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आज़ादी का अमृत महोत्सव

ANNUAL REPORT 2020-21

आधुनिक रेल डिब्बा कारखाना, रायबरेली
MODERN COACH FACTORY, RAEBARELI

WE ARE THE FUTURE

आधुनिक रेल डिब्बा कारखाना, रायबरेली
Modern Coach Factory, Raebareli

मैं 31 मार्च 2021 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, 2021.

(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 100th 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 200th 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
• 100th Shell, Manufactured	:	June'2015
• 1st LSCN Shell, Manufactured	:	July' 2015
• 100 Bogie Manufactured	:	Dec' 2015
• RCF, Raebareli Renamed (MCF), Raebareli	:	Dec' 2015
• 300th LWACCN Coach Furnished	:	Jan'2016
• Rolling out 500th coach	:	Feb' 2016
• 1st GS Shell Manufactured	:	April'2016
• Formed Recognised Technical Training centre	:	May' 2016
• IMS Certification	:	Oct' 2016
• 800th Coach furnished	:	Oct' 2016

• 1st Rake of Humsafar coaches dispatched	:	Nov'2016
• Rolling out 1000th coach	:	Jan' 2017
• 1st Rake of Antyodaya Coaches dispatched	:	April'2017
• 1st Power Car shell manufactured	:	May' 2017
• 1000th Shell manufactured	:	May' 2017
• 5th Rake of Humsafar coaches dispatched	:	June' 2017
• 1st Power Car handed over to ZR	:	Oct' 2017
• Rolling out 1500th coach	:	Oct' 2017
• 1st Coach of Deen Dayalu dispatched	:	Jan' 2018
• Total 25 nos. Power Car handed over to ZR	:	Mar' 2018
• 2000th 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
• Green Co Platinum Rating Conferred to MCF	:	June'2019
• 1st LHB First AC Coach Turned out	:	Aug'2019
• 4000th Coach Rolling Out	:	Aug'2019
• 1st smart Humsafar rake of Indian Railways dispatch	:	17th Feb'2020
• 5000th Coach Rolling Out	:	Feb'2020
• 2nd Rake of Smart ver-2 Humsafar Coaches dispatch	:	26th Jun' 2020
• 1st LSLRD-AC-750 KVA coach dispatch	:	July'2020
• Rolling out 6000th Coach	:	4th Nov.'2020
• 1st LSLRD AC-750 KVA (18711) coach dispatch for trial	:	Nov.'2020
• Flagging off of 1st ever Smart Tejas Sleeper rake manufactured	:	27th Nov.'2020
• 2nd Smart Tejas Sleeper & 3rd Tejas Sleeper rake was dispatch WR	:	Jan.'2021
• 4th & 5th Tejas Sleeper rake was dispatch WR	:	Feb.'2021
• 6th Tejas Sleeper Rake dispatch	:	Mar'2021
• Total No. of Coach's Rolling out Date.31.03.2021	:	6645 Coach's

GENERAL ADMINISTRATION

THE TEAM MCF

Shri. Vinay Mohan Shrivastava
General Manager

Sh. Vivek Kumar
PCME

Sh. P.N.Pandey
PCMM

Sh.Birendra Munduia
CAO

Sh. R.B. Yadav
PCE& PCPO

Sh. J. N. Pandey
PFA

Sh. R.N. Toppo
SDGM

Sh. S.K.Katiyar
CPE

Sh. M.K.Agarwal
CVO

Sh. Pranjeev Saxena
CME/IT

Sh. S.K.Rawat
CME/P-I

Sh. K. C. Joshi
CMM/Fur.

Sh. R.N. Meena
CMM/Shell

Sh.S. K. Jain
CMM/Bogie

Sh. Sandeep Shukla
CMM/P

Sh.Sunil Agrawal
CMM/Elect

Sh. Md.Saquib
CPLE

Sh. Md. Saif
CPM

Sh. Mahesh Kr.
CDE

Sh. Sanjay Kr.
CEDE

Sh. Raju Prasad
CQM

Sh. S. S. Kero
CME/P-II

Sh. B.L. Meena
FA& CAO-I

Sh. Vikram Singh
FA& CAO-II

Dr. S. K. Saini
PCSC

Sh. V. K.Dubey
Secy to GM & CPRO

PUBLIC RELATIONS & PUBLICITY

1.0 CELEBRATION'S (DIWAS):-

1.1 Independence Day

74th Independence Day was celebrated on 15th August 2020 in a befitting manner. National flag was hoisted by Shri. Vinay Mohan Shrivastava, General Manager/MCF/RBL.Parade and Cultural programmes was presented in front of Saraswati Auditorium.

