to avoid road accident.
- ❖ Safety due to more visibility and lesser speed.

**30 STATUTORY CLEARANCE****FACTORY AREA**

Description	Area	Frequency	Status
Functionality Certificate of fire fighting system	Factory	Annual	Valid up to 20.04.2020
Factory License	Factory	Annual	Valid up to 31.12.2029
LPG Storage Licence	Factory	5 Yrs.	Valid up to 30.09.2021
Air Consent	Factory	5 Yrs.	Valid up to 31.12.2022
Water Consent	Factory	5 Yrs.	Valid up to 31.12.2021
Authorization under the provision of Hazardous and Other Wastes	Factory	5 Yrs.	Valid up to 28.02.2024
Public Liability Insurance Act 1991	Factory	Annual	Valid up to 17.07.2020.
Statutory testing of Lifting machines, Equipments, Pressure vessels & Factory Act 1948, The UP Factory Rules, 1950	Factory	Half yearly/ Annual	Valid up to 02.02.2025
Environment Monitoring for 3 yrs. at MCF/RBL	Factory	3 Yrs.	In forced up to 14.12.2021

## 31 SAFETY SETUP

➤ **Fire Fighting:**

- **In charge: SSE/Safety**
- **1<sup>st</sup> Response: Fire Extinguishers, fire bucket, Fire Hydrants**
- **Fire Tender**

➤ **Fire Prevention:**

- **Audits / Inspection, Training, Mock Drill**

**Disaster Management Plan:**

- ❖ Formulated & Issued: Emergency Preparedness Plan and Response for LPG installation, HSD oil storage, Argon and Nitrogen storage and electrical installation.
- ❖ RPF Emergency Control Room (at Gate no. 2)

## 31.1 MCF/RBL FIRE TENDER

**Details**

Multipurpose  
 Tank Capacity:  
 Water: 4500 Litre.  
 Foam: 800 Litre  
 Pump Capacity: 3200  
 Ltr/min

**Details**

Water Browser  
 Tank Capacity:  
 12000 Litre  
 Pump Capacity:  
 2200 Ltr/min

**Details:-**

Water Mist  
 Tank Capacity: 1000

**Details**

Trolley Pump  
 Pump Capacity:  
 1600 Ltr/Min

**32 MAJOR WORK TAKEN BY SAFETY CELL**



Proximity sensor on EOT cranes



FLT with flasher light

**32.1 TRAINING OF WORKERS ON SAFETY AWARENESS & USE OF PPE.**



**32.2 SAFETY GUIDELINES FOR VISITORS:**

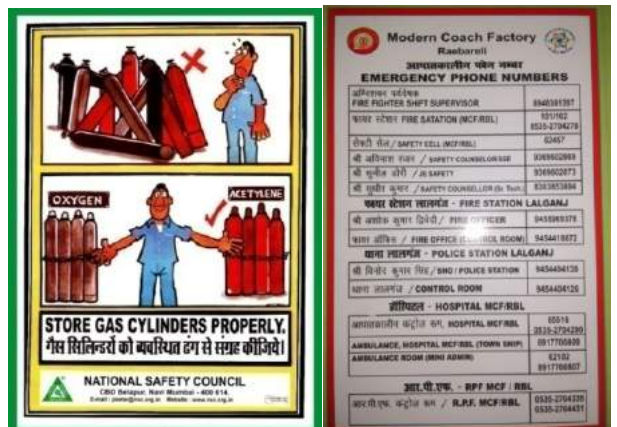
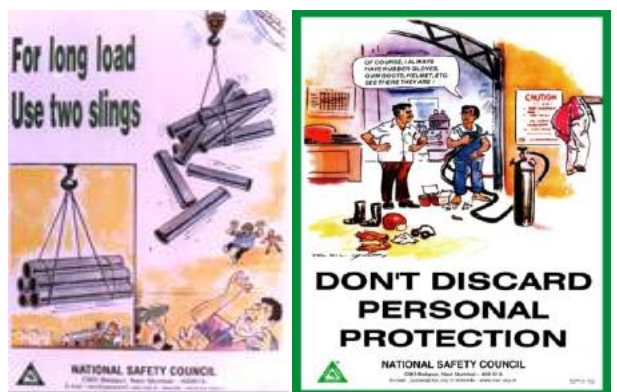
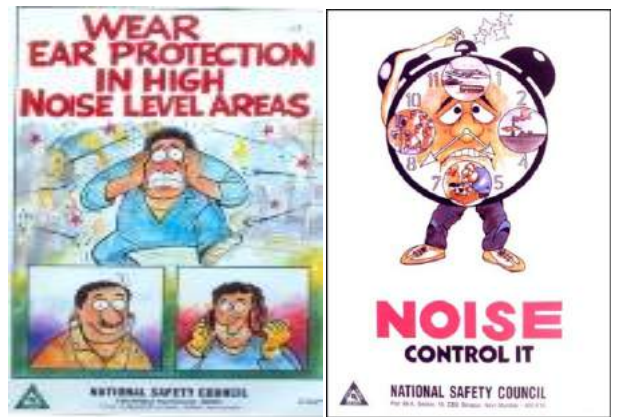
- All visitors are guided by TTC for necessary gate pass to be issued by TTC.
- Visitors are provided safety guide lines and instructed to carefully follow safety guidelines during visit.
- Visitors shall also be provided Personal Protective equipments and visitors lapel card which has to be borne by the visitors during their entire visit.

**32.3 EXTENTION OF FIRE HYDRANT LINE IN ZERO VALUE SCRAPE YARD OF MCF/RBL**

**32.4 EXTENTION OF FIRE HYDRANT LINE IN PAINT SHOP OF MCF/RBL**



**32.5 SAFETY BANNERS/BOARD**



32.6 National Safety Week: Celebrated on 04-10 March 2020

- Published 2nd Safety bulletin-2020.
- National Safety Week – 2020



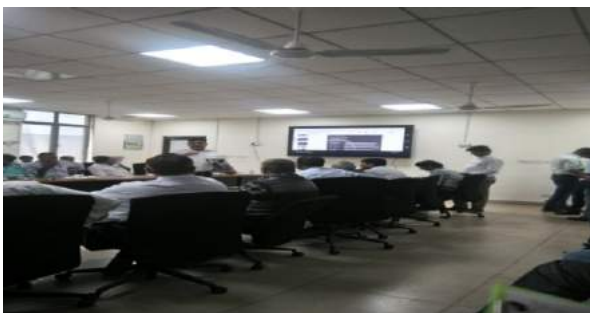
32.7 Safety committee meeting



32.8 Special Safety committee meeting on 27.01.2020.



32.9 Safety Seminar on PPE's



Fire Safety Seminar:



**33SAFETY ANNUAL CALENDER**

<b>Sr. No.</b>	<b>Date</b>	<b>Safety Activities</b>	<b>Place</b>
1	01.04.2019	Safety Counselling & Fire Fighting Training	Shell Progress & Shell Mech. Store
2	05.04.2019	Safety Counselling & Fire Fighting Training	Tool Room
3	12.04.2019	Safety Counselling & Fire Fighting Training	Transport Shop
4	17.04.2019	Safety Counselling & Fire Fighting Training	Shell Progress & Shell Mech. Store
5	19.04.2019	Safety Counselling & Fire Fighting Training	Worker canteen
6	25.04.2019	Safety Counselling & Fire Fighting Training	Furnishing Progress
7	26.04.2019	Safety Counselling & Fire Fighting Training	Carpentry Shop
8	04.05.2019	Safety Counselling & Fire Fighting Training	Paint Shop
9	08.05.2019	Safety Counselling & Fire Fighting Training	Shell Shop
10	11.05.2019	Safety Counselling & Fire Fighting Training	Bogie Assembly Shop
11	16.05.2019	Safety Counselling & Fire Fighting Training	Furnishing Shop
12	17.05.2019	Safety Counselling & Fire Fighting Training	Carpentry Shop
13	24.05.2019	Safety Counselling & Fire Fighting Training	Quality Control
14	24.05.2019	Safety Committee meeting	Conference Hall of Mini Admin
15	25.05.2019	Safety Counselling & Fire Fighting Training	Tool Room
16	28.05.2019	Safety Counselling & Fire Fighting Training	Wheel Shop
17	30.05.2019	Safety Counselling & Fire Fighting Training	Gas Yard
18	07.06.2019	Safety Counselling & Fire Fighting Training	Finishing Shop
19	08.06.2019	Safety Counselling & Fire Fighting Training	General Store
20	11.06.2019	Safety Counselling & Fire Fighting Training	Worker Canteen
21	14.06.2019	Safety Counselling & Fire Fighting Training	MRS
22	18.06.2019	Safety Counselling & Fire Fighting Training	Wheel Shop
23	22.06.2019	Safety Counselling & Fire Fighting Training	Carpentry Shop
24	26.06.2019	Safety Counselling & Fire Fighting Training	Bogie Assembly Shop
25	28.06.2019	Safety Counselling & Fire Fighting Training	Shell Assembly Shop
26	02.07.2019	Safety Counselling & Fire Fighting Training	Tool Room
27	05.07.2019	Safety Counselling & Fire Fighting Training	Furnishing Shop
28	10.07.2019	Safety Counselling & Fire Fighting Training	Wheel Shop
29	13.07.2019	Safety Counselling & Fire Fighting Training	General Store
30	15.07.2019	Safety Counselling & Fire Fighting Training	Tool Room
31	19.07.2019	Safety Counselling & Fire Fighting Training	Furnishing Shop
32	23.07.2019	Safety Counselling & Fire Fighting Training	Carpentry Shop
33	26.07.2019	Safety Counselling & Fire Fighting Training	Paint Shop
34	31.07.2019	Safety Counselling & Fire Fighting Training	Finishing Shop
35	01.08.2019	Safety Counselling & Fire Fighting Training	Furnishing Depot & Shell Depot
36	06.08.2019	Safety Counselling & Fire Fighting Training	Shell Shop (Under Frame)
37	09.08.2019	Safety Counselling & Fire Fighting Training	Shell Shop (Side Wall)
38	13.08.2019	Safety Counselling & Fire Fighting Training	Sheet Metal Shop
39	16.08.2019	Safety Counselling & Fire Fighting Training	Shell Shop (Roof Section)
40	20.08.2019	Safety Counselling & Fire Fighting Training	Shell Prog.& Shell Mech Store.
41	22.08.2019	Safety Committee meeting	Conference Hall of Mini Admin

42	23.08.2019	Safety Counselling & Fire Fighting Training	Gas Yard
43	27.08.2019	Safety Counselling & Fire Fighting Training	Material Testing Lab
44	30.08.2019	Safety Counselling & Fire Fighting Training	Transport Shop
45	03.09.2019	Safety Counselling & Fire Fighting Training	Worker Canteen
46	06.09.2019	Safety Counselling & Fire Fighting Training	Quality Control
47	10.09.2019	Safety Counselling & Fire Fighting Training	Wheel Shop
48	13.09.2019	Safety Counselling & Fire Fighting Training	General Store
49	17.09.2019	Safety Counselling & Fire Fighting Training	RPF Station & Barrack
50	18.09.2019	Safety Counselling & Fire Fighting Training	Tool Room
51	20.09.2019	Safety Counselling & Fire Fighting Training	Furnishing Shop
52	24.09.2019	Safety Counselling & Fire Fighting Training	Carpentry Shop
53	25.09.2019	Safety Counselling & Fire Fighting Training	Planning Office
54	27.09.2019	Safety Counselling & Fire Fighting Training	Paint Shop
55	01.10.2019	Safety Counselling & Fire Fighting Training	Finishing Shop
56	04.10.2019	Safety Counselling & Fire Fighting Training	Bogie Shop
57	09.10.2019	Safety Counselling & Fire Fighting Training	Shell Shop (Under Frame)
58	11.10.2019	Safety Counselling & Fire Fighting Training	Shell Shop (Side Wall)
59	15.10.2019	Safety Counselling & Fire Fighting Training	Sheet Metal Shop
60	18.10.2019	Safety Counselling & Fire Fighting Training	Shell Shop (Roof Section)
61	22.10.2019	Safety Counselling & Fire Fighting Training	Shell Prog & Shell Mech Store
62	25.10.2019	Safety Counselling & Fire Fighting Training	Gas Yard
63	30.10.2019	Safety Counselling & Fire Fighting Training	Material Testing Lab
64	01.11.2019	Safety Counselling & Fire Fighting Training	Transport Shop
65	05.11.2019	Safety Counselling & Fire Fighting Training	Worker Canteen
66	08.11.2019	Safety Counselling & Fire Fighting Training	Quality Control
67	14.11.2019	Safety Seminar	Conference Hall of Mini Admin
68	16.11.2019	Safety Counselling & Fire Fighting Training	Wheel Shop
69	15.11.2019	Safety Counselling & Fire Fighting Training	General Store
70	19.11.2019	Safety Counselling & Fire Fighting Training	Tool Rood
71	22.11.2019	Safety Committee meeting	Conference Hall of Mini Admin
72	23.11.2019	Safety Counselling & Fire Fighting Training	Furnishing Shop
73	26.11.2019	Safety Counselling & Fire Fighting Training	Carpentry Shop
74	29.11.2019	Safety Counselling & Fire Fighting Training	Paint Shop
75	03.12.2019	Safety Counselling & Fire Fighting Training	Finishing Shop
76	06.12.2019	Safety Counselling & Fire Fighting Training	Bogies Shop
77	10.12.2019	Safety Counselling & Fire Fighting Training	Shell Shop (Under Frame)
78	13.12.2019	Safety Counselling & Fire Fighting Training	Shell Shop (Side Wall)
79	17.12.2019	Safety Counselling & Fire Fighting Training	Sheet Metal Shop
80	20.12.2019	Safety Counselling & Fire Fighting Training	Shell Shop (Roof Section)
81	24.12.2019	Safety Counselling & Fire Fighting Training	Shell Prog & Shell Mech Store
82	27.12.2019	Safety Counselling & Fire Fighting Training	Gas Yard
83	31.12.2019	Safety Counselling & Fire Fighting Training	Material Testing Lab
84	03.01.2020	Safety Counselling & Fire Fighting Training	Transport Shop

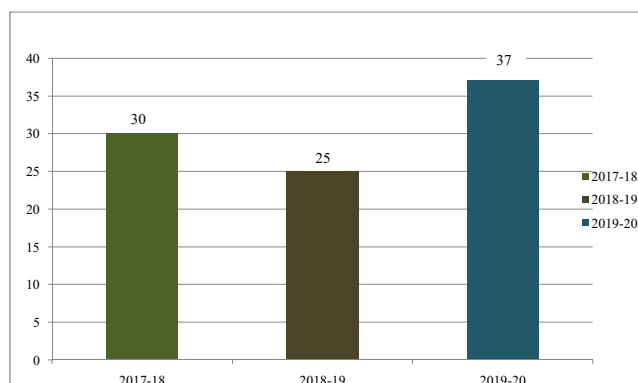
85	07.01.2020	Safety Counselling & Fire Fighting Training	Worker Canteen
86	10.01.2020	Safety Counselling & Fire Fighting Training	Quality Control
87	14.01.2020	Safety Counselling & Fire Fighting Training	Shell Shop (Roof Section)
88	17.01.2020	Safety Counselling & Fire Fighting Training	Shell Shop (Side Wall)
89	21.01.2020	Safety Counselling & Fire Fighting Training	Sheet Metal Shop
90	25.01.2020	Safety Counselling & Fire Fighting Training	Shell Progress& Shell Mechanical Store
91	27.01.2020	Special Safety Committee meeting	Conference Hall of Mini Admin
92	28.01.2020	Safety Counselling & Fire Fighting Training	Shell Assembly Shop
93	29.01.2020	Safety Seminar	Conference Hall of Mini Admin
94	31.01.2020	Safety Counselling & Fire Fighting Training	Mill Wright Shop
95	04.02.2020	Safety Counselling & Fire Fighting Training	Tool Room
96	07.02.2020	Safety Counselling & Fire Fighting Training	Transport Shop
97	11.02.2020	Safety Counselling & Fire Fighting Training	Spare Cell
98	14.02.2020	Safety Counselling & Fire Fighting Training	Diesel Yard
99	18.02.2020	Safety Counselling & Fire Fighting Training	Gas Yard
100	20.02.2020	Safety Counselling & Fire Fighting Training	Material Testing Lab
101	25.02.2020	Safety Counselling & Fire Fighting Training	Shell Shop (Under Frame)
102	27.02.2020	Safety Committee meeting	Conference Hall of Mini Admin
103	28.02.2020	Safety Counselling & Fire Fighting Training	Bogie Assembly Section
104	03.03.2020	Safety Counselling & Fire Fighting Training	Bogie Shop

#### National Safety Week 2020

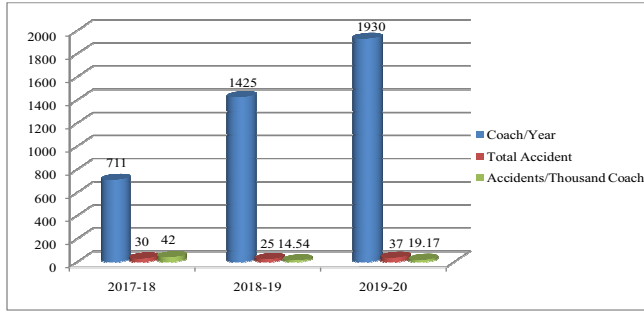
Sr. No.	Date	Safety Activities	Place
105	04.03.2020	Safety Pledge, Release of 2 <sup>nd</sup> Safety Bulletin	Conference Hall of Main Admin
		Safety Pledge, Practical Demonstration on use of PPE's, Safety Quiz	Shell Shop & Sheet Metal Shop
106	05.03.2020	Fire Safety Seminar	Conference Hall of Mini Admin
		Safety Pledge, Practical Demonstration on use of PPE's, Safety Quiz	Paint Shop, Carpentry Shop & Wheel Shop
107	06.03.2020	Safety Pledge, Practical Demonstration on use of PPE's, Safety Quiz	Furnishing, Finishing, Bogie, Transport & Tool Room
108	07.03.2020	Safety Seminar & Prize Distribution	Conference Hall of Mini Admin
109	13.03.2020	Safety Counselling & Fire Fighting Training	Train Lighting Shop
110	17.03.2020	Safety Counselling & Fire Fighting Training	Carpentry Shop
111	20.03.2020	Safety Counselling & Fire Fighting Training	Furnishing Shop

### 34 COMPARATIVE SAFETY PARAMETER

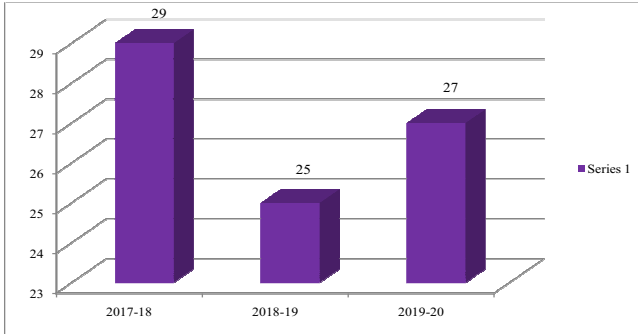
#### 34.1 Factory Accidents: Year Wise:



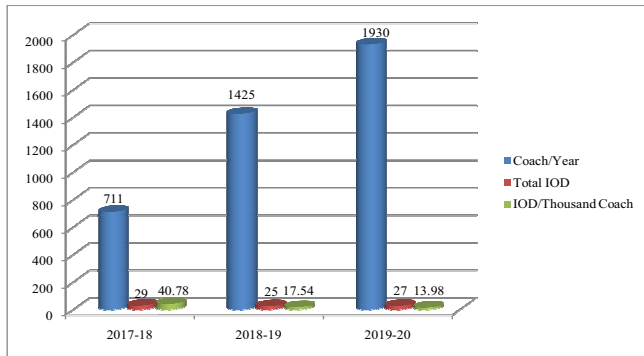
**34.2 Details of Accident/Thousand Coach:**



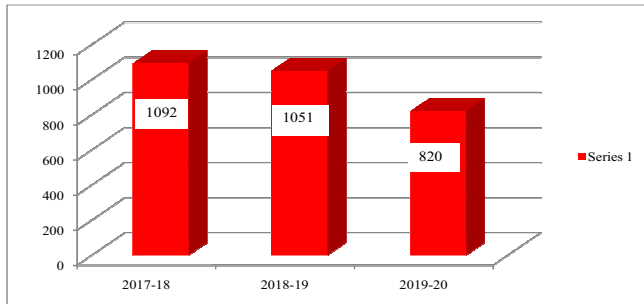
**34.3 IOD Cases: (FY-wise):**



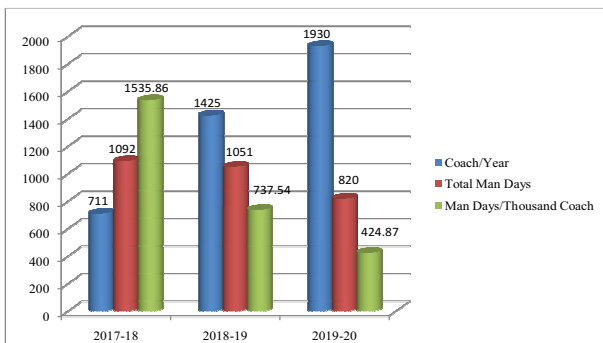
**34.4 Details of IOD/Thousand Coach:**



**34.5 Man Days Lost (On Account of Accidents):**



**34.6 Details of Man days Loss/Thousand Coach:**



**34.7 ACCIDENT, IOD, FIRST AID & NEAR MISS CASES: FY 2019-20:**

Months	Fire Incident			IOD	Near Miss Cases/First Aid Cases	Reportable Accident
	F/Area	R/Area	Out Station			
April - 19	4	1	1	2	0	0
May - 19	3	1	3	3	0	0
June - 19	1	1	0	1	0	0
July - 19	0	0	0	3	2	0
Aug - 19	0	0	0	1	0	0
Sep - 19	0	1	0	3	0	0
Oct - 19	0	0	0	1	3	0
Nov - 19	1	1	0	1	0	0
Dec - 19	0	1	1	6	2	0
Jan - 20	0	0	0	3	3	0
Feb - 20	2	1	1	2	0	0
Mar - 20	1	0	0	1	0	0
<b>Total</b>	<b>12</b>	<b>7</b>	<b>6</b>	<b>27</b>	<b>10</b>	<b>0</b>

**35 SAFETY FUTURE PLANES**

- Erection, Installation & Commissioning of Automatic Water Sprinkler System. PDC: July 2020.
- Erection, Installation & Commissioning of Hydrant Line in MCF Hospital to comply the observation in Provisional Fire NOC.
- Construction of Stair case in Kendriya Vidhyalaya MCF to comply the observation in Provisional Fire NOC.
- Replacement of Corroded Underground Hydrant line in the factory area. PDC: June 2020.

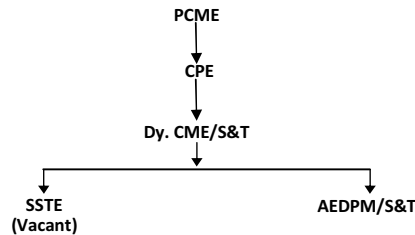


**REPORT OF SIGNAL & TELECOMMUNICATION**  
Annual Report 2019-20



SIGNAL AND TELECOMMUNICATION  
MODERN COACH FACTORY  
RAEBARELI, 229120

**31. ORGANIZATION STRUCTURE**



**Contact No of S&T Department**

Name	Designation	Contact No.	Email ID
A. K. Singh	CPE	7318060407	cpemcfrbl@gmail.com
B. K. Kapoor	Dy. CME/S&T	7318060428	dycmesntmcf@gmail.com
K. K. Saxena	AEDPM/S&T	7318060851	K_saxena_k@yahoo.co.in

**32. OBJECTIVES OF S&T DEPARTMENT:**

- Provision and maintenance of Telecom and networking Facilities round the clock at Modern Coach Factory, Raebareli.
- Provision of CUG SIM to all officers, Supervisors and other staff as per Railway Board guideline.
- Provision of Internet facility to all offices through Leased line of RCIL and BSNL.
- Also Provision of internet in various machines installed at shops under Industry 4.0 implementation.
- Provision and Maintenance of Railnet facility in Railway quarter through IPDSLAM technology.
- Provision and maintenance of CCTV surveillance system at all the location around the Modern Coach Factory premises.
- Provision of Audio - Video system at various location on several occasions like vendor meet, Independence and Republic day parade, VIP movement, cultural events, inter railway events etc
- Establishing of Video Conferencing between Railway Board and other railways via M/s RCIL.
- Procurement of Walkie-Talkie (VHF set) for use of RPF Personnel and others as per requirement.
- Issuing of cashless Ticket to all Railway staff at PRS in TTC Building.
- Also maintenance of PRS equipments installed at TTC Building and Post Office shopping complex.
- Provision Wi-Fi around all public places in development of smart city in MCF Township.
- Maintenance and Provision of Central announcement system around the factory and administrative Building due emergency, VIP movements and important notices.
- Provision and maintenance of S&T assets and "on run DTH facility" in ACRA coach for GM/RCF/RBL Inspection Carriage's.
- Maintenance of UPS and Precision Air Conditioning for power supply and cooling arrangement of Server Room at administrative building.

**33. OVERVIEW OF S&T DEPARTMENT:****33.1 STAFF SUMMARY:****Grade-wise sanction and on-roll strength of STAFF in Signal & Telecom,  
Modern Coach Factory, Raebareli**

S.No.	Designation	Pay band	GP	Sanction		Total Sanction	On Roll		Total ON Roll	Vac
				Rev	WC		Rev	WC		
1	SSE	9300-34800	4600	04	02	06	04	02	06	NA
2	JE	9300-34800	4200	02	nil	02	02	nil	02	NA
3	Sr. Tech	9300-34800	4200	03	nil	03	01	nil	01	02
4	Sr. Clerck	5200-20200	2800	02	nil	02	03	nil	03	-1
5	TCM-I	5200-2020	2800	05	nil	05	04	nil	04	01
6	TCM-II	5200-20200	2400	01	nil	01	04	nil	04	-3
7	TCM-III	5200-20200	1900	02	nil	02	02	nil	02	NA
8	Khalasi	5200-20200	1800	05	nil	05	06	nil	06	-1
<b>Total</b>				<b>24</b>	<b>02</b>	<b>26</b>	<b>26</b>	<b>02</b>	<b>28</b>	<b>-2</b>

**33.2 EQUIPMENT SUMMARY:**

DESCRIPTION	Number (Sets)
Audio Enhancement System	10 (07 Fixed + 03 Mobile)
Video Projection System	5
LED Wall(2x2)	2
Telephone Exchange	2 Unit
CCTV Cameras	121
Video Conferencing system	2
Video Phone	1
IP based Central Announcement System	1
IP Phone	190
Analog Phone	430
Wi-Fi Access Point	140
Networking Switch	180
CUG SIM	615
PAC Unit installed at Data Center	03
VHF Walkie-Talkie HandSet	83
Passenger Reservation system	02

**33.3 Saraswati Auditorium Audio Video Systems:**

Equipments Details
Amplifiers
Mikes
Speaker
Projectors,
DVD-CD player
Podium
Cinema Processor with Dolby Atmos Surround Sound
Cube Server for cinema projection

The latest technology Cinema Processor, Dolby-Atmos sound system and Cube Server has been installed at Saraswati Auditorium for screening of high quality and resolution cinema digitally. Also high quality Audio enhancement system (Make: JBL i.e. HARMAN) has been installed for live music performance. Various Inter-Railway competitive cultural events and other MCF cultural events have been successfully organized.

**33.4 TTC Auditorium Audio Video System:**

Equipments Details  
Amplifiers  
Mikes  
Speakers  
Projectors  
DVD-CD player  
Podium

High Quality Bose Speakers, Mikes, Amplifiers have been installed in this system for enhancement of sound in public addressing, seminars and other events of MCF. Also have video projection facilities via HDMI, VGA and DVD for presentation. Various events have been successfully organized throughout the year like presentation on world Environment Day.



**33.5 Main conference room, GM conference room and seminar hall Audio-Video System**

Equipments Details  
 Amplifiers  
 Mikes  
 Speakers  
 Projectors, LED Wall  
 DVD-CD player  
 Podium

2x2 55 inches LED wall with high quality wall mount speaker and delegated mikes with surround noise cancelation technology has been installed in GM and Main conference room for better and wide screening of video and presentation. Also in seminar hall 3 nos. projectors with ceiling speakers has been installed for viewing and listening of presentation from any corner of the room without hindrance.



**33.6 Video Conferencing System**

Video conferencing facilities are now available in GM conference and Main conference rooms in administrative building. It is connected to Railway Board and all other Zonal Headquarters through Railnet facility and also an alternative OFC path between MCF and Lucknow (From BSNL) which is used in case Railtel OFC cut in-between these locations. Video conferencing Between MCF, Railway Board and other Zonal Railways has been successfully done at a number of occasions.



**33.7 Telephone Exchange**

There is an in-house Railway Telephone Network connecting all-important offices and Township. Railway telephones exchanges are inter-connected through Railway OFC network. It has provision of IP phone which can be connect to existing LAN without any additional wiring.

**33.8 Capacity of Telephone Exchange**

S.No.	Location	Available Capacity	Used Capacity
1	Admin Building	650 Lines	300
2	Township Building	1500 Lines	280

**33.9 Central Announcement System**

Speakers has been installed throughout the factory premises in all shops by M/s CRIS. These speakers have been connected to Data Center through LAN for central announcement in case of emergency and any other important offices. Total 08 Nos of PM Mike are available in this system for announcement purpose. It has been used for public announcement to all over MCF premises in view of oath ceremony regarding shadbhavana divas, saheed divas and VIP Movement etc.

**33.10 Distribution of Microphone**

- Shell Shop - 01
- Furnishing shop - 01
- Server Room - 01
- Admin Building - 01
- Spare - 04



Henrich PM 8 Microphone



**33.11 Passenger Reservation System**

- There is an exclusive PRS network connecting MCF PRS and Indian Post PRS- Shopping Complex. The centers are connected either through Railway OFC network or hired channels from BSNL (In between Lucknow and MCF) in case of failure of Railnet OFC.

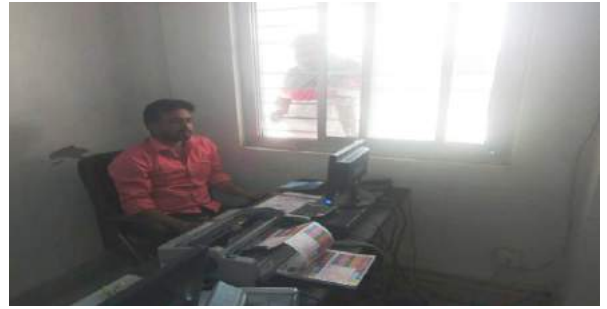
**33.12 At Technical Training Center Building**

- Maintained and Operated by S&T MCF/RBL and 02 No of clerical staff is available to issue Cashless ticket to Railway Staff.
- Average 50-60 Tickets per day were issued.



**33.12.1 At Post Office MCF Township**

- Maintained and Operated by Post Office, MCF Township.
- Connection and equipments has been provided and maintain by S&T MCF/RBL.

**33.12.2 CCTV cameras at MCF/RBL****33.12.3 Scrap Yard**

S.No.	Description	Make/Model	Qty (In Nos)	Remark
1	IP based Bullet	Hikvision/DS-2CD2632F-I	2	Display and NVR at Scrap Yard
2	IP based Bullet	Hikvision/DS-2CD2212-I5	6	Display and NVR at Scrap Yard
3	IP PTZ	Hikvision/DS-2DE716-A	7	Display and NVR at Scrap Yard

**RPF Post**

S.No.	Description	Make/Model	Qty (In Nos.)	Remark
4	IP based Bullet	Hikvision /DS-2CD2032	2	Display at RPF Post Distributed NVR RPF post and Admin Building
5	IP based Bullet	Hikvision /DS-2CD2032-I	2	Display at RPF Post Distributed NVR RPF post and Admin Building
6	IP based Bullet	Hikvision /DS-2CD2632F-I(S)	6	Display at RPF Post Distributed NVR RPF post and Admin Building
7	IP Based dome	Hikvision /DS-2CD2132	6	Display at RPF Post Distributed NVR RPF post and Admin Building
8	IP Based PTZ	Hikvision /DS-2DE7174	2	Display at RPF Post Distributed NVR RPF post and Admin Building

**33.12.4 Admin Parking**

9	PTZ Camera	Hikvision	6	Display at RPF Post NVR at Data Center
10	IP based Bullet	Hikvision	10	Display at RPF Post NVR at Data Center

**33.12.5 GM Office**

11	IP Based fixed dome	Hikvision	3	Display at RPF Post NVR at RPF post
12	IP based Bullet	Hikvision	1	Display at RPF Post NVR RPF post

**33.12.6 Depot Office and Shops**

S. No.	Description	Make/Model	Qty (In Nos)	Remark
13	IP based Bullet	INFINOVA /VT210-A2-B0	8	Display at and NVR at <b>Store Office, Factory</b>
14	IP Based dome	INFINOVA /VT121-A20B-A022	2	Display at and NVR at <b>Store Office, Factory</b>
15	IP PTZ	INFINOVA /V1772N-20T2U-3B3L	2	Display at and NVR at <b>Store Office, Factory</b>

**33.12.7 Train Lighting PCO**

16	IP based Bullet Camera	Hikvision	6	Display at and NVR at <b>Train Lighting PCO</b>
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**33.12.8 Hospital**

S. No.	Description	Make/Model	Qty (In Nos)	Remark
17	IP based Bullet	Honeywell	4	Display and NVR at <b>CMO office</b>
18	IP Based fixed dome	Honeywell	20	Display and NVR at <b>CMO office</b>

**33.12.9 Mini Admin:**

S. No.	Description	Make/Model	Qty. (In Nos)	Remark
19	IP Based fixed dome	Hikvision	6	Display and NVR at <b>Mini admin</b>
20	IP based Bullet	Hikvision	23	Display and NVR at <b>Mini admin</b>

**33.12.10 Township Gate:**

S. No.	Description	Make/Model	Qty (In Nos)	Remark
21	IP based Bullet	Panasonic	4	Display and NVR at <b>Township Gate</b>
22	IP PTZ	Panasonic	1	Display and NVR at <b>Township Gate</b>

**33.12.11 TTC Building**

S. No.	Description	Make/Model	Qty (In Nos)	Remark
23	IP based Bullet	Securico	10	Display and NVR at <b>TTC</b>
24	IP based Bullet	Securico	6	Display and NVR at <b>TTC</b>
25	IP Based fixed dome	Securico	4	Display and NVR at <b>TTC</b>



**33.12.12 Internet Leased Line:**

S. No.	Internet Service Provider	Internet Bandwidth	Remark	
1	Railnet	Factory Area	1 Gbps	
		Administrative Office	1 Gbps	
		Township Through ADSL	500 Mbps	
2	Other Railtel Ckts	Video Conferencing(Tpass)	04 Mbps	Protected through BSNL between LKO-MCF
		Finance Budget Portal(MPLS)	04 Mbps	
		PRS	E1(02Mbps)	
		Railway NGN PRI	E1(02Mbps)	
3	BSNL(ILL)	300 Mbps	It is for protection of Railnet as above	

Internet services in MCF has been upgraded up to 2.5 Gbps through M/s RCIL and same has been distributed to different offices, shops and township area. Also Internet Leased Line from BSNL has also been upgraded up to 300 Mbps which is used as secondary path for internet service in case of failure of Railnet connectivity.

**33.13 List of Wi-Fi Access Point are as follows.**

S.No	Locations	Quantity
1	Workshop and Mini Administrative Building	43
2	Admin Building	35
3	Hospital and Township	56 (40 +10+6)
4	GM Banglow	03
5	All officer Quarter	Through ADSL Modem

**34 INDUSTRY 4.0 STANDARD NETWORKING**

- Provision of Internet network for implementations of industry 4.0 has been extended in the machines installed at Shell Shop, Wheel Shop and Bogie Shop.
- Internet network and a public IP address has been provided for new server which is installed at data center by the IIT Kanpur. So it can be accessed from outside network for updation of data and other activities.