1.2 Rajbhasa Pakhwada

Rajbhasa Pakhwada Organised from 1st September to 14th September 2020. On this occasion various programmes were organised like Hindi Quiz competition, Essay writing, competition, Poetry seminar etc. Also a meeting was conducted to promote Hindi in day to day work.

1.3 Hindi Divas

On the occasion of “Rajbhasha Diwas” 14.09.2020, the 7th Edition of Pragati Patrika was released by Shri. Vinay Mohan Shrivastava, General Manager, Modern Coach Factory.

1.4 Swachhata Pakhwada:

Swachhata Pakhwada organised from 16th September to 30th September 2020 at MCF/RBL. On this occasion various programmes were organised like cleanliness drive, plantation, Swachhata pledge etc. On "Waste Management System" introduced to keep clean residential premises of Modern Coach Factory.

1.5 Rashtrapita Mahatma Gandhi Jayanti:

On the occasion of 151th Rashtrapita Mahatma Gandhi Jayanti dated 02.10.2020 Swachhata **Awareness programme** and Tree Plantation were organised.

1.6 Rashtriya Ekta Diwas:

"National Unity Day" or "Rashtriya Ekta Diwas" was celebrated on 31st October 2020 following the guidelines issued by the Ministry of Railways, Government of India. The oath was administered by the Hon'ble Railway Minister through video conference. General Manager MCF/RBL along with all the officers took oath of "National Integration". March-past was also organized by the Railway Protection Force to strengthen the spirit of unity, integrity and security at MCF.

1.7 Constitution Day:

On the occasion of 71st anniversary of the Constitution of India, Constitution Day observed in MCF on 26.11.2020. The General Manager Shri Vinay Mohan Shrivastava and higher officials read the "Preamble" of the Indian Constitution. All officer, supervisor and employee of MCF/RBL also read out the preamble at own workplace. On this occasion, many programmes like - Pledge of "Fundamental Duties", spread of Fundamental Duties through social media, webinars, online debates, Preamble wall signature etc. were organised.

1.8 Mahaparinirvan Diwas:

A function was organized on the occasion of 65th Mahaparinirvan Diwas of Bharat Ratna Dr. Bhimrao Ambedkar on 07.12.2020. officers, supervisors and employees of Modern Coach Factory paid tribute by laying wreaths.

1.9 Republic Day:

Republic Day was celebrated on 26.01.2021 in MCF/RBL campus with full enthusiasm. Shri V.M. Shrivastava, General Manager/MCF/RBL hoisted National flag, inspected the Parade & took salute. Cultural programme was presented by Cultural Association MCF.

1.10 International Women's Day

On the occasion of International Women's Day, various programmes like Run for Equality, Quiz Competition, Essay Writing, Yoga camp under the guidance of trained Yogacharya were organized to strengthen and empower women. On 08.03.2021, women employees were awarded by General Manager MCF/RBL for their better work during COVID-19.

2.0 SEMINAR'S:-

2.1 Vigilance Awareness Week:

The Vigilance Awareness week, 2020 was observed at Modern Coach Factory, Raebareli from 27.10.2020 to 02.11.2020 as per directives issued by Railway Board. The main theme of this year's Vigilance Awareness Week was “Vigilant India Prosperous India". Various activities conducted during this week like Vigilance pledge in administrative building & workshops premises, pamphlets, posters were distributed and hoarding exhibiting anti-corruption themes were displayed at prominent places in admin building, workshop and township premises.

2.2 International Women's Day:

One Day Women's Seminar was organised at Technical Training Centre Auditorium, Modern Coach Factory, Raebareli on the occasion of International Women's Day dated 08.03.2021.

3.0 VISITS:-

3.1 Visit of MTRS Member (Traction & Rolling Stock) Railway Board-

Shri Rajesh Tiwari Member (Traction & Rolling Stock) Railway Board visited MCF/RBL on 7.12.2020.

3.2 Visit of Member Finance Railway Board:

Shri Naresh Salecha Member Finance Railway Board visited MCF/RBL on dated 23.01.2021.

3.3 Visit of Additional Member (PU) Railway Board:

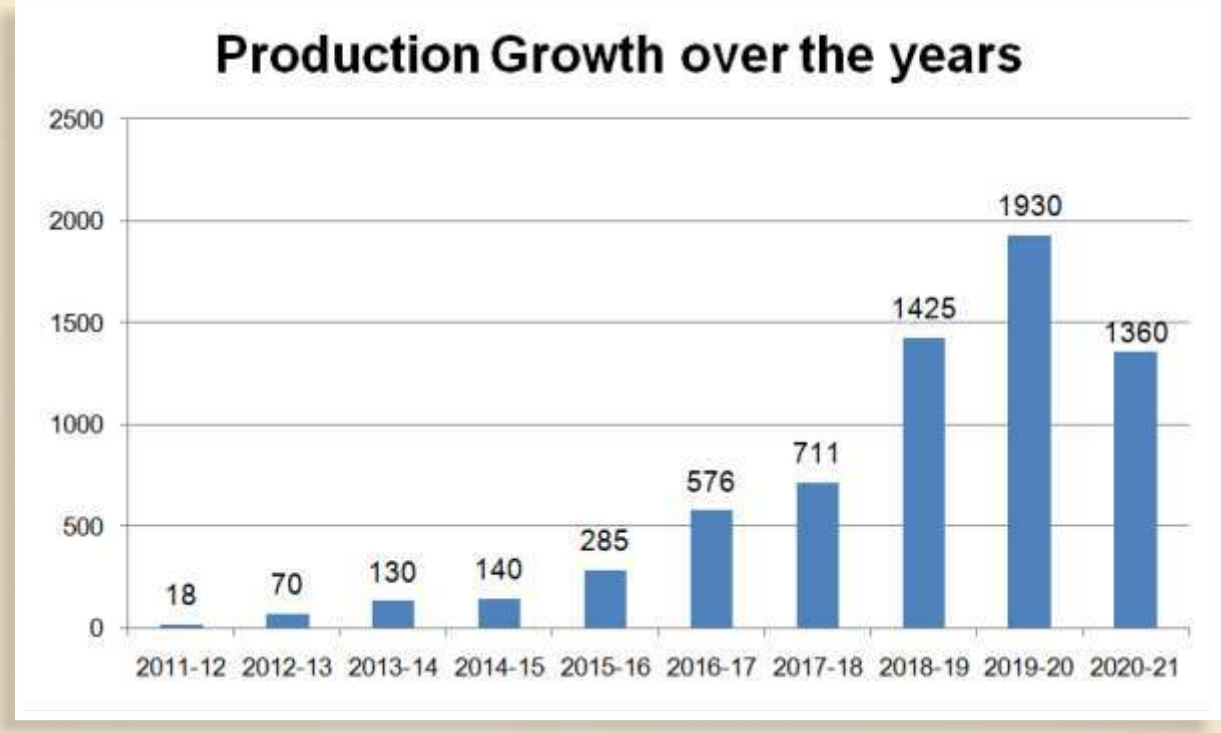
Sh. Chetram, Additional Member (PU) Railway Board visited MCF/RBL on 05.02.2021.

(Mechanical Department)

PRODUCTION

1. **Furnishing Shop:**

1.1 **Production growth:**



1.2 **Monthly dispatch comparison:**

Month	2019-20	2020-21
Apr	129	0
May	134	0
Jun	149	101
Jul	142	151
Aug	129	165
Sep	158	184
Oct	175	125
Nov	166	80
Dec	220	101
Jan	180	125
Feb	185	178
Mar	163	150
Total	**1930**	**1360***

* MCF surpassed the target by producing 1360 Coaches against reduced production target of 1343 coaches (This target is achieved during Covid-19 Pandemic and zero production in first two months due to lockdown in the country.)