**35 SPECIAL WORK COMPLETED:**

35.1 Repairing of PAC units installed at Server Room, Data Center for cooling of equipment has been done successfully and also work contract of AMC of these units has awarded for 01 year.



35.2 Provision of Wi-Fi Hot-Spot zone at shopping complex, Indoor stadium, Central Park, Saraswati Auditorium and worker club has been completed and running successfully. Also provision of Wi-Fi Zone in officer's suits at TTC hostel has been done.



35.3 CCTV surveillances cameras have been installed at Administrative Building Parking, GM office, Data Center, Train Lighting PCO (Workshop).



35.4 Railnet Bandwidth has been upgraded up to 2.5 Gbps and successfully distributed in the offices and township. Also internet bandwidth of BSNL has been upgraded from 100 to 300 Mbps which serves as secondary path to existing Railnet bandwidth.



35.5 Laying of OFC and installation of networking switches to extend Railnet connectivity new offices and Buildings in Workshop premises and Township like LPG storage, Bogie Paint Line.



35.6 Provision of a PAE system at Conference room in TTC building.



35.7 An additional Video conferencing system has been installed and successfully tested by M/s RCIL at Main conference Room in Admin Building.



35.8 108 Nos. batteries has been replaced which is installed with UPS for backup of Power Supply in the Data Center. So the backup of UPS has been increased from 30 minutes to 2 Hours. Also a 05 KVA UPS has installed for the backup of power supply of Audio-video System in Main Conference System.



35.9 Also batteries of UPS installed at different locations like Saraswati auditorium, TTC auditorium and networking racks has also been replaced to improve battery backup.



35.10 PA system for audio enhancement with Bose speakers has been installed and commissioned in Officer's club hall and several cultural programs had successfully organized.



35.11 CAMC of Audio video system installed at Saraswati Auditorium, TTC Auditorium for 03 years has been successfully awarded through work contract. Also CAMC of Audio video system installed at Main Conference Room, GM conference room and Seminar Hall in administrative building has been awarded for 05 years.

35.12 Installation and commissioning of CCTV surveillance and intrusion detection system with 60 Bullet Cameras along the perimeter of workshop premises. A hooter and 02 nos. LED flood light has also installed on each pole in this system and it will be turned on as soon as any intrusion detected. Also 22 nos. PTZ cameras has installed for close surveillance on the road for moving vehicle. This has been dedicated to service on 04.03.2020.



### 35.13 FEATURES

- **MOTION DETECTION**

Continuous Recording throughout the day.

- **INFRA-RED LIGHTING**

Infra-red CCTV cameras integrated infrared LEDs, which allows CCTVs to record even in night.

- **REAL TIME ALERTS**

Issue an alert to a display room in response to certain events, like infringing motion in defined paths.

- **HIGH DEFINITION {1920x1080P}**

Capture a good image; maintain high security and maximum safety.

- **CAMERA IRIS**

Control lights to set best view in low or high light conditions.

- **RAIN RESISTANCE**

**Waterproof rating of IP65.**

### 36 MAINTENANCE OF THE INSTALLED SYSTEM

a) Agency Responsible for	
i) Telephone Exchange	Outsourced , M/s DATACOM PVT LTD.
ii) CCTV	Outsourced, M/s HCL and M/s Abhaydata System Services
iii) Networking in Factory Area	Outsourced M/s HCL
iv) Public Address System	Outsourced through work contract
v) House Keeping	Civil Department/MCF/RBL

S. No.	Name of work	Name of Contractor	Date of AMC	Date of Renewal
1	Comprehensive Annual Maintenance Contract of Optical Fiber Cable at Modern Coach Factory, Lalganj, Raebareli.	M/s Raj Construction Liberty Colony Lucknow, UP-226016	15/10/2019	14/10/2020
2	Comprehensive Maintenance Contract of CCTV system installed in Admin Building, Factory Gate and Scrap Yard at MCF for one year.	M/s Abhaydata System services, Kanpur Road, Rana Nagar Raebareli UP-229001	29/10/2019	28/10/2020
3	"Comprehensive Maintenance Contract for three year of Electronic Exchanges (Make - Avaya, Model no. Aura® Communication Manager R 6.) Installed in Modern Coach Factory, Raebareli.	M/s Datacom Products (India) Pvt. Ltd., 214, Champaklal Udyog Bhawan 105, Sion Koliwada Rd., Sion (E) Mumbai-22	03/05/2018	02/05/2021
5	CAMC of Audio & Video system at TTC auditorium for three years.	M/s Chandra Projects 190 B.H.S. Allahpur Allahabad, Uttar Pradesh-211006	01/01/2020	31/12/2022
6	CAMC of Audio & Video system at Saraswati auditorium for three years.	M/s Chandra Projects 190 B.H.S. Allahpur Allahabad, Uttar Pradesh-211006	13/11/2019	12/11/2022
7	CAMC of Audio & Video system at Seminar Hall , GM Conference Hall and Main Conference Hall for 05 years	M/s Binary Electrotech Pvt. Ltd C-105, Naraina Vihar, New Delhi-110028	11/01/2020	10/02/2025

### 37 SPARE MANAGEMENT SYSTEM

1. Spare of all critical equipments is available and kept at same location (with identification of spare on racks) and stores.
2. Also list of spares has been developed and shared to relevant persons.
3. Purchase of spares as per requirement (collected from locations) has been done time to time.

### 38 FINANCIAL SUMMARY OF FINANCIAL YEAR 2019-20

S.No.	Budget Sub Head	Allocation Head	Bill amount submitted (in Rs.)	Bill Amount to be submitted
1	Contract	WMS 7200	1,01,00,411.74	0.00
	Total		1,01,00,411.74	0.00

### 39 FUTURE PLAN FOR IMPROVEMENT OF DATA SERVICE

- 39.1 Up gradation of existing Router and other networking equipment with 10G support for better performance of Internet services and LAN. It also integrates the Railnet bandwidth in one part which will reduce physical intervention to shift the BSNL internet services in case of failure of Railnet services.
- 39.2 Up gradation ADSL to VDSL technology, for the provision of high speed network connectivity to MCF Township in officers and staff quarters.



### C.ANNUAL PERFORMANCE REPORT of TTC

#### Annual Report 2019-20



#### TECHNICAL TRAINING CENTRE MODERN COACH FACTORY RAEBARELI, 229120

##### CERTIFIED:

- |                          |                            |                    |                              |
|--------------------------|----------------------------|--------------------|------------------------------|
| 1. ISO 22163:2017 (IRIS) | 2. GREENCO PLATINUM RATING | 3. ISO 3834-2:2005 | 4. ISO 9001:2015             |
| 5. ISO 14001:2015        | 6. ISO 45001:2018          | 7. ISO 50001:2011  | 8. ISO/IEC 17025:2005 (NABL) |
| 9. 5S                    |                            |                    |                              |

S.No.	Item	Details
1.	<b>General</b>	
	(a) Name of the Training Institution	Technical Training Centre, Modern Coach Factory, Raebareli
	(b) Location of the training Institution (with map in A4 size as Annexure I)	Raebareli - Kanpur Highway, Near Lalganj, Uttar Pradesh
	(c) Complete postal address with pin code	Raebareli - Kanpur Highway, Near Lalganj, Raebareli, Uttar Pradesh 229120
	(d) Details of ISO and other certifications obtained, if any	1. ISO 22163:2017 (IRIS) 2. GREENCO PLATINUM RATING 3. ISO 3834-2:2005 4. ISO 9001:2015 5. ISO 14001:2015 6. ISO 45001:2018 7. ISO 50001:2011 8. ISO/IEC 17025:2005 (NABL) 9. 5S

	(e) Telephone numbers of Training Institution	Railway 039-60516, 60517, 60519	DOT/MTNL (with STD code)- Nil	Fax- Nil
	(f) Web site address of the Institution	<a href="https://mcf.indianrailways.gov.in/view_section.jsp?lang=0&amp;id=0,300,406">https://mcf.indianrailways.gov.in/view_section.jsp?lang=0&amp;id=0,300,406</a>		
	(g) Date of setting up	January-2013		
	(h) Whether recognized by Railway Board (Tick appropriately)	Yes (Railway Board has recognized, approved & included the name of Technical Training Centre, MCF/RBL in the approved list of "Manual on Management of Training", vide letter no. E (MPP) 2015/3/24, dated- 24.05.16 (RBE No. 52/2016)).		
	(i) Nominated Training Manager by Railway Board/ Railway (Name and Designation)	Sri Anil Kumar Singh, CPE/MCF		
2.		<b>Details of the In-charge</b>		
	(i) Name	Shri B.K. Kapur		
	(ii) Designation	Dy.CME/Safety & Training (Principal of Technical Training Centre)		
	(ii) Designation	Dy.CME/Safety & Training (Principal of Technical Training Centre)		
	(iii) Mobile Number	07318060428		
	(iv) Email address	<a href="mailto:pttcmcfbrbl@gmail.com">pttcmcfbrbl@gmail.com</a>		
	(v) Date (dd/mm/yyyy) of joining Training Institution	19	05	2020
	(vi) Scale of Pay and Grade Pay	Level-12 as per 7 <sup>th</sup> CPC		
3.	(a) Objectives of the Training Institution	<ul style="list-style-type: none"> <li>✓ Develop TTC as centre of excellence</li> <li>✓ Training and Skill Development of serving as well as newly recruited Employees</li> <li>✓ Cater the training needs of the MCF/RBL</li> <li>✓ "Product based training" to all Zonal Railways &amp; Production units as per their requirements</li> <li>✓ Contribute towards industrial development of the nation through skill development</li> </ul>		
	(b) Board Category of staff being trained (Name five major categories only)	<ul style="list-style-type: none"> <li>i. Mechanical Artisan staff</li> <li>ii. Electrical Artisan staff</li> <li>iii. Supervisory staff</li> <li>iv. Group 'D' staff</li> <li>v. Contractual workers</li> </ul>		

4.		Infrastructure			
<b>(a) Lay out</b>					
(i) Total area of the Training Institution (In sq. meter)	48,000 Sq. meters (approx)				
(ii) Total covered area (sq. meter )	10,500 Sq. meters (approx)				
(iii) Total open area (sq. meter)	37,500 Sq. meters (approx)				
(iv) Lay out plan	Attached in A4 size as Annexure -II (i) & (ii)				
(v) Landscaping/Garden (Tick Appropriately)	Yes				
(vi) Power supply availability (Tick appropriately)	24 hrs.				
(vii) Availability of generator back up /Power back up for	Office	Class Rooms	Hostel	Mess	
	Yes	Yes	Yes	Yes	
<b>(b) Class Rooms</b>					
(i) Area (sq. meter, in ascending Order) of class rooms	60	40			
(ii) Number of rooms	06	01			
(iii) Capacity of each class room (in terms of number of Trainees)	30	20			
(iv) Average Class room capacity	30 seats				
<b>(C) Number of toilets near class rooms</b>	Gents	02 blocks			
	Ladies	02 blocks			
<b>(d) Hostel Accommodation</b>					
(i) Room details	Single Bed	Double Bed	Triple Bed	Dormitory (4beds & above)	Ladies
	-----	13.86	-----	-----	13.86
(ii) Average area (Sq. meter) of Each room	-----	13.86	-----	-----	13.86
(iii) No. of Rooms	-----	34	-----	-----	34
(iv) Details of toilets (if attached)	-----	No	-----	-----	No
(v) If not attached, No./Size of The toilets in hostel	Number			Area (Avg. Size in sq. meter)	
	06			49.95	
<b>(e) Model Rooms</b>					
(i) No. of Model Rooms	09 Labs + 04 Workshops				
(ii) Describe layout of each (briefly)	I. Mechatronics Lab II. Automation Lab III. Electrical Lab IV. Computer Lab (02) V. Coach Component Display (02) VI. Welding Test Lab VII. Welding Shop VIII. Fitting Shop IX. Machine Shop X. FRP & Composite Shop				

(iii) Avg. Area (m. sq.) of model rooms		Labs- 92.6, Workshops- 375		
List of equipment in each Model room (enclose as Annexure III)				
<b>(f) Library Facilities</b>				
(i) Available (Tick appropriately)		Yes (with E-Library facility of )		
<b>If Available</b>				
(ii) Total no. of Books available		759		
(iii) Types of Books				
	Codes & Manuals	Technical	Railway Publications	Others
Number	31	390	48	321
iv) Number of Books in various languages.				
	English	Hindi	Regional language	Others
Number	661	98		
V) Library Budget (annual, if any ) Details			Nil	
<b>g) Computer Facilities</b>				
i) Number of rooms			02	
ii) Average area of each Room (in sq. meter)			93.45	
iii) Number of computers			16	
iv) Types of computer course being run (Major 5 course)			1. Basic Computer Training Program	
v) Average number of trainees using computer facilities /month			25	
<b>h) Medical facilities</b>				
i) Name of medical centre:		Railway Hospital, MCF/RBL		
ii) Whether in Campus?		Yes		
iii) If NO, Distance from training center (in KMs) if locked in the same town		Railway health center	Railway hospital	Other public/Private Hospital
		NA	NA	NA
<b>i) Recreational facilities</b>				
i) Indoor (Please specify 5 major games)		(i) Chess (iii) Table Tennis (ii) Carom Board		
ii) Outdoor (Please specify 3 major games)		(i) Cricket (ii) Volley ball (ii) Badminton		
iii) Yoga/PT		Yes		
iv) If Yes (Please specify timing Morning/Evening)		5.0am-7.0am		
<b>j) Mess facilities</b>				
i) Whether available (Tick appropriately)		Yes		
<b>If Available</b>				
ii) Method of running the mess		Depart-mentally	Self managed by trainees	By Contract
				Any Other (Please specify) <b>Private</b>

<b>k)Kitchen facilities(whether available)</b>		<b>yes</b>			
i)If available	Area(m <sup>2</sup> )				
	49.6				
ii)Dining Hall(whether available)		Yes			
iii)If available	Area(m <sup>2</sup> )	<b>Seating capacity(In terms of diners who can be served at the same time)</b>			
	<b>213</b>	<b>85</b>			
iv)Pantry Room		Yes			
v)Dish washing area		Yes			
If yes furnish details of washing area					
a)Size of Sq. meters		<b>15.2</b>			
<b>l)Other Facilities</b>		Bank	ATM	Railway station	Bus stand
i)Available within campus		<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>
ii)If not available within campus, distance from the training institution (in Km) in the city				<b>05</b>	
5.	<b>Faculty</b>				
a) Details of Gazette faculty		Separate annexure V			
b) Details of Non Gazette faculty with their dates of joining the training center.		Separate annexure VI			
c) Grade-wise sanction and on-roll strength of Trainers/instructors		Separate annexure VII			
<b>d) Training of Trainers (TOT) course.</b>					
i) Number of trainers who have done TOT course		02			
ii) Number of trainers who have not done TOT course		04			
<b>e) Details of Visiting Faculty(5 Names to be given) who have given lecture In FY 19 -20</b>					
Name	Designation	Company/organization	Dates of Visit	Remarks if any	
Sri R.K.Manocha	PFA	MCF/RBL	31.07.19		
Sri Rajesh Kumar	AMM/HQ	MCF/RBL	18.11.19, 16.12.19, 16.01.20, 10.02.20		
Sri Pravesh Kumar	AFA	MCF/RBL	20.11.19		

Sri Avinash Ranjan	SSE/Safety	MCF/RBL	20.05.19, 27.05.19, 18.06.19, 02.07.19	
Sri Rajeev Ranjan Kumar	SSE/Bogie	MCF/RBL	10.05.19, 24.05.19, 14.06.19, 19.07.19	

Details of Disaster Management Training (If applicable) - **N/A**

a) No. of programs conducted in FY 19-20	
b) Names of programs conducted –separate Annexure VII to be attached	
c) Average duration of each programs (in days)	
d) Total Number of trainees attended Disaster Management Programs in FY 19-20	

7.	Training Aids		
a) Over Head Projector	Not Available	If Available Number	
b) White Board	Available	If Available Number 06	
c) Flip chart board	Available	If Available Number 04	
d) TV/Projection TV	Available	If Available Number 03	
e) LCD Projector	Available	If Available Number 05	
f) VCR/DVD/CD Player	Not Available	If Available Number	
g) Video Camera/Digital Camera	Not Available	If Available Number	
h) Photocopier	Available	If Available Number 02	
i) Digital Scanner	Available	If Available Number 01	
j) PCs(Other than in computer center)	Available	If Available Number 05	

k) Laptop	Not Available	If Available	
		Number	
l) Printers	Available	If Available	
		Number	07
m) Other Photocopying facilities	Not Available	If Available	
		Number	
n) Public address systems	Available	If Available	
		Number	01

8.	<b>Capacity Utilization</b>			
a) Planned Capacity	In terms of trainee seats		In terms of trainee days	
	200 per day		60000 per year	
b) Capacity Utilized (Including 03 previous financial years)	Years		In terms of trainee seats	In terms of trainee days
	2019-20		81.00%	122.81%
	2018-19		41.53%	60.42%
	2017-18		35.10%	50.05%
c) Details of trainees who have completed the training FY 19 -20 (separate annexure IX to be giving Name, Designation, Name of Course attended, No. of Days of Training)				
d) Number of one days/two day crash course training organized during the year – In terms of E(MPP)2003/3/16 dated 10.07.03 (RBE 122/2003)			03	

9.	<b>Budget Utilization</b>						
a) Name of officer controlling the budget	Chief Planning Engineer, MCF/RBL						
b) Budget	Year		Allotment		Utilization		
Smart Class	2019-20		Rs. 498268.00		Rs. 496662.00		
Gym Facility	2019-20		Rs. 499614.00		Rs. 496221.00		
PVC Flooring in Labs	2019-20		Rs. 498015.00		Rs. 493830.00		
c) Works Programs in progress/sanctioned for the training institution							
A) Pink Book (list each work)- Nil							
Item no.	Years of section	Nature of work	Anticipated cost in (000 of Rs)	Budget Utilized so far in(000 of Rs)	Progress of work (% completion)	Likely Target of completion of work (if not done)	
1							

	2						
	3						

**B)GM's LAW Book (list each work) -nil**

Item No.	Years of section	Nature of work	Anticipated cost in(000 of Rs)	Budget Utilized so far	Progress of work	Likely Target of completion of work
1	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA
3	NA	NA	NA	NA	NA	NA

**10 Maintenance of the Institution****a)Agency Responsible for**

i) Civil Maintenance	Civil Department/MCF/RBL
ii) Electrical Maintenance	Elect. Department/MCF/RBL
iii) S & T Maintenance	S&T Department/MCF/RBL
iv) Sanitation	Outsourced
v) Cleaning & Housekeeping	Outsourced

**b) If done departmentally, details of staff available for maintenance**

Category	Sanction	On Roll	Vacancy
Part of overall maintenance of Civil/Electrical/S&T assets of Modern Coach Factory, Raebareli.			