1.3 Variant-wise coach breakup:

S.No.	Coach Type	Quantity
1.	LWACCN	238
2.	HUMSAFAR	12
3.	LWACCW	66
4.	LWSCN	425
5.	DEEN DAYALU	267
6.	LWLRRM	21
7.	LSLRD without DA Set	105
8.	LWCBAC	26
9.	LWSCZ	16
10.	LWSCZAC	15
11.	LFCWAC	20
12.	LWFAC	13
13.	AC-3T/Tejas	76
14.	AC-2T/Tejas	29
15.	LWFAC/Tejas	11
16.	LWLRRM/Tejas	13
17.	LWCBAC/Tejas	7
Total		**1360**

1.4 Monthly Performance:

S.N.	Month	Furnishing	Paint
1	Apr-20	Nil	0
2	May-20	Nil	8
3	Jun-20	101	101
4	Jul-20	151	161
5	Aug-20	165	173
6	Sep-20	184	187
7	Oct-20	125	121
8	Nov-20	80	102
9	Dec-20	101	70
10	Jan-21	125	100
11	Feb-21	178	192
12	Mar-21	150	180
Total		**1360**	**1395**

1.5 Best ever figures:

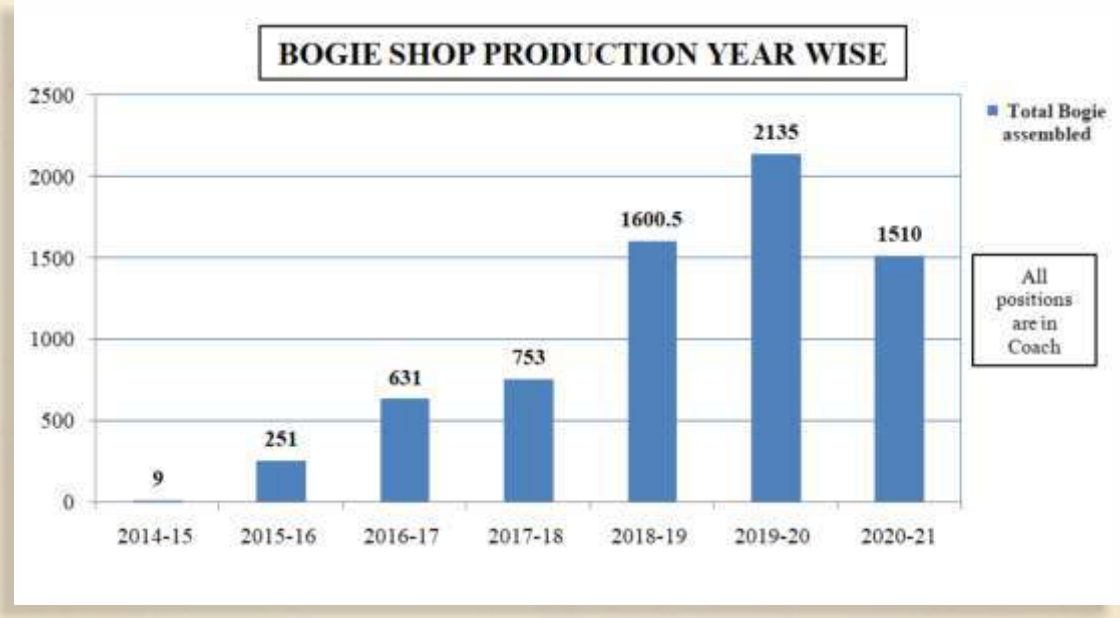
Paint	**192**	**Feb- 2021**
Furnishing	**184**	**Sep- 2020**