**c) If out sourced, details of Maintenance arrangements**

i) Name of the Maintenance contractor	M/s. Euro Smile Service Facilities PVT.LTD.
ii) Scope of work	Housekeeping of TTC and its Hostel and Surrounding areas as per scope of the work of TTC/MCF/RBL.
iii) Contract value	Rs. 41287003.00
iv) Duration of Contract	<b>12</b> months (03 Years)

11.

**Inspections**

i) Number of Inspection done in 2018-19	GM	By SAG officer	By JAG officer	By Other officer
	04	17	15	04

## ii) Details of inspection

Designation of inspecting authority	Date of visit	Outcome off the Inspection report (attach in separate annexure X)
General Manager (GM)	17.05.19, 10.09.19, 05.10.19, 11.02.20	Attached at annexure X
PCME	17.05.19, 10.09.19, 05.10.19, 11.02.20	
PFA	31.07.19, 14.10.19, 11.02.20	
CPE	25.04.19, 17.05.19, 22.05.19, 23.05.19, 10.09.19, 05.10.19, 14.10.19, 25.10.19, 07.02.20, 11.02.20, 21.03.20	
PCEE	10.09.19, 11.02.20	
PCE	10.09.19, 11.02.20	
CPL	10.09.19, 11.02.20	
CQM	10.09.19, 11.02.20	
CME/P	10.09.19, 11.02.20	

**12 Training Methodology**

Lecture	Discussion	Group Activity	Individual Activity	Collaborative learning
Yes	Yes	Yes	Yes	
<b>Action Learning</b>	<b>Problem based learning</b>	<b>Case study</b>	<b>Learning games</b>	<b>Videos</b>
Yes	Yes	Yes		Yes
<b>Printed Materials</b>	<b>Computer Aided Instruction</b>	<b>Simulators</b>		
Yes	Yes	Yes		

### 13 Feedback/evaluation

<b>a) is there a feedback system in existence</b>	<b>Yes</b>
If Yes, What is the average rating obtained in respect of the following in 2019 -20	
Note: A 5 Point rating scale (1 being the lowest, 5 being the highest) is to be used. If not specify the rating scale used.	Excellent/Fair/Poor
<b>Parameters</b>	<b>Rating</b>
i) Overall maintenance	Excellent
ii) Quality of food in the mess	-----
iii) Overall Quality of Instruction	Excellent
iv) Overall Participant satisfaction	Excellent

#### **b) Trainee's Performance information (In the various training programs completed during the year, put together)**

Name of course (List 5 major courses)	Pass percentage	% of marks obtained by the toppers			% of marks obtained by lowest scoring participant		
		1st	2nd	3rd	Lowest	Second lowest	Third lowest
i) App.Tech -III	60	86.88	80.63	70.00	63.75	66.25	---
ii) FLT operators basic operation and certification course	60	76	63	---	---	---	---

#### **c) Pattern of examination (Where assessment is made)**

	Name of Course	Type of Examination (Written/oral/Practical)	If written, % of objective type question	Periodicity ( End of course/weekly/others)
1	Induction Artisans	Written + Oral	40%	End of Course
2	FLT operator certification	Written + Practical+ Oral	40%	End of Course

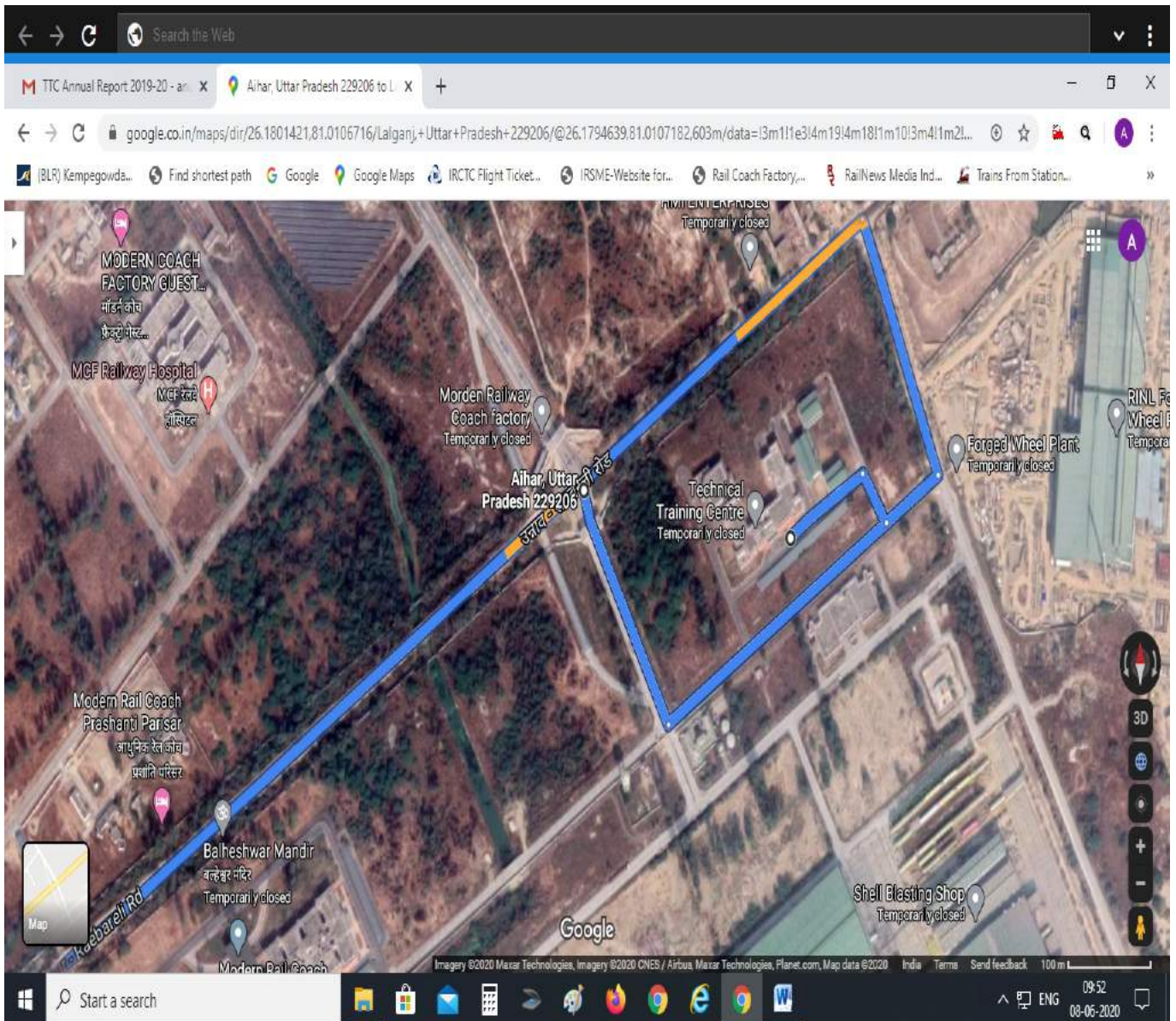
14	<b>Details of Publications</b>			
		Quarterly News letter	Annual Report	Other Technical Publication
		Yes/No	Yes/No	Yes/No
	Number of Publication	0	Yes	0
15.	<b>Attach Photograph of following –day time and Night photo (with lights) (attached as Annexure IV)</b>			
	a) General Campus buildings		b) Class room and toilets	
	b) Office room and toilets		d) Hostel rooms and toilets	
	e) Kitchen, Dining Rooms, Pantry, Utensil Cleaning area.		f) Recreation Room	
	g) Recreation Facilities		h) Library Room	
	i) Model Room		j) Meeting Hall/Conference Hall	
	k) Auditorium		l) landscaping (Day Time photo only)	
	m) gardens (Day Time photo only)		Roads (Day Time photo only)	
	Other Amenities (if any)			
16.	<b>Performance highlights</b>  (Please furnish additional details not already covered, if any)		<ol style="list-style-type: none"> <li>1. Training and testing of contractual welders working for MCF has started on payment basis since April 2019 &amp; total revenue of <b>Rs.922720.00</b> has been generated by charging training fee from them.</li> <li>2. Successfully completed the training of staff under “Project Saksham-II”.</li> <li>3. Training, as a part of field visit has been organized for 123 nos. Probationer officers and 423 nos. other railway staff.</li> <li>4. Facility of Summer Internship/Vocational Training has been provided for 415 nos. Engineering/Management students.</li> <li>5. Factory visit as a part of Industrial visit for 834 nos. students from different institutes has been organized.</li> <li>6. As a precautionary measure in fight against spreading of Corona Virus Thermal scanning of Staff members, Drivers and Visitors has started since 19<sup>th</sup> March 2020 &amp; Total 1842 persons (1405 Nos. staff members and 437 nos. Drivers &amp; Visitors) have been scanned up to 31<sup>st</sup> March-2020.</li> </ol>	

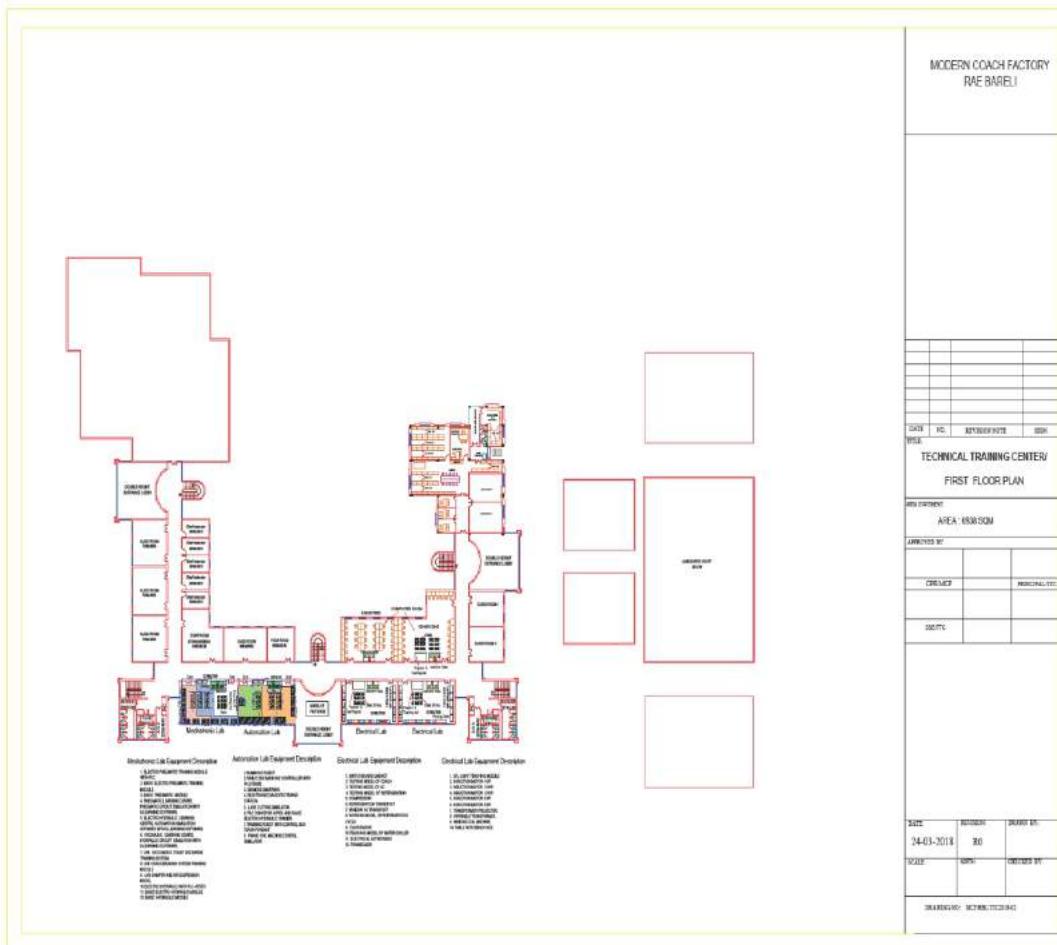
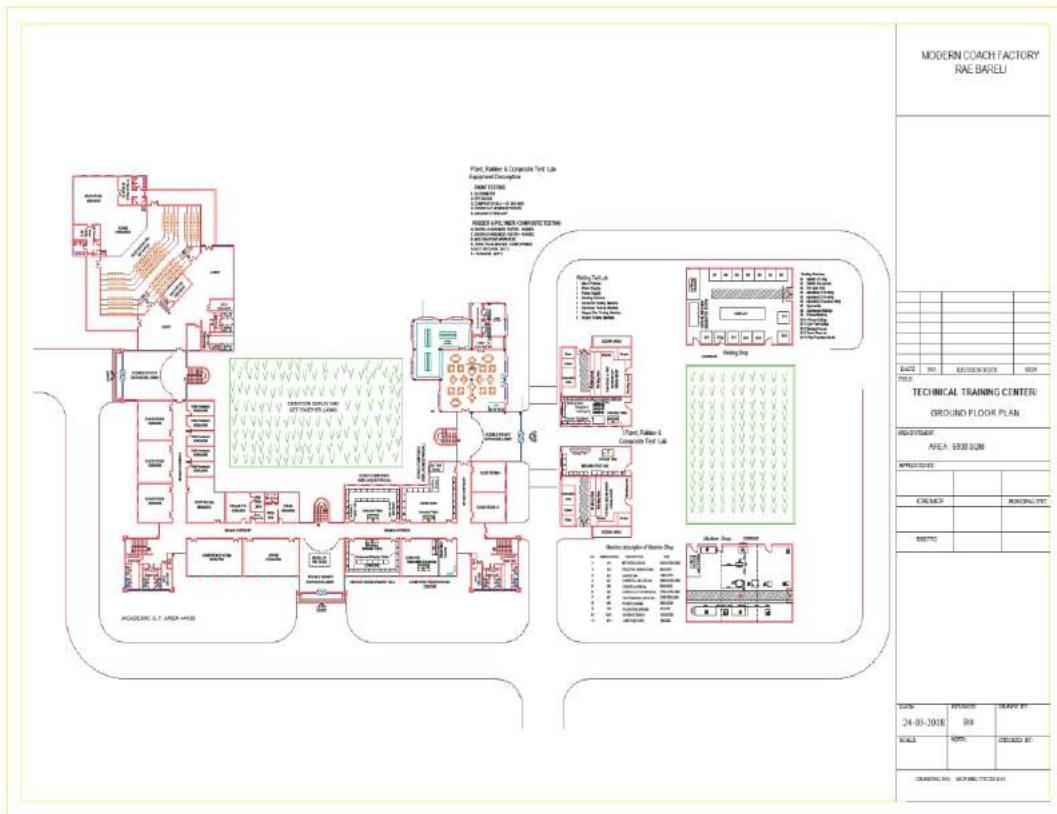
7. After announcement of Lockdown by honorable Prime Minister, Work of stitching of Masks has started and totals 5799 Nos. Masks have been stitched up to 31<sup>st</sup> March-2020.

### List of Annexure

S.N.	Annexure	Description
1.	I	Location of the Training Centre with map in A4 size
2.	II (i) & (ii)	Layout plan of training institute in A4 size
3.	III	List of equipments in model room
4.	IV	Photographs

### Annexure-I





## 40 ANNUAL REPORT OF TTC

## Annexure III

List of Equipments in Model room/Labs of Technical Training Centre, Modern Coach Factory, Raebareli

S.No.	Model room/Lab/Workshop	Equipments available
1	Mechatronics and Automation Lab	Hydraulic trainer kit a. LHB coach braking systems b. Hydraulics learning centre c. LHB bogie Simulator d. Bio vacuum simulator system e. E learning centre for hydraulics. Electro hydraulic trainer kit a. E learning centre for electro hydraulic. Pneumatic trainer kit E learning centre for pneumatics Automation system a. Laser cutting simulator b. Training robot with control box and teach pendant c. Fanuc CNC machine controller simulator d. Fanuc CNC machine controller software e. The controller identical NC programming workstation (SIEMENS) f. Application of pick and place arm at MCF g. Humanoid robot h. Electronic shop (diagnostic)
40.1.1		
i.	Sensor lab equipment to make aware of the basic principles & their types used in automation industries.	
2	Fitting Shop	Hand tool set for fitting shop Hand tool set for Assembly Lab Power tool set for fitting shop Power tool set for Assembly Lab Bench Vice
3	Machine Shop	80 Ton Mechanical Press Brake Shaper Machine Power Hacksaw CNC training Lathe Portable Air Compressor
4	Welding Shop & Weld Test Lab	Synergic MIG/MAG CO2 Welding Set Pulse MIG/MAG CO2 Welding Set Spot welding machine Intelligent Monitor MIG/MAG Welding Machine Battery Operated Arc Welding Machine TIG (AC/DC) Welding machine with digital programmable Teach ware set Virtual Welding Simulator

		Training Welding Demonstration stand with fume extraction system Portable Arc welding machine Fume extraction System Submerged Arc Welding machine Plasma Cutting machine Universal Testing Machine Metallurgical Microscope Portable compressor
5	Computer Lab	16 Desktops
6	Coach Component Display	Complete Bogie, Disassembled Bogie components, CBC, Wheel & Axle Coach Shell Mockup
7	FRP and Composite Lab	Wood working lathe Paint booth Hand and Portable tool sets Wood bench vice

### Annexure IV PHOTOGRAPHS



TECHNICAL TRAINING CENTRE MCF/RBL



TECHNICAL TRAINING CENTRE ENTRANCE



**SMART CLASS ROOM**



**TECHNICAL TRAINING CENTRE CONFERENCE**



**Technical Training Centre Auditorium**



**Technical Training E- Library inauguration**



**Technical Training Centre Library**



**Mechatronics Lab**



**Automation Lab**



**Computer Lab**



**Welding Shop**



**Robotic operation and Programming training**



**Welding Simulator**



**Hon'ble GM Visited TTC**



**Environment Day function**



## PROJECT DEPARTMENT

### Annual Report 2019-20

#### History of project:

Modern coach factory, Raebareli is a green field project built on philosophy of using environment friendly sustainable technology for manufacturing processes and use of energy efficient devices with focus on non conventional energy and green buildings. The objective of this project is manufacturing of modern design stainless steel LHB coaches for the Indian Railways.