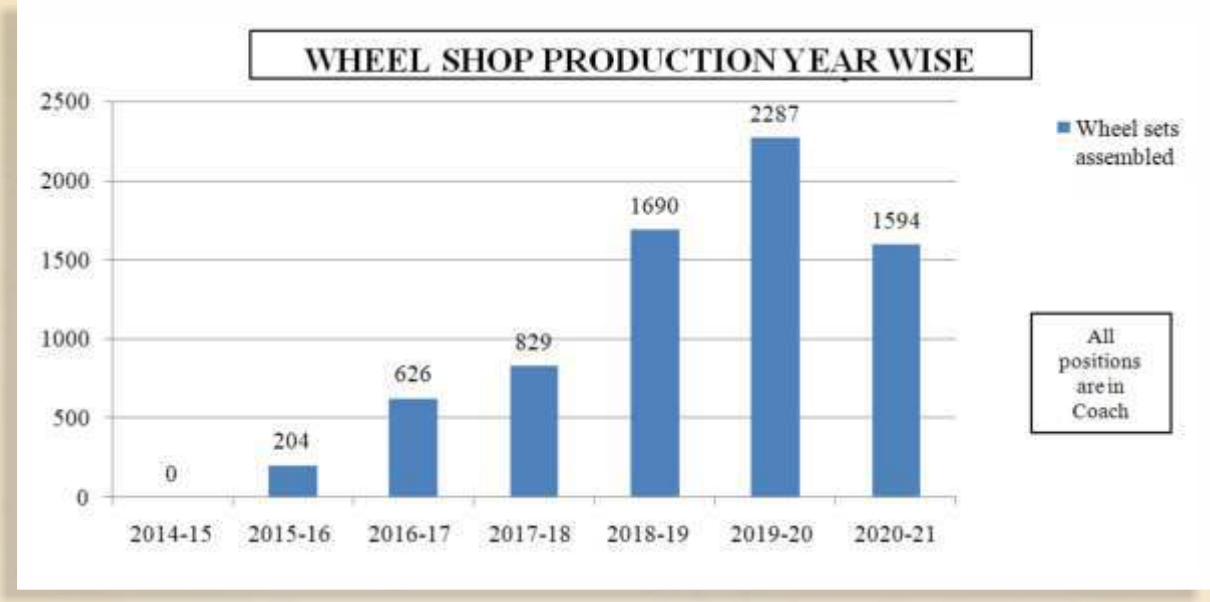
1.6 Highlights of Furnishing Shop:

- MCF surpassed the target by producing 1360 Coaches against production target 1343 coaches (This target is achieved during Covid-19 Pandemic and lockdown in country for two months, the production activities restored in June 2020 with restrictive conditions of SDOP).
- MCF has produced first ever Tejas sleeper Coaches in Indian railways. Total Six rakes (136 coaches) equipped with features like plug doors, PA/PIS and CCTV cameras dispatched to Zonal Railways.
- MCF has produced first ever LWLRRMDAC (750kVA) coach in Indian railways containing single DA set (750 kVA) and fully AC coach dispatched to NER and are in field trial.
- Improvement in coaches for better passenger amenities such as use of BIO digester Tank fitted with EP flushing system/vacuum flushing systems, wider windows on Non AC coaches, RO water filters system in Non AC SCN/DDG coaches, under-slung ventury system to minimise foul small in toilets, BRL and charging sockets for individual berth in AC coaches etc.
- Also worked for better reliability & safety for passenger such as use of Single leaf Automatic plug doors fitted on TEJAS coaches, Fitment of FIBA with air spring bogies, Fire detection & suppression system in power car, PA systems etc.

2. Bogie and Wheel shop:

2.1 Production Statistics of Bogie Shop & Wheel Shop in C/sets:





2.2 Performance of Bogie and Wheel for FY 2020-21

S. N	Description	2020-21
1	Fabrication of Bogie Frame	637
2	Fabrication of Bogie Bolster	700
3	Machining of Bogie Frame	576.5
4	Machining of Bogie Bolster	683
5	Bogie Assembled	1510
6	Wheel set outturn	1594

2.3 The production outturn of tool room shop was:

- Pipe bending– 1005 C/s
- Upper box milling– 555 C/s
- Safety stop plate machining– 657 C/s

2.4 Innovations in wheel shop.

a. Use of safety guard for torqueing of M20 bolt in CTRB section to avoid occasional damage of bearing while bending of security plate over bolts.

b. Development of fixture for loading of semi-finished axle for easy and safe loading at axle loading station.

3. Paint Shop:

3.1 PERFORMANCE PARAMETERS:

S.N.	Month	Out-Turn of 2020-21
1.	April	0
2.	May	8
3.	June	101
4.	July	161
5.	August	173
6.	September	187
7.	October	121
8.	November	102
9.	December	70
10.	January	100
11.	February	192
12.	March	180
Total		**1395**

3.2 Highlights of Paint Shop:

1. The Painting of Newly introduced coach variant like Tejas and Mozambique has been successfully carried out by paint shop.
2. All round improvement in workmanship in Paint Shop has resulted in to QC clearance of more than 85% of coaches in first instance.
3. 16905 Kgs. of hazardous waste successfully disposed off during 2020-21.