#### Annual Performance 2019-20

Modern Coach Factory, Raebareli has been set up at a total cost of Rs. 3192 Cr, for producing LHB design stainless steel coaches with production capacity of 1000 coaches per annum. Factory is being setup on turnkey basis and the contract is awarded to M/s IRCON International on nomination basis. During the FY 2019-20, following works got completed:-

#### M&Ps Commissioned in 2019-20

S.N o.	Machine Name	Qty./Set	Cost
1	Integrated Shell Assemblies and Assembly Lines	01	26,99,9240.00USD + 23,93,6491.25INR
2	Stainless Steel Cut Wire Blasting Plant	01	25,04,225.00EURO + 51,00,0000.00INR
3	NC Hydraulic Type Shearing Machine	01	42,39,648.00INR
4	NX(Unigraphics)CAD CAM Software and post processor customisation for offline programming	03	36,18,030INR
5	Box Pallet(1700)		43643000INR
6	Box Pallet(796)		

#### Civil works completed and taken over in 2019-20

S.No.	Description of assets	Amount in Cr.
1	Type -III Qtrs. (200 Nos.)	58.9
2	Coach Blasting Shop	5.5

#### Furniture and Equipment Procurement taken over in 2019-20

S.No.	Description of assets	Amount in LAC
1	Furniture and Equipment Procurement for-22 Rooms for ORH	38.15
2	Furniture and Equipment Procurement for-34 Rooms in Sport hostel	19.99
3	Procurement of Hospital furniture	2.21
4	Furniture and Equipment Procurement for Cricket, Football & Swimming pool	5.57

#### Electrical works completed and taken over in 2019-20

S/no	Name of work	Amount in LAC
<b>(A) Work under execution with MCF</b>		
i	Provision of VRV/VRF type HVAC System in one hall of admin building.	27.80
	Provision of pathway near mathana nala	07.00
	Provision of Dog Kennel in RPF barrak	1.75

**Details of Electrical Assets Taken over from IRCON in FY-2019-20**

S/N	Description	Date
1	Electrical works of new coach blasting shop (Factory area)	11.06.2019
2	Electrical assets in New paint store & shutters in paint shop (Factory area)	11.06.2019
3	Electrical assets in New 02 nos. locker block building and 01 toilet cum parking building (Factory area)	11.06.2019
4	Supply and laying of LT XLPE cable, 4cx240Sq.mm for pump room near gate no. -2 (Factory area)	10.10.2019
5	80 Nos. (Unit C + D) New type –III quarters. (Township area)	11.06.2019
6	Internal Electrical assets of Servant room in Type -VI (6003) quarters. (Township area)	11.06.2019
7	3.5 M Height designer street light poles. For pathway near Mathana Nala (Township area).	11.06.2019
8	Unit E+F of New type –III quarters-80 nos. (Township area).	13.08.2019
9	Electrical assets of New tennis court, Volley ball court, Basket ball court and skating ring near officers club (Township area).	21.09.2019
10	Electrical additional panel in side of auditorium for supply to irrigation system. (Township area).	05.10.2019
11	03 nos. Old DG sets of 30 KVA (Township area).	09.01.2020

A work of augmentation of production capacity from 1000 to 2000 coaches per year (Phase-1) is sanctioned vide Pink Book 2018-19 (Item No.2 of MCF). It is decided to run the factory in 3 shifts for getting 1500 coach capacity with the existing facilities. For additional 500 coaches/ annum detailed estimate is sanctioned at the cost of Rs.495.42Cr as detailed below:

Sr. No.	Department	Allocation (Capital)	Estimated value (Rs. In Crs)	Tender Invited	Tender Awarded
1.	Civil	4260	256.22	211.10	191.32
2.	Mechanical	4275	179.99	90.54*	11.53
3.	Electrical	4277	37.72	12.00	12.26
4.	S&T	4278	2.73	2.13	0.00
	Total		476.66	315.77	214.98
	D&G @ 8.72%	4280	14.00	0.00	0.00
	Cont. @ 1%	4290	4.76	0.00	0.00
	<b>Grand total</b>		<b>495.42</b>	<b>315.77</b>	<b>214.98</b>

\*Include work Tender invited by COFMOW TOD-17.07.2020.

**Foreign Training Completed for M&P Operation & Maintenance in 2019-20:-**

S.N	Name of Machine	No. of Persons	Cost of Training
1.	Automated Wheel & Axle Line (M/s DANOBAT, Bergara, Spain)	29	158041 Euros
2	CNC Edge Milling machine (M/s TOS Kurim Czech Republic)	04	Free of cost
3	CNC Shear Centre (M/s Baykal, Turkey )	04	Free of cost

**Foreign Training Proposal submitted to Railway Board for M&P Operation & Maintenance in 2019-20:-**

S.N	Name of Machine	No. of Persons	Cost of Training
1.	CNC Tool Room Milling Machine (M/s Deckel Maho ,Germany)	04	Free of cost
2	CNC Bed Milling Machine (M/s Tos Kurim, Czech Republic)	04	Free of cost
3	CNC Robotic Spot Welding Machine (M/s Bisiach & Carru, Italy)	06	Free of cost
4	Automated Shell Manufacturing Line (M/s SIS Corporation, South Korea)	30	Free of cost
5	CNC Folding Machine (M/s Schroder-Fasti Technologie GmbH, Germany )	05	10,000 Euros
6	CO2 Welding Set (M/s Migatronic, Denmark)	04	Free of cost
7	Automated Coach Blasting Plant (M/s Gostol TST, Slovenia)	08	Free of cost
8	CNC Bogie Frame Machining Centre (M/s Shin Nippon Koki, Japan)	06	Free of cost
9	CNC Under water Plasma Profile cutting Machine ((M/s Soitaab Impianti, Italy)	04	Free of cost

**Financial Progress:**

Total Rs. 120.64 Cr. expenditure has been made during the year 2019-20 against Final modification Rs. 120.64 Cr. Details of sanction and Expenditure are as given below-

ITEM	IRCON						VAT/ GST	CRIS/ IT	MCF		Grand Total
	Civil	Mech	Elect	S & T	D&G	Adv			Expe- nditu- re	D&G Expendit- ure	
<b>Sanctioned RE</b>	1396.2	1232.2	283.06	19.77	113.24	0.00	0.00	49.24	--	98.27	3192.01
<b>FM 2019-20</b>	46.81	32.28	02.13	0.00	05.71	-13.63	08.80	00.00	33.09	5.45	120.64
<b>Expenditure in 2019-20</b>	46.81	32.28	02.13	0.00	05.71	-13.63	08.80	0.00	33.09	5.45	120.64
<b>Balance work</b>	39.92	210.91	37.99	0.12	0.00	-14.21	0.00	20.69	--	25.07	320.49



4	Carriage,wagon, EMU parts and fittings	99784	0	0	99784	1375089	0	0	1375089	32524927	0	0	32524927	33999800
5	Electrical Stores	0	0	0	0	0	0	0	0	215938	0	0	215938	215938
6	Signal and Tele-com. Stores	0	0	0	0	0	0	0	0	0	0	0	0	0
7	P.Way material, track, tools etc	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Engg. Stores covering bldg. Material etc.	0	0	0	0	0	0	0	0	0	9714	0	9714	9714
9	Abrasive tools, hardware etc.	0	0	0	0	0	0	0	0	18890	0	0	18890	18890
10	Brushes, brushware etc.	0	0	0	0	0	0	0	0	942	0	0	942	942
11	Indian rubber, leather canvas etc	0	0	0	0	0	0	0	0	98356	0	0	98356	98356
12	Electrode & welding accessories	0	0	0	0	0	0	0	0	91334	0	0	91334	91334
13	Paints, enamels & varnishes	0	0	0	0	0	0	0	0	30520	0	0	30520	30520
14	Crockery, cutlery & napery	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Cloth, clothing & personal equipment	0	0	0	0	0	0	0	0	3303	0	0	3303	3303
16	Petroleum products other than fuel oil	0	0	0	0	0	0	0	0	6022	0	0	6022	6022
17	Refractories, packing material etc	0	0	0	0	0	0	0	0	843	0	0	843	843
18	Ball & Rollar bearings	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Genl. Stores covering acids chemicals etc	0	0	0	0	0	0	0	0	121264	0	0	121264	121264
20	Stationery forms etc.	0	0	0	0	0	0	0	0	4519	0	0	4519	4519
21	Metal ferrous	0	0	0	0	0	0	0	0	63066	0	0	63066	63066
22	Metal non-ferrous	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Fuel-cock, coil etc.	0	0	0	0	0	0	0	0	0	0	0	0	0
24	fuel-oil	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Timber	0	0	0	0	0	0	0	0	22753	0	0	22753	22753
26	Scrap	0	0	0	0	0	0	0	0	100106	0	0	100106	100106
27	Rolling Stock complete units & stores	0	0	0	0	0	0	0	0	0	0	0	0	0
	<b>Total</b>	<b>99784</b>	<b>0</b>	<b>0</b>	<b>99784</b>	<b>1375089</b>	<b>0</b>	<b>0</b>	<b>1375089</b>	<b>33302783</b>	<b>9714</b>	<b>0</b>	<b>33312497</b>	<b>34787370</b>

**ANNEXURE-III  
STATEMENT NO 39-A**

**Stores Transaction during the year 2019-20**

**(Rs. In Thousands)**

Description	Opening balance (at the beginning of the year 2019-20)	Receipts during the year 2019-20)	Issues during the year 2019-20)	Closing balance (at the end of the year 2019 20)
Stream loco parts and fittings	0	0	0	0
Diesel loco parts and fittings	0	0	0	0
Electric loco parts and fittings	0	0	0	0
Carriagel, wagon, EMU parts and fittings	3098340	33999800	33572498	3525642
Electric stores	23818	215938	213348	26408
Signal and Tele-com stores	0	0	0	0
P.Way material, track, tools etc.	0	0	0	0
Engg. Stores covering bldg. Material etc	7330	9714	5665	11379
Abrasive tools,hardware etc,	23676	18890	13971	28595
Brushes, brushware etc.	285	942	334	893
India rubber, leather canvas etc.	24237	98356	97881	24712
Electordes & welding accessories	6152	91334	76621	20865
Paints,enamels & varnishes	1514	30520	28047	3987
Crockery, cutlery & napery	93	0	80	13
Cloth,clothing & personal equipment.	3090	3303	3770	2623
Petroleum products other than fuel oil	585	6022	4726	1881
Refractories, packing material etc.	186	843	599	430
Ball & roller bearings	0	0	0	0
Genl. Stores covering acids, chemicals etc.	1767	121264	102820	20211
Staionery forms etc.	2804	4519	4331	2992

Metal ferrous	42419	63066	17845	87640
Metal non-ferrous	115	0	0	115
Fuel-coke, coal etc.	0	0	0	0
Fuel-oil	0	0	0	0
Timber	8875	22753	14836	16792
Scrap	8178	100106	93446	14838
Rolling Stock complete units 7 stores	0	0	0	0
<b>Total</b>	<b>3253464</b>	<b>34787370</b>	<b>34250818</b>	<b>3790016</b>
Adjustments	0	0	0	0
<b>Grand total as per App. Account</b>	<b>3253464</b>	<b>34787370</b>	<b>34250818</b>	<b>3790016</b>

**Annexure IV**  
**STATEMENT NO. 39-B**

**Summary statement of Stores transactions during 2019-20**  
**(Rs. In Crores)**

39(B)- Summary Statement of Stores transactions on Govt. Railway in 2019 -20									
Opening bal. At the beginning of the yr.				Trans. Of Phy. Stock		Closing bal. At the end of the year			
Phy. Bal without adjustments (7160)	Adjustments (7100)	Balance under (7100 to 7150)	Total stores (7100 to 7160)	Receipts	Issues	Phy. Bal without adjustments (7160)	Adjustments (7100)	Balance under (7100 to 7150)	Total stores (7100 to 7160)
1	2	3	4	5	6	7	8	9	10
301.55	0.00089258	-199.55	102	3478.73	3425.08	128	0.0010789	72.27	55.73



## ACCOUNTS

### Annual Report 2019-20

#### 1.0 PROJECT

The project estimate was originally sanctioned under Capital 4200 (Raebareli-setting up of new Modern Coach Factory) at the cost of Rs. 2556.84 crore which has been revised to Rs 3192.00 crore vide letter no. 2016/M(W)/964/3 dated 21/05/2016. The Total expenditure under final heads for fixed assets and M&P is Rs 2943.36/- crore upto March, 2020. This includes expenditure incurred on project cost of MCF (Capital) 4200 and machinery & plant (Cap-4100).

The Closing balance of floating assets (Inventories Cap-7100, Cap-7200 and Cap-7300) is Rs. 351.38 Crore. The break-up of fixed and floating assets is as under:-

(Rs. in Crore)

Fixed Assets		Amount	Break up of fixed assets by important categories	
(a)			Fixed Assets	Amount
(a)	Project Township	51.87	Preliminary Expenditure	23.07 (6.52+16.55)
(b)	Project Township (Structural Engineering Works) Building	1256.10 = (6.04+1250.06)	Land	51.87
	W/s & offices	1635.39 (130.48+1504.91)	Machinery and Plant	1520.31 (58.08+1462.23)
	<b>Total Fixed Assets (a+b)</b>	2943.36	Building and other structural engg. Works including road & permanent way	1309.52 (59.46+1250.06)
<b>II</b>	<b>Floating Asset</b>	<b>Amount</b>	General Charges	38.59 (12.46+26.13)
(a)	Stores Suspense	258.49	<b>Total Fixed Assets</b>	<b>2943.36</b>
(b)	W/s Mfg. Suspense	89.33		
(c)	Misc Adv. Cap	3.56		
	<b>Total Floating Assets (a+b+c)</b>	351.38		
	<b>Total Assets</b>	3294.74		

#### 2.0 STATEMENT SHOWING DEPRECIATION RESERVE FUND ACCOUNT FOR AND TO END OF THE YEAR 2019-20.

(fig. In units of Rs.)

Sl.No.	PARTICULARS	AMOUNT
01	Opening balance	NIL
02	Appropriation during the year 2019-20	NIL
03	Interest during the year @ 5%	NIL
04	Total (2+3)	NIL
05	Expenditure on renewals & replacement during the year 2017-18	NIL
06	Net accretion to the fund during the year 2019-20 (4-5)	NIL
07	Closing balance (Col. 1+6)	NIL
	Details of Grant for 2019-20	NIL
	Original Grant	NIL
	Supplementary	NIL
	Residual	NIL
	Final Grant	NIL

#### 3.0 STATEMENT SHOWING PENSION FUND ACCOUNTY FOR AND TO END OF THE YEAR 2019-20.

Sl.No.	PARTICULARS	AMOUNT
01	Opening balance	2918543
02	Appropriation during the year 2019-20	60000000
03	Transfer from contribution of PF	0
04	Interest during the year @ 5.75%	147148
05	Total (2+3+4)	
06	Withdrawals during the year 2019-20	60718901
07	Net accretion to the fund during the year 2019-20 (5-6)	Nil-718901
08	Closing balance (Col. 1+7)	2346790
	Details of	
	Grants for	
	Original Grant	7100000
	Supplementary	0
	Grants for	79332000
	Residual	72232000
	Final Grant	

#### 4.0 MANUFACTURING SUSPENSE ACCOUNT FOR THE YEAR 2019-20

DEBIT SIDE		CREDIT SIDE	
PARTICULARS	01 April 2019 to 31 March 2020	PARTICULARS	01 April 2019 to 31 March 2020
	AMOUNT		AMOUNT
(1) WORK IN PROGRESS AS ON 01-04-2019	639150105	(1)TRANSFER TO RLY.	
<b>TOTAL (A)</b>	<b>639150105</b>	(i) SUPPLY OF COACHES	36916659660
<b>B-(1) LABOUR</b>		(ii) MISC. SUPLPLIES	0
(1) WORK SHOP DIRECT LABOUR	487440781	(2). BY CAPITAL STORE	0
(2) INDIRECT LABOUR	232307083	(i) MANUFACTURING	0
(3) SALARY AND ALLOWANCES OF ADM	613817895	(ii) RETURNED STORE	0
(4) WORKS CONTRACT	468852221	(3) BY CAPITAL WORK DONE PLANT AND MACHINERY & OTHER WORKS	0
(5) SALARY AND ALLOWANCES OF STORE	53616529	(4) BY WORK DONE ON DEPOSIT ACCOUNT	0
(6) SALARY AND ALLOWANCES OF TOWNSHIP	51068647	<b>TOTAL CREDIT</b>	<b>36916659660</b>
<b>TOTAL LABOUR</b>	<b>1907103156</b>	(5) BY EXPORT	
<b>C-(2) STORES</b>		<b>(6) BY CLOSIN BALANCE (WORK IN PROGRESS AS ON 31-03-2020)</b>	<b>974968875</b>
(1) STORE DIRECT FROM STOCK	35109241127		
(2) STORE DIRECT FROM DDO	2015755053		
(3) ADJUSTMENT	-1502433720		
(4) INDIRECT STORE (FOH)			
(5) FOH DDO	87951435		
(6) FOH ADJUSTMENT			
(7) INDIRECT STORE (AOH)	-161992634		
(8) AOH DDO	313271463		
(9) AOH ADJUSTMENT			
(10) INDIRECT STORE (SOH)			
(11) SOH DDO	196002883		
(12) SOH ADJUSTMENT			
(13) INDIRECT STORE (TOH)			
(14) TOH DDO	44419917		
(15) TOH ADJUSTMENT			

(16) RETURNED STORE			
(17) MISC.ADJ. (TR) DR/CR FROM TO OTHER RLY.	-858553230		
<b>TOTAL STORES</b>	<b>35243662294</b>		
(3) OTHER CHARGES	0		
(1) APPRO. TO PENSION FUND	60000000		
(2) AOORI. TO DRF	0		
(3) APPRO. TO SBF.	2092899		
(4) ELECTRICITY (POWER)	57956178		
(5) STOCK ADJUSTMENT	0		
(6) FRIEGHT INDIRECT	0		
(7) MISC. INDIRECT	0		
<b>TOTAL OTHER CHARGES</b>	<b>120049077</b>		
(1) RECEIPT ON RENT AND WATER	-7507537		
(2) RECEIPT ON ELECTRICITY	-10828560		
<b>TOTAL RECOVERIES</b>	<b>-18336097</b>		
<b>TOTAL (B)</b>	<b>37252478430</b>		
<b>GRAND TOTAL (A+B)</b>	<b>37891628535</b>	<b>GRAND TOTAL</b>	<b>37891628535</b>



## CIVIL ENGINEERING DEPARTMENT

Annual Report 2019-20

### General

- 1.1 Modern Coach Factory, Raebareli is a Coach Production Unit of Indian Railway, situated at town Lalganj in District Raebareli. It is spread over large area of 540 Hectares of land. Out of this workshop area is 167 hectare, township area 354 hectares and remaining 19 hectares is used in rail connectivity from Lalganj Railway Station to workshop.
- 1.2 Workshop comprises approx. 2.01 lakh sqm covered structures. There are 1865 staff quarters (1028 type-II, 556 type-III, 160 type-IVDS, 70 type-IVSS, 46 type-V, 5 type VI & above). Construction of 94 unit type-II, 200 unit type-III, 120 unit type-IV and 02 unit type-VI quarters are in progress.
- 1.3 There are various service buildings in workshop and township, availability of full-fledged hospital, separate rest houses and clubs for workers, supervisors and officers, welfare centre, Nursery & KV School, Shopping complex, technical trainee & sport hostel. Entire indoor & outdoor sport facility, 3 MW solar power plant, a green environment and 60 hectare area Eco-Park with 5 large ponds.
- 1.4 Cost of entire civil engineering assets of MCF is approximately Rs. 1270 Crore. Now Workshop is being augmented from production capacity 1000 coaches per year to 2000 coaches per year.
- 1.5 Aforestation of 40000 trees has been done in township side in consultation with Forest Department UP, besides this total plantation done so far in MCF is 95000 trees. Nature of soil in MCF is alkali (Usar). Efforts are being made to cover entire area of campus with plantation/greenery and maintain it suitably.
- 1.6 Green Co. Platinum certificate has been obtained for the workshop. Main emphasis is given on conservation of natural resources and to provide green & eco friendly environment. Entire sewage of workshop and township is being treated in STPs (capacity 1.1 MLD + 0.4 MLD in township and 1.1 MLD in workshop). Entire treated water is being used in irrigation of greenery as such there is no liquid discharge of waste water from MCF.
- 1.7 Assets are being maintained regularly on planned manner with minimum departmental labour. General sanitation & housekeeping activities have been outsourced. Efforts of Civil Engg. Deptt. are to maintain all Civil Engineering assets in economical manner. All efforts are being made to maintain pollution free and pleasant environment in this Production Unit of Indian Railways.
- 1.8 Pre-fabricated structure with double layered roof sheeting has been used in various sheds of workshop. Large window openings with adjustable louvers have been provided to reduce the effect of heat in summer in most workshop structures, Sky lights have been provided in roofs to facilitate day light and conserve electricity.

### 2.0 Organisation setup-

- 2.1 Civil Engineering Department is headed by Principal Chief Engineer, who is assisted by 2 Dy. CE & 4 XENS/AXENS. Detail of sanction/on roll staff in engineering department is as under :-

Category		Sanc. Strength	On Roll	Vacancies
Officers		09	07	02
Group 'C'	Supervisor	22	11	11
	Ministerial	13	08	05
	Artisan	27	24	03
Group 'D'		30	07	23
<b>Total</b>		<b>101</b>	<b>57</b>	<b>44</b>

There are 8 SSE/JE/W to maintain building & structures and maintain rail connectivity network along with handling of special sanctioned and project works.

### 3.0 Main features-

#### 3.1 Water Supply

There are 3 tube wells in colony and 2 tube wells in workshop each with pumping unit. Requirement of water supply in colony as

well as in workshop is met with through 200mm dia, deep tube-wells (320m to 360m) having enough yield. Water from the tube wells is pumped to over head tanks. Total capacity of available 5 over head tanks is 2025 KL. Individual capacity and location of these over head tanks is as under.

OHT No.	Location	Capacity (KL)	Staging
OHT 1	Near type-II Colony in township	600	22 m high
OHT 2	Near type-V Colony in township	300	22 m high
OHT 3	Near type-IVDS Colony in township	450	22 m high
OHT 4	Near Gate No. 2 of Workshop	225	22 m high
OHT 5	Near MRS of Workshop	450	22 m high

Total length of main water pipe line in township is 25.50 km and in workshop is 16.00 km.

Average daily requirement of water is about 3050 KLD (2000 KLD for Township and 1050 KLD for Workshop). Every effort are being made to reduce consumption of ground water by providing push cock type taps at public places and prevent leakages from roof top tanks. This demand will further reduced drastically after commissioning of distribution network of treated effluent for irrigation of lawns/greeneries in workshop and parks, service buildings, playgrounds and Type-IV & V quarters in township.

### 3.2 Rain Water Harvesting

Water requirement of MCF is met through ground water. To prevent depletion of ground water table of the area with the passage of time, an exhaustive plan of 21 number RWH (16 Nos. in Township and 5 nos. in Workshop) with annual recharge capacity 364 ML which is more than statutory requirement of 25% of extract quantity.

### 3.3 Fire Fighting Arrangements

Sufficient fire hydrants at strategic points in the workshop, administrative building and public places like auditorium and school have been installed to meet emergency requirement. 1 static ground water tanks of capacity 900KL and 01elevated tank of capacity 332KL has been provided.

### 3.4 Sewerage System

Sewerage system is separate from storm water drains. The sewage is carried to sewage treatment plants (STP) 1.1 MLD near type-II colony, 0.4 MLD near type-IVDS colony and 1.1 MLD in workshop. These STPs are working on SBR technology. The details of sewers are as under.

SN	Description	Length(meter)	
		Workshop	Township
1	SW 200mm dia	4537	7725
2	SW 250mm dia	2011	2410
3	SW 300mm dia	-	888
4	RCC pipes 300mm dia	-	904
5	RCC pipes 350mm dia	465	1185
6	RCC pipes 400mm dia	696	-
7	RCC pipes 450mm dia	210	1907
8	RCC pipes 500mm dia	-	1588
9	RCC pipes 600mm dia	-	2142
10	RCC pipes 600mm pipe NP2	-	50
11	RCC pipe 800 mm Pipe	-	3370
<b>Total</b>		<b>7919</b>	<b>22169</b>

### 3.5 Storm water drains-

Entire MCF complex has a well planned open drainage and covered drainage system network which is ultimately discharge into natural drain (Mathana Nala) available in campus. Drainages are planned along both sides of main roads. To ensure proper functioning of storm water drains cleaning of drains before on set monsoon is being ensured. Detail of storm water

drainage is as under;

SN	Description	Length(Meter)	
		Workshop	Township
1	RCC covered drain	9015	5000
2	RCC open drain	6296	15000
3	Brick drain (open)	-	9000
Total		15311	29000

### 3.6 Service roads-

There is well planned service road network. Details of road is as under

SN	Description of Road	Area(Sqm)	
		Workshop	Township
1	CC Road	82785	-
2	Bituminous Road	11123	219257

### 3.7 Other features of Civil Engineering Department of MCF are as under :-

(i) Land

Private land	283 Hectare
Govt land	189 Hectare
Gram Sabha land	68 Hectare
<b>Total</b>	<b>540 Hectare</b>
Book Value	60 Crore (Approx.)

(ii) Boundary Wall (km)

Township	10.78 Km
Workshop	5.50 Km
Total	16.28 Km.

Entire premises of MCF/RBL are enclosed with gap less boundary.

#### (a) Fencing/boundary wall of assets

Location	Brick walled	Fabricated concrete panel	Expansion metal/chain link fencing	Total length (Meter)
Township	14013	1107	30555	45675
Workshop	3457m	0	0	3457
<b>Total</b>	<b>17470</b>	<b>1107</b>	<b>30555</b>	<b>49132</b>

### 3.8 Residential Accommodation

Type	No. of quarters
II	1028
III	556
IVDS	160
IVSS	70
V	46
VI	4
GM Bungalow	1
Total	1865

**3.9 Workshop Structures (sqm)**

(i)	Covered area	=	272875
(ii)	Un-covered area	=	136243

**3.10 Other Structures (sqm)**

(i)	Service Buildings	=	6858
(ii)	Anc. Build. in Workshop	=	8600

**3.11 Welfare Buildings (sqm)**

(i)	Township	=	17560
(ii)	Workshop	=	3850

**3.12 Track**

<b>Description</b>	<b>Length(Km)</b>
Ballasted Track	8.13
Embedded Track	14.763
Points & crossing	17Nos

**4.0 Expenditure during financial year 2019-20**

(Rs. inTh)

SN	Plan head	Allocation	Expenditure
1	4200	Cap	534800
2	7200	WMS	218300
<b>Total</b>			<b>753100</b>

**5.0 Major Achievement of the year 2019-20**

- New lawn area about 20,000 Sqm have been developed in Administrative Building, Mini Administrative Building and near Wheel Shop.
- Plantation of 18000 trees has been done in factory area and township.
- 1670 Metre embedded track/ Ballasted track has been constructed to facilitate smooth shunting and stabling of new built coaches.
- 3750 Metre CC pathway in MCF yard has been provided for safe movement of staff deployed on shunting of coaches.
- Pacca flooring covering area about 10200 Sqm has been provided for stacking of coach material, stacking of scraps material and other production activities.
- Covering shed of 600Sqm have been constructed for stacking of bogie material near bogie shop.
- New Coach Blasting Shop and Paint Store has been completed and become function.
- One additional Shower Testing Unit has been constructed and commissioned on line No. 10.
- 280 M long pathway and additional openings along furnishing shop has been created for easy handling of coach barites and other accessories.
- Provision of lift has been made in GM/MCF camp office at New Delhi.
- Engineering Earning of MCF/RBL under lease rent etc is RS. 6.22 Crores.
- Around 18 Hect. Of wild area in workshop has been cleaned.
- Swachhhata Pakhwara organised on 2nd October 2019 with tree plantation, campus cleaning and environment awareness among staff and officers of MCF.
- Work of Brick lining in Mathana Nala of township completed.
- Nursery of MCF township was renovated, Green house created in the Nursery, seasonal plants as well permanent plants are being developed and reproduction in house.
- More than 5 thousand decorative and other plants were arranged in the nursery and distributed to staff and officers residing in MCF Township in presence of GM/MCF on 25.12.2019
- Construction of 06 officer's suite was completed in TTC hostel, well furnished and inaugurated by GM MCF on 06.03.2020 for use of officers.
- Construction of one community Hall in Workers Club was completed with kitchen parking and other facilities.
- 03 New sewage pumps of 12.5 hp and 3 new pumping sets of 7.5 hp capacity installed in STP No. 1 for proper functioning of the STP.
- 300 pop ups of sprinkler system were made functional for irrigation of central park and other green belts using waste water of STP outlets.
- Granite circular ring as bench and pathway with other beautification works done near central park for showcasing Heritage

Engine and Heritage Coaches of Narrow Gauge.

- Embedded track constructed and other beautification works done near central park for show casing Heritage Engine and Heritage Coaches at Narrow Gauge.
- Dedicated water supply arrangements have been done along both side of roads from main entrance to central park and central park to GM's Bungalow for watering of plants, shrubs and grass.
- 7 No wooden courts of maple wood flooring constructed and opened for sports activities in Indoor Stadium and Officer's Club of MCF Township
- Work planned for Augmentation of water supply and distribution system, estimate sanctioned and agency under finalization.
- Work planned for repair of main road surface of township , Estimate sanctioned and agency finalized.
- Proposals framed with estimates for additional toilets in type II and III quarters, cupboards in quarters, improvements to drainage and sewerage system, etc.
- Dedicated team of workers from the existing resources deployed and they keep the entire colony free from jungle and long bushes through out the year.

#### 6.0 Major work planned and in progress of the year 2019-20

- Following work have been awarded in connection with augmentation of coach production capacity from 1000 to 2000 per year.
  - Construction of furnishing shop(360mx60M)
  - Construction of finishing shop(96mx60M). & 03 no. store shed (60mx25M).
  - Construction of Paint shop(120mx105M)
  - Construction of Testing Shed (400mx20M).
  - Construction of office cum locker room, toilet block, embedded track, bridge, mathana nala, etc.
  - Construction of Type-IV DS -70 Units.
  - Construction of Type-IV SS – 50 Units.
  - Construction of Type-III – 120 Units.
- New stabling lines under construction
- 3 Nos. Shower testing units near Shell Shop is under construction.
- Civil assets maintenance contract of Township & Workshop have been awarded successfully in this year.
- Modernization of Alambagh Workshop (Phase I & II) and Kota Workshop (Phase I & II) are in progress.
- Construction of ORH at Thomson Road New Delhi is under construction.
- Construction of Type-III – 80 Units.
- Construction of Type-II – 94 Units.



## PERSONNEL DEPARTMENT

### Annual Report 2019-20

#### 1. Over all Cadre position of MCF/RBL as on 01.04.2020.

S.No.	Category	Revenue	W/C	Total	On roll	Vacancy
1	Gazetted	157	2	158	137	21
2	Supervisors	426	54	480	348	132
3	Artisan	1554	00	1554	1348	206
4	Ministerial	239	06	245	196	49
5	Others (A/C, RPF, Med. G. Branch )	150	17	167	88	79
6	Group-D	389	5	394	224	170
<b>Total</b>		<b>2915</b>	<b>84</b>	<b>2998</b>	<b>2341</b>	<b>657</b>

#### a) Cadre of Gazetted Officers:-

The staff strength of Gazetted cadre during the year 2019-20 is given below:-

S.No.	Category	Revenue	W/C	Total	On roll	Vacancy
1	HAG+	1	0	1	1	0
2	HAG	5	0	5	5	0
3	SAG	20	0	20	18	2
4	SG/JAG	43	0	43	42	1
5	SS	29	0	29	25	4
6	JS/Group-B	58	2	60	46	14
<b>Total</b>		<b>156</b>	<b>2</b>	<b>158</b>	<b>137</b>	<b>21</b>

#### b) Cadre of Non-Gazetted Staff:-

The staff strength of Non-Gazetted cadre after Ministerial cadre and Artisan cadre restructuring during the year 2019-20 (as on 01.04.2020) is given below:-

S.No.	Category	Revenue	W/C	Total	On roll	Vacancy
1	Supervisors	426	54	480	348	132
2	Artisan	1554	00	1554	1348	206
3	Ministerial	239	06	245	196	49
4	Others (A/c, Security, Gen. Admn, Med.)	150	17	167	88	79
5	Group-D	389	5	394	224	170
<b>Total</b>		<b>2758</b>	<b>82</b>	<b>2840</b>	<b>2204</b>	<b>636</b>

#### 2 a) Work Charged Gazetted Posts:-

The details of work charged/temporary gazetted posts created/Extended during the year 2019-20 are as under:-

S.No.	Deptt.	No. of Posts	Grade	Period of Currency	
				From	To
1	Acct.	1	JS	01.07.2019	30.06.2020
2	Pers.	1	JS	01.07.2019	30.06.2020

#### b) Work Charged Non-Gazetted Posts:-

The details of work charged non-gazetted posts operated during FY 2019-20 are as under:-

S.No.	Deptt.	No. Of Posts	Period of Currency	
			From	To
1.	Supervisor	52	01.04.2019	31.03.2020
2	Supervisor (CDMD)	02	14.01.2019	31.03.2020
3.	Ministerial	04	01.04.2019	31.03.2020
4.	Medical	02	14.01.2019	31.03.2020
5.	Others (Accounts)	16	01.07.2016	30.06.2020
6.	CLA/Personnel	01	29.03.2019.	31.03.2020
7.	Group 'D'/Accounts	5	01.07.2019	30.06.2020
8	Group D/All Deptt.	7	01.04.2019	31.03.2020
<b>Total</b>		<b>89</b>		

**3. Indent Position:- The detail of Indents placed and panel received during the year 2019-20 are as under:**

Category	Indent placed	Panel received	Balance	Remarks
Ministerial	32	0	32	
JAA/Accounts	16	0	16	
Paramedical	9	8	1	
Group 'D'	113	0	113	
<b>Total</b>	<b>170</b>	<b>8</b>	<b>162</b>	

**4. APPOINTMENT IN GROUP C&D AGAINST VARIOUS QUOTAS:-**

The detail of appointments on various quotas during the year 2019-20 is as under:-

S. No.	Category	For the year 2019-20
1	Compassionate Ground	1
2	Sports Quota	0
3	Ex-Serviceman Quota	0
4	Physical Handicapped Quota	0
5	Crash Programme for wiping out shortfall of SC/ST	0
6	Casual Labour absorbed	0
7	No. of Staff Recruited Scout/Cultural Quota	2
8	Sub. B/Kh.	22
<b>Total</b>		<b>25</b>

**5. Engagement of Act Apprentices:**

During the FY 2019-20, 91 candidates were engaged under the Act Apprentices and send for Training in Technical Training Centre, MCF/Raebareli.

**6. Settlement Dues:-Total no. of cases in which payment of settlement dues**

has been made during the year 2019-20.

S. No.	Nature of Settlement	No. of Cases received	No. of Cases Settled	Balance Cases
1	Superannuation	12	12	00
2	Voluntary Retirement	02	02	00
3	Compulsory Retired	00	00	00
4	Resignation	04	04	00
5	Removal, Dismissal & Others	05	05	00
6	Medical Unfit Cases	00	00	00
7	Death Cases	02	00	02*
<b>Total</b>		<b>25</b>	<b>23</b>	<b>02</b>

\* Only DCRG withhold due to non-vacation of Railway quarter, for death cases.

**7. PROMOTIONS:-**

During the year selections, suitability & Trade Test were conducted. 655 Non-Gazetted employees of various categories have been promoted. 02 employees of engineering departments have been promoted to Group "B" Gazetted posts. Besides, this all MACP cases due during the financial year have been finalized.

S.No.	Category	Number of staff promoted this year.
1	Gazetted	02
2	Supervisor	41
3	Ministerial	104
4	Artisan	389
5.	Gr. D	121
<b>Total</b>		<b>657</b>

**8. Recruitment:-**

11 candidates have been recruited in the following categories during the period of 2019-20.

S.No.	Category	Recruited
1	Supervisors	0
2	Ministerial	0
3	Technicians	1
4	Paramedical	8
5	Group-D	2
<b>Total</b>		<b>11</b>

**9. BONUS:-**

In the years 2019-20 Group-C&D staff of MCF/RBL has been Paid productivity linked Bonus detail of which is given below:-

No. of Employees 2019-20	Productivity Linked Bonus (In Rs.)
2169	3,76,12,220/-

**10. Salary Payment during 2019-20:-**

No. Of Staff	Amount Paid
Gazetted	24,43,79,579
Non Gazetted	1,18,27,80,311
<b>Total</b>	<b>1,42,71,59,890</b>

**11. Disbursement of Advances for the year 2019-20:-**

Following advances on various accounts had been disbursed during the year 2019-20:

HEADS	FUND ALLOTTED	FUND PAID	FUND BAL.	No. of Staff	Remark
HBA	20,00,000	0	20,00,000	0	
M.CAR	0	0	0	0	
M.CYCLE/ SCOOTER	0	0	0	0	
COMPUTER	15,00,000	14,00,000	1,00,000	28	
CYCLE	0	0	0	0	
<b>TOTAL</b>	<b>35,00,000</b>	<b>14,00,000</b>	<b>21,00,000</b>	<b>28</b>	

**12. Online Portals being operated at MCF/RBL:-**

- CPGRAMS
- NIVARAN
- Mobile Apps

**13. Industrial Relation:-**

During the year 2019-20, the industrial relations have remained cordial at MCF/ Raebareli with not even a single incident of unrest or indiscipline.

- i) Informal Meeting, chaired by PCPO/MCF was held on 20.02.2020 at Meeting Hall of Personnel Department with Members of SC/ST Association. Various issues were discussed in the meeting in cordial manner.

**14. Staff Contact and Grievance handling:-**

Staff & Welfare Inspectors visited every day in shop floor from 10:00 AM to 12:00 PM and contacted employees to collect the grievance for disposal within stipulated time.

- i) Total 141 complaints were collected and 135 complaints were disposed of till 31.03.2020.
- ii) 15 complaints registered in NIVARAN Portal & all complaints cases have been disposed of.
- iii) 14 complaints registered in CPGRAMS postal & all registered complaints have been disposed of.
- iv) 93 complaints registered in Mobile Apps online portal, out of which 90 complaints have been disposed of till 31.03.2020.

**15. Educational Facilities:-**

- 1 A full-fledged Kendriya Vidyalaya is in operation from November, 2013. In the academic session 2019-20 for classes up to 12th standard with two sections in each classes-I to XII, a total of 824 students were enrolled.



Kendriya vidhyalaya

- 2 A Pre-school named Gyanda Bal Mandir is being run by MCFWWO for the children of employees of MCF/RBL. It is running with 08 class rooms and having a well equipped playroom, kitchen and playground for the children. A

total of 273 students are enrolled in Gyanda Bal Mandir.



Gyanda Bal Mandir

**16. Staff Welfare**

- Facilities of Loan & membership for Staff of MCF, RBL got co-opted with NR Primary Co-op society of Lucknow.
- Appointment of Homeopathy Doctor under Staff Benefit Fund was made on 08.07.16 at MCF Hospital. There is regular service in Homeopathy Dispensary for MCF employees at Rly. Hospital.
- Battery operated 06 E-rickshaws are being operated by Welfare section in MCF campus for public transportation.
- Essay Writing & Poster Painting competition for the wards of employees on the subject "Air Pollution" was organised at Kendriya Vidyalaya, MCF/RBL on 31.05.2019, on the occasion of World Environment Day. Eighty eight (88) children participated in this competition.



- An Essay Writing competition of employees group on the subject "Air Pollution" was organised at Technical Training Centre, MCF/Raebareli on 31.05.2019, on the occasion of World Environment Day. Fifteen (15) employees participated in the essay writing competition.



to the employees and their wards who had participated in Essay writing & Poster Painting Competition held on 31.05.2019 on the subject of Air Pollution.



- A special drive for online employee registration for Unique Medical Identity Card (UMID) was organised from 08.08.19 to 31.08.19 at Mini Admin., MCF/Raebareli.



- Essay writing on "Cleanliness" for employees group was organised on 29.09.2019 at Kendriya Vidhyalaya, MCF/Raebareli.



- Essay Writing & Poster Painting on "Cleanliness" for children group was organised on 29.09.2019 at Kendriya Vidhyalaya, MCF/Raebareli.



- Award was distributed at Kendriya Vidhyalaya/MCF & Personnel Branch Meeting Hall on 24.10.2019 to the employees and their wards who had participated in Essay writing & poster painting competition held on 29.09.2019 on the subject of "Cleanliness"



- Essay writing & Quiz Competition on "Role of Sardar Vallabhbhai Patel in National Integration" was organised on 31.10.2019 for children group at Kendriya vidhyalaya/MCF and for employee group at Seminar Hall, Administrative Building MCF/Raebareli.



- Award was distributed at Personnel Branch Meeting Hall on 08.11.2019 to the employees and their wards who had participated in Essay writing & Quiz competition held on 31.10.2019 on the subject of 'Role of Sardar Vallabhbhai Patel in national integration'.



- In order to organise "Passport Mela", online employee registration camp was organised from 14.11.19 to 10.12.19 at Welfare Centre, MCF/Raebareli.



- Essay writing competition was organised on the subject “To safeguard public property and to abjure violence” on 17.12.2019 at Kendriya Vidyalaya, MCF/Raebareli.



- “Run for Equality” was organized at Prashanti Parishar, MCF/RBL on 28.01.2020 as per Action plan for celebration of Constitution Day. Officers and Staff and also the Students of Kendriya Vidyalaya participated in this event.



- Quiz competition was organized on the subject “To develop the scientific temper, humanism and the spirit of inquiry and reform” at Seminar Hall, Administrative Building, MCF/RBL on 20.02.2020. Officers and Staff participated in this quiz competition.



### 17. Bharat Scouts & Guides activities:-

- MCF/RBL Group registered as a District of Scouts & Guides in NR Railway on dt. 27.10.2016 and started activities of Scouts & Guides in District/MCF/RBL.



- The MCF District of the Bharat Scouts & Guides Celebrated flag day/foundation day on 07th November 2019. In this special programme Scouts, Guides, Rovers, Rangers, and Unit Leaders carried out activities in the form of door to door Scouting movement & its spirit of Self less Services at MCF/Raebareli.
- One day educational camp was successfully organised by N.R. Bharat Scouts & Guides District-MCF at Dalmau, Raebareli on dated 12.01.2020. In order to spreading awareness about the various welfare schemes like Pradhan Mantri Awas Yojana, Pradhan Mantri Kisan Samman Yojana, Ayushman Bahart Yojana, Pradan Mantri Suraksha Bima Yojana, Pradhan Mantri Kisan Pansion Yojana etc run by Central Government, NR BS&G District-MCF organised various activities like Swachhta Rally, Nukkad Natak, during the camp.
- Bharat Scouts & Guides, Distt.-MCF celebrated birth anniversary of Bedden Pawell, the founder of BS&G as ‘Chintan Diwas’ at Welfare Centre, MCF/Raebareli on 22.02.2020.



### 18. Activities of Staff Benefit Fund:-

- SBF was created for staff of MCF/RBL in the year 2014.
- Scholarship was distributed to 32 wards of staff who are perusing technical & professional educational course

for the year 2018-19 under the Staff Benefit Fund in Seminar Hall, MCF/ Raebareli on 24.07.2019.



- Team MCF successfully organised Women Employee Empowerment Camp-2019 at Agra, Mathura & Vrindavan from the date of 30.11.2019 to 03.12.2019. In this camp women employees of MCF/RBL visited different scenic and historic places of Agra, Mathura & Vrindavan.



- Canteen (Factory premises and Admn. Building):-**  
One modern and well equipped statutory Staff Canteen has been established in workshop area, which caters to the needs of more than 2500 employees, in supplying Tea/Snacks/Cold-drinks and meals (lunch) etc. There is also a canteen running in Administrative block.



- The staff Benefit Fund Committee continued to function effectively and satisfactorily. Brief particulars of disbursements made for various objectives are as under:-



Description	Expenditure in Rs.
Education-scholarship for Higher Technical/professional education for wards of staff in grade pay of above Rs.2400/- and up to Rs. 4200/-	5,02,350.00
Scholarship for Higher Technical/professional education of Girls Children of Staff in grade pay up to Rs. 2400/-	40,326.00
Scholarship for Higher Technical/professional education of Mail Children of Staff in grade pay up to Rs. 2400/-	18,000.00
Women Empowerment Activities.	1,81,395.00
Recreation other than sports	Nil
Recreational facilities at Institutes and Clubs etc.	1,79,246.00
Promotion of Cultural Activities	Nil
Relief of distress and Scheme of Sickness.	10,000.00
Indigenous system of Medicines including Homeopathic.	2,06,250.00
Immediate relief in times of crisis arising out of floods, famines, landslide, fire or any other calamity.	Nil
Developing occupational skills of Physically & Mentally/Challenged railway employees and their words.	Nil
Miscellaneous.	7,45,741.00
<b>Total=</b>	<b>18,83,308.00</b>

### 19. Celebration of various important events/days:-

- Welfare section organised a Prabhat Pheri in Prashanti Parishar of MCF on 05th June, 2019 for creating awareness on environment amongst the employees and their families. The theme of Prabhat Pheri was on 'Air Pollution'.



- Swachhta Prabhat Pheri organised at Prasanti Parisar, MCF/RBL on 16.09. 2019 for awareness of cleanliness amongst the staff and their families.



- Dr. B.R. Ambedkar's Mahaparinirvan Diwas was commemorated at TTC Auditorium, MCF/Raebareli on 06.12.2019.



- OBSERVANCE OF ANTI-TERRORISM DAY :-**  
A pledge ceremony was organised in MCF/RBL 21st May, 2019 to rative Building, Modern Coach Factory, Raebareli on 20 August, 2019.



- OBSERVANCE OF THE BIRTH ANNIVERSARY OF LATE SARDAR VALLABH BHAI PATEL " RASHTRIYA EKTA DIWAS"(NATIONAL UNITY DAY):-**  
Rashtriya Ekta Pledge was administered by Shri V.M.Shrivastava, the General Manager/MCF/RBL on 31.10.2019. Pledge was taken by officers and staff working at various places including TTC & MCF Hospital.



- OBSERVANCE OF SHAHEED DIWAS:-**  
Two minute silence was observed on 30th January, 2020 at MCF/Raebareli in memory of those who gave their lives in the struggle for India's freedom.



- One Day Women's Seminar was organised on occasion of International Women's Day-2020 at Technical Training Centre Auditorium, Modern Coach Factory, Raebareli on 05.03.2020.



- Run for equality programme was organised for Women's on occasion of International Women's Day at Shopping Complex, Modern Coach Factory, Raebareilly on 06.03.2020.

#### 18. Activities of MCFWWO

One of the major activities of MCFWWO is to run the play school named Gyanda Bal Mandir, for the children of employees of MCF/RBL. It is running with 08 class rooms and having a well-equipped play room, kitchen and play area for the children. The school holds various functions on all important dates like Republic day, Independence day, International Women's day, Children's day and Teacher's day.





## MEDICAL DEPARTMENT

### Annual Report 2019-20

1. The medical examination of new appointee and employees are being conducted at MCF/RBL Hospital.
2. MCF/RBL hospital is fully equipped with Wi-Fi and CCTV cameras.
3. HbA1c machine has been installed and functioning properly.
4. Equipments for Physiotherapy and Sport Medicine Centre have been installed and this unit is running properly.
5. Lucknow Eye centre has been empanelled for providing eye services to railway beneficiaries.
6. Total 07 Hospitals have been empanelled with MCF/RBL Hospital to provide better health services to railway beneficiaries.
7. Total patients in 2019-20 was 55640, in which 590 patients treated in IPD and 55050 patients treated in OPD.
8. Total 2466 patients were referred during the year, out of these 2250 patients referred to empanelled hospital and 216 patients referred to Govt. Hospital.
9. HMIS has been implemented in MCF/RBL hospital as a step in the direction of paperless hospital.
10. Total 03 ambulances are running in MCF/RBL hospital, in which 02 ALS ambulances hired on contract basis for providing transport facility to railway beneficiaries.
12. Fogging and Anti Malaria Spray have been conducted in Prashanti Parisar and Factory site regularly.

#### Machines in Pathology Lab:

##### HbA1c Machine

This machine was installed in July 2019 to perform HbA1c tests like 3 months sugar level.



**INCUBATOR: For sample incubation**

**HOT AIR OVEN: For sterilization of Test Tube, Slides, Culture Plates.**

#### Advance Life Support Ambulance:

The ALS ambulance is running in MCF/RBL hospital from last 04 years.

The ALS ambulance is equipped with the following medical equipment:

Ventilator, Multiport cardiac Monitor, Defibrillator, Syringe Pump, automatic Stretcher loading arrangement, Life Saving Medicine, Suction Machine, Oxygen Backup, Power backup with inverter, Intubation kit, Head Immobilizer and Spine board.



**Machines installed in Physiotherapy & Sports Medicine Centre:**

All machines installed in Physiotherapy & Sports Medicine Centre is used in

- Pain management,
- Reduce tenderness,
- Spasm & swelling,
- Increase range of motion,
- Muscle strength and





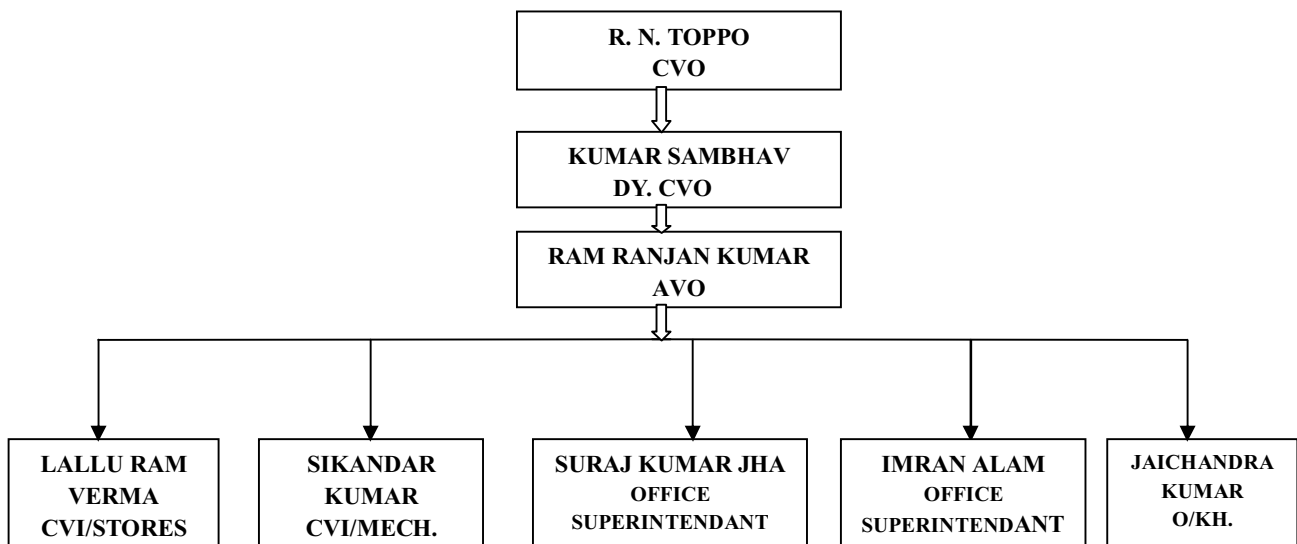
## VIGILANCE DEPARTMENT

Annual Report 2019-20

### ➤ History of Vigilance Department in MCF/RBL:

- Modern Coach Factory, Raebareli is under setting up stage and we are now taking over functions independently. There are nine departments in this organisation, i.e.: (i) Mechanical (ii) Electrical (iii) Stores (iv) Accounts (v) Personnel (vi) Civil (vii) Medical (viii) IT and S&T (ix) General Administration.
- At present against the 158 sanctioned posts in Gazetted cadre, 140 posts are in Operation along with 2840 number of sanctioned post and 2204 number of On Roll of non-gazetted posts.

Organisation chart of Vigilance Department is as follows:



### ➤ Achievement:-

- During the year 2019-20, 36 vigilance complaints have been received in which 20 Railway Board referred complaints & 16 (Direct/Other Railway referred) complaints. Out of 36 vigilance complaints, 09 complaints have been closed 03 closed as pseudonymous, 02 closed as anonymous & 04 closed as no vigilance angle noticed and 27 complaints are under investigation.
- The Vigilance Awareness week, 2019 was observed at Modern Coach Factory, Raebareli from 28.10.2019 to 02.11.2019 as per directives issued by Railway Board. The main theme of this year's Vigilance Awareness Week was "Integrity-A way of life". Various activities conducted during this week like Vigilance pledge in administrative building & workshops premises, pamphlets, posters and hoarding exhibiting anti-corruption themes were distributed and displayed at prominent places in admin building, workshop and township premises. A customer/vendor grievance redressal camp was organised. Vigilance pledge, essay writing and poster competition on the topic "Integrity- A way of life" was organized at Ganesh Inter College, Aihar & Kendriya Vidyalaya. 4th issue of vigilance bulletin has been released by the General Manager/MCF.





## ELECTRICAL DEPARTMENT

### Annual Report 2019-20

#### A. Power supply system of MCF/RBL consists of the following:

1. **132/11 KV MRS (Main Receiving Sub Station)** – 02X12.5 MVA Transformer
2. **33/11 KV Sub Station (ASS)** - 01X10 MVA Transformer
3. **Auxiliary Sub Station (ASS)** – 10 X(03X750 KVA) -30 nos. Transformer
4. **Compact Sub Station (CSS)** – 10X750 KVA – 10 nos. Transformer
5. **Compact Sub Station (CSS)** – 03X1250 KVA – 03 nos. Transformer (for solar plant)
6. **Solar Power Plant** – 03 MW
7. Tender for additional 7MW roof mounted solar plant is under tendering stage through REMCL.
8. DG sets-
  - a) 04X1010 KVA installed at 132/11 KV MRS
  - b) 01X380 KVA DG set at MCF hospital.
  - c) 01X125 KVA DG set at Lucknow rest house
  - d) 01X10 KVA DG set at MRS

#### B. Sanctioned Load-

- 4000 KVA ON 132/11 KV
- 1000 KVA ON 33/11 KV

Average unit consumption per month in year 2019-20 – 1757491.8 KWH

Power generation by solar plant during 2019-20 – 36.78 Lakh units

Miscellaneous Electrical Assets:

- Total no. of light pipes – Approx. 1600 nos. (in factory area)

#### Achievement of 2019-20

##### Energy Conservation measures

- Settings of 126 nos. timers of street light and high mast lights have been changed as per day light.
- 22 nos. 5 star rated AC and 30 nos. 5 star rated refrigerator provided.
- Reduction in per coach energy consumption from 8695.42 KW per coach in 2018-19 to 7909.93 KW per coach in 2019-20.

##### Safety Measures

- 1657 nos. earthing of residential quarters, service buildings and substations have been checked.
- Economy/Expenditure reduction measures
- MCF has switched on open access from 15.10.2019. due to this monetary saving of Rs. 1.47 Cr (approx.) has been made during F.Y. 2019-20.



## RAILWAY PROTECTION FORCE

Annual Report 2019-20



## THE SECURITY BRANCH

### GENERAL

Railway Protection Force has assumed the duties of Protecting the Railway Property of the Modern Coach Factory, Raebareli since 15th February, 2011. Railway Protection Force (RPF) is an Armed Force of the Union. The Responsibility of this Unit is to protect the Railway Assets of the Modern Coach Factory, Raebareli. For this purpose, Strength of 61 members of the Force has been sanctioned.

At MCF, RPF has a set up of Executive Branch and Crime & Special Intelligence Units. A 24X7 Security Control Room has also been Operationalised. All these Units work under the control and command of Senior Security Commissioner/RPF. The Administrative Control of this Security Department lies with Inspector General-cum-CSC/RPF/Northern Railway, Baroda House, New Delhi and General Supervision is under the Principal Chief Mechanical Engineer, MCF.

### JURISDICTION

This Factory is being set up in 540 hectare land, which includes construction of a modern, Eco-Friendly Township with need based Social Infrastructure for providing Residential Accommodation to its Employees.

The Modern Coach Factory, Lalganj, Rae Bareli, is situated at 05 Km east of Lalganj Railway Station on Lalganj-Raebareli Road. The Factory Area is spread across 1.67 Sq.Km, and Township Area is spread across 353 Ha land.

The Township is encircled by a 10.57 Km Long Perimeter Boundary Wall and the length of the Perimeter boundary wall of the Workshop is 5.4 Kms. The MCF area falls under the jurisdiction of Police Station, Lalganj. The Police Station, Lalganj comes under Lucknow range which is headed by an IG, Uttar Pradesh Police.



### PRIVATE SECURITY

The Railway Protection Force is being assisted by Uttar Pradesh Purva Sainik Kalyan Nigam Limited (A UP Government Undertaking), who had been awarded a Contract for a Period of 36 months from the date of actual commencement of the work (from 01.09.2019 to 31.08.2022) for Guarding the Railway Property in the identified Non-Core Areas, having a strength of 205 Security Guards.

### POSTING & TRAINING

The General tenure of Non-Gazetted RPF Personnel at MCF is for 3-5 years. The Periodical Transfer of RPF staff is carried out by the IG-cum-CSC/RPF/NR. The Members of the Force are regularly trained to update their Soft & Hard Skills. The Present Strength for the year 2019-20 of the RPF Personnel is as under:



Description	Sr.SC	SC	IPF	SI	ASI	HC	Const	Total
Sanction Strength	01	01	02	08	09	11	31	63
Present Strength	01	01	02	02	05	01	15	27
Vacancy	-	-	-	06	04	10	16	36

The Training details of the RPF Personnel are as under:

S. No.	Name	Rank	Course Name	From	To
1.	Brajesh Kumar	CT	Commando Screening	30.09.19	10.07.19
2.	Naveen	CT		30.09.19	10.07.19
3.	Jagbir Singh	CT		30.09.19	10.07.19

#### Courses

S.No.	Name Sh.	Rank	Course	From	To
1.	Arvind Kumar	DI	Orientation Course	14.09.2019	11.10.2019
2.	Surendra Meena	IPF		11.10.2019	07.11.2019
3.	Pushpendra Kumar	CT	RSMS Course	17.06.2019	21.06.2019
4.	Ishwar Singh	CT		15.07.2019	19.07.2019
5.	Pushpendra Kumar	CT	CTI Course	11.02.2019	20.04.2019
6.	B.N. Yadav	CT	Refresher Course	07.07.2019	--

### ACCOMMODATION

➤ Accommodation is provided to the RPF Staff in the Railway Quarters, the details of which is as under:

S.No.	Types of quarter	No of quarters	
		Available	Further requirement
01	Type-II	10	05
02	Type-III	03	03
03	Type-IV (DS)	02	
04	Type-IV (SS)	00	
05	Type-V	01	



**DOG SQUAD**

The Dog Kennel for 01 Tracker & 01 Sniffer Dog has been completed and the matter to purchase/hiring is under active consideration by the Competent Authority.

**RPF BARRACK**

A RPF Barrack with capacity of 42 beds with all basic amenities is available in MCF township area. Housekeeping & cooking activities have been outsourced to facilitate the jawans. One Gym with modern equipments is also provided to keep jawans physically fit. The description is as follows:

Sr. No.	Description	Capacity
1.	Shaurya Sadan (For Staff)	32 Beds
2.	Shakti Sadan (For women staff)	10 Beds

**CRIME CONTROL**

During the year 2019-2020, the RPF unit of MCF was able to successfully implement its was able to successfully implement the Zero Tolerance Policy towards the criminal activities due to which 04 cases of theft of Railway Property were registered with recovery of Railway Property total value Rs. 71178.28/- and arrested 15 accused. This result was achieved due to 24 X 7 hours Patrolling, Strict Access Control at all the Entry/Exit Gates and round the clock Surveillance of the Identified Vulnerable Points.

**ARMS & AMMUNITIONS:**

This RPF unit is equipped with latest Weapons. The details of which are as under:



S. N.	Arms	Quantity	Silling	Ammunitions	Spare Magazine	Bayonet	Nozzal Cap
1.	Rifle 7.62 mm{SLR} IAI	04 Nos.	--	380 Nos.	16 Nos.	--	--
2.	ARM 7.62x39mm ARM	03 Nos.	--	280 Nos.	12 Nos.	--	--
3.	Rifle 5.56mm{INSAS} fold Butt 2A	08 Nos.	08 Nos.	580 Nos.	40 Nos.	04 Nos.	08 Nos.
4.	Pistol Auto 9mm with Magazine	22 Nos.	--	1310 Nos.	44 Nos.	--	--
5.	Carbine Machine Gun 9mm IA. IAI	08 Nos.	--		24 Nos.	--	--
<b>Total =</b>		<b>45 Nos.</b>	<b>08 Nos.</b>	<b>2550 Nos.</b>	<b>136 Nos.</b>	<b>04 Nos.</b>	<b>08 Nos.</b>

### MODERNISATION

- MCF/RBL/NR has become the 1st Production Unit over Indian Railways to start Aerial Surveillance with State of the Art Day/Night Ultra Advanced Cameras with Intelligent Video Analytics having features like Motion Detection Analytics through Pixel Change Detection, full Body Profiling for Facial Recognition, Crowd Density Estimations, Target Locking/Tracking, Fired Detection through Image Distortion Analysis, Suspicious Behaviour Identification etc.
- To strengthen the working of the Force, the Force has been provided with latest Security Gadgets modern Bullet Proof Jackets & Helmets, Polycarbonate Shield and Canes, Dragon Search Lights, High resolution CCTV Based Surveillance System, HHMD, DFMD, Drone Camera etc. and binoculars devices are under procurement. The details of the Security Items are as under:

Name of the Security Item	Quantity
Baggage Scanner	01 Nos.
Bullet Proof Jacket	04 Nos.
Bullet Proof Helmet	10 Nos.
Polycarbonate Shield	20 Nos.
Body Protector	20 Nos.
Polycarbonate Lathi	20 Nos.
Sony Camcoder	01 No
Sony Dsc Camera	01 No
Dragon Search Light	05 Nos.
HHMD	15 Nos
DFMD	02 Nos.
Drone Camera (UAV)	02 Nos.
Walkie-Talkie	30 Nos.
VHF sets	04 Nos.

### ACCESS CONTROL

The entry/exit process at factory gates & Township gate has to be made contactless in view of Covid-19 pandemic to prevent contraction of disease. Therefore,

the electronic gate pass system is being implemented. The system shall have the following features:

- This system will be integrated with the electronic PVC card & RFID Based identification System at the Entry/Exit Gates.
- This system is also essential for improving punctuality & maintains discipline in duty time of contractual workers engaged for factory as well as Prashanti Parisar premises.
- In view of Covid-19 it also eliminates human contact interference at entry/exit points and to control entry of unauthorized persons in the MCF premises.

### THE FUTURE ROADMAP

- Developing a State of the Art Integrated Security Architecture Comprising of Intrusion Detection System and RFID based Access Control
- Achieving Higher standard of efficient Practices as specified by the ISO



## MODERN COACH FACTORY SPORTS ASSOCIATION

### Annual Report 2019-20

#### 1.0 Cricket

- (a) Sh.Vikash Chaoudhary, Ch. OS Stores department was nominated as fitness and fielding Coach at camp for Indian Railway Women Cricket domestic season 2019-20 from 10.06.2019 to 05.07.2019 at Secunderabad.
- (b) Sh.Vikash Chaoudhary, Ch. OS Stores department was nominated as Fitness Trainer for pre competition coaching camp for Indian Railways Senior Women Cricket BCCI domestic season 2019-20 from 06.08.2019 to 25.08.2019 at Secunderabad.
- (c) Sh.Vikash Chaoudhary, Ch. OS Stores department was nominated as Fitness Trainer for Indian Railway Senior Women Cricket coaching camp at Secunderabad from 10.09.2019 to 13.10.2019 and for Senior Women T20 League to be held from 10.09.2019 13.10.2019.
- (d) Sh.Vikash Chaoudhary, Ch. OS was selected to represent, Indian Railway Senior Women Cricket team as trainer for League to be held from 14.10.2019 to 10.11.2019.
- (e) Sh.Vikash Chaoudhary, Ch. OS was selected to represent, Indian Railway Senior Women Cricket team as trainer for T20 Super league and Knock out matches held at Vijaywada from 31.10.2019 to 10.11.2019.
- (f) Sh.Vikash Chaoudhary, Ch. OS was selected to represent, Indian Railway Senior Women Cricket team as trainer for One day League BCCI Domestic Season 2019-20 held in Mumbai from 01.12.2019 to 20.12.2019.
- (g) Sh.Vikash Chaoudhary, Ch. OS was selected to represent Indian Railways Senior Women One Day Trophy (league Matches) from 19.02.2020 to 08.03.2020 held in Una (Himachal Pradesh).
- (h) Sh.Vikash Chaoudhary, Ch. OS was selected to represent Indian Railways Senior Women One Day Trophy (Knock out matches) for the season 2019-2020 at Vadodara.

#### 2.0 Road cycling

MCF team participated in 57th All India Railway Road Cycling Championship conducted by NWRSA Bikaner from 25/09/2019 to 27/09/2019.

#### 3.0 Track Cycling

MCF team has participated in 57th All India Railway Track Cycling Championship conducted by (SCR) Secunderabad from 08.01.2019 to 10.01.2019. Shri Ramesh N. has secured Silver Medal in keirin Race.

Shri N. Ramesh selected to the Coaching Camp for Indian Railway Cyclists for 72nd Senior, 49th Junior & 35th Sub- Junior National Track Cycling Championship

held in Assam from 23rd to 27th March, 2020.

#### 4.0 Football

Inter departmental '7 a side' football Championship 2019 was conducted at MCF Hockey Stadium from 02.12.2019 to 04.12.2019 and won by MCF Football Academy.

#### 5.0 Sports Academics

MCFSA is running following sports academies at Modern Coach Factory Lalganj, Raebareli.

1. Football
2. Boxing
3. Badminton
4. Kick Boxing
5. Taekwondo
6. Golf
7. Hockey

#### 6.0 International Yoga day.

On the day 5th International day of Yoga shiver was organised by MCFSA on 21/06/2019. Around 500 persons participated in this event.

#### 7.0 Aquatic Team

MCF team has participated in 60th All India Railway Aquatic Championship conducted by ERSA Kolkata From 23/07/2019 to 27/07/2019.

#### 8.0 Athletics Team

MCF team has participated in 85th All India Railway Athletics (M&W) Championship conducted by CRSA at Shiv Chhatrapati Sports Complex, Balewadi, Pune from 20/08/2018 to 22/08/2018.

Shri Munna Singh Ch.OS participated as Technical Official for Selection Trials for USIC world Railway Athletics (M&W) Championship held at Punjabi University (Patiala) from 03.07.2019 to 05.07.2019.

Shri Munna Singh Ch.OS participated as Technical Official for 85th All India Railway Athletics (M&W) Championship conducted by CRSA at Shiv Chhatrapati Sports Complex, Balewadi, Pune from 20/08/2018 to 22/08/2018.

#### 9.0 Table Tennis

Table Tennis Inter department tournament was conducted at Gomti Indoor Stadium from 11.06.2019/ to 13/06/2019.

#### 10. Mid Session Golf

MCF team has participated in All India Railway Mid Session Golf Championship conducted by NRSA at Punchkula Golf Club From 11/10/2019 to 13/10/2019.

#### 11. MCFSA jointly organized National Kick Boxing Championship 2019.

Modern Coach Factory Sports Association is keen to encourage sports activities in local area. MCFSA jointly organized 14th National Kick Boxing Championship from 27.12.2019 to 29.12.2019 at Gomti Indoor

Stadium, Lalganj Raebareli and more than 10 teams and around 230 players & officials from different States participated in this event.

#### 12. MCFSA organised Indian Railway Handball (Men) players Coaching Camp.

Modern Coach Factory Sports Association conducted a Coaching camp for Indian Railway Handball (Men) from 20.01.2020 to 17.02.2020 to participate in the 48th Senior National Handball Championship held at Kanpur (U.P.) from 18.02.2020 to 23.02.2020.

Shri Md. Imran was nominate as Manager for participate in the said Championship.

#### 13. MCFSA organised Indian Railway Kabaddi (Men) players Coaching Camp.

Modern Coach Factory Sports Association conducted Coaching camp for Indian Railway Kabaddi team from 15.01.2020 to 29.01.2020.

#### 14. Run for Unity

MCFSA organised "Run For Unity" on dt. 31/10/2018 at Shopping Complex Prashanti Parishar and around 500 employees & officers participated in this event.

#### 15. Volleyball

A Volleyball court was inaugurated at Officers club. A Friendly match was organized at this occasion between officer and staff.

#### 16. Sports Facilities at MCF

Indoor & outdoor facilities for various sports are available at Modern Coach Factory sports i.e. Badminton, Basketball, Squash, Table Tennis, Yoga, Taekwondo cum marshal art, Multigym, Hockey (Astro Turf), Football, Swimming, Cricket, Volleyball, Lawn Tennis, Golf, Weightlifting, Powerlifting, Boxing, Gymnastic, Billiards, Synthetic Track (Construction work in progress) Other sports facilities may be added subsequently.

**subsequently.**

MCFSA jointly organized 14th National Kick Boxing Championship from 27.12.2019 to 29.12.2019 at Gomti Indoor Stadium, Lalganj Raebareli.



at Gomti Indoor Stadium, Lalganj Raebareli.



Modern Coach Factory Sports Association conducted a Coaching camp for Indian Railway Handball (Men) team.



A Friendly Cricket match GM/MCF XI v/s GM Ircon XI at Cricket ground MCF Raibareli.



Swimming Pool.



Synthetic Track (Construction work in progress).



## CULTURAL ASSOCIATION

### Annual Report 2019-20

1. A cultural programme organized on the occasion of Independence Day Celebration (15/08/2019).



2. A Nukkad Natak was performed at the shopping complex to celebrate "Ekta Diwas" on 31/10/2019 with a 10-member team



3. Our 11 members team have participated in the Inter Railway Competition (Drama) which was organized by Kharagpur Division of Eastern Railway at Kharagpur from 20/11/2019 to 22/11/2019.



4. Our 17 members team have participated in the Inter Railway Competition (Dance) this programme which was organized by Bilaspur Division of South East Central Railway at Bilaspur from 28/11/2019 to 29/11/2019



5. Our 03 members team have participated in the Inter Railway Competition (Singing) this programme which was organized by Mumbai Division of Central Railway at Mumbai from 10/12/2019 to 12/12/2019.



6. On 20/02/2020 with the help of SPICMACAY we organize a show of "Rudra Veena" Vadan which was performed by Pt. Salil Bhatt



\*\*\*\*\*END\*\*\*\*\*



# **MODERN COACH FACTORY**

Website:- [www.mcf.indianrailways.gov.in](http://www.mcf.indianrailways.gov.in)