4 Shell Shop:

Performance indices of Shell Shop during the year 2020-21 are as under:-

4.1 Variant-wise coach breakup:

S.N.	Coach Type	Quantity
1	LWACCN	312
2	LWACCW	76
3	LWSCN	431
4	LWS/DD	261
5	LWLRRM	08
6	LSLRD	119
7	LWSCZ	39
8	LFCWAC	3
9	LWFAC	04
12	LWACCN/Tejas	83
11	LWACCW/Tejas	31
12	LWFAC/Tejas	13
13	LWCBAC/Tejas	9
14	LWLRRM/Tejas	16
Total		**1405**

4.2 Monthly Performance:

S.N.	Month	Shell Shop
1	Apr-20	Nil
2	May-20	22
3	Jun-20	102
4	Jul-20	166
5	Aug-20	185
6	Sep-20	187
7	Oct-20	107
8	Nov-20	88
9	Dec-20	71
10	Jan-21	136
11	Feb-21	174
12	Mar-21	167
Total		**1405**

4.3 Production performance:

S.N.	Description/ Item	Production of Assembly and Sub Assembly in FY 2020-21	Highest produced in the month of Sep-20 i.e.
1	Production of Shell	1405	187
2	Production of Sidewall	700	102
3	Production of Underframe	723	83
4	Production of Roof	579	94

4.4 Other Innovative Work performed during the Year:

S.N	Month	Description
1	June 2020	Modification in first LWFAC Tejas shell with Plug door arrangement.
2	July 2020	Fabrication of first 02 Nos. LWLRRM Tejas and 01 Nos. LWCBAC Tejas.
3	Aug 2020	Fabrication of first LWACCN Tejas shell.
4	Nov 2020	(i) Door modification from normal to Tejas. (ii) Console change from coil spring to air spring. **(iii)** Air reservoir tank modification in LWLRRM -09.
5	Dec 2020	Door modification from normal to Tejas – 01 LWCBAC .
6	Jan 2021	(i) Door modification from normal to Tejas –LWLRRM - 2. (ii) Console change from coil spring to air spring, LWLRRM – 02 (No of Console 08). (iii) Air Mounting Bracket – 16 Coach.
7	March 2021	100% shell shower testing of AC shells started from 15 March - 2021. Total 45 shell tested on shower till date 31.03.2021

8	Feb & March 2021	LSLRD Partition frame in house fabricated 55 Coach set.
9	March 2021	LWACCN End Wall converted into LWSCN End Wall - 10 coach set.
10	March 2021	Started the use of digital Pyrometer for measuring the preheating temperature of console during its fitting & welding with under frame.
11	March 2021	Broad Gauge Dip lorry change into Cape Gauge Dip lorry - 9 Coach set.

* For period of April 2020 to March 2021 as initial 2 months were lost in the lockdown and subsequently worked with restrictive SDOPs due to Covid-19 pandemic.

DESIGN

Activities undertaken by Mechanical Design office during the year 2020-21 (upto 31st March, 2021) have been listed in two heads.

1. Various design improvements
2. New coach variants

1. Various Design Improvements:

1.1 Electro Pneumatic Pressurized Flushing System:

S. No.	Item	Description
1.	Name of work done	Electro Pneumatic Pressurized Flushing System
2.	Detailed Description	System is based on the positive displacement type system having "piston-cylinder arrangement" for creating pressurized water supply without allowing water coming into contact with pressurized air. Electro pneumatic pressurized flushing system has effectively clean the bowl and transfer the fecal material to bio - digester tank with a minimum quantity of water with pressure uptp 3Kg/cm^2. Maximum dischage of water is 1.5 litres. Pressurzed water alone has dischrged through the spray tube around bowl. A Bypass or alternate flushing arrangements has been provided by same flush button Switch so as this system remains usable for ensuring proper flushing to transfer the fecal matter from the lavatory pan/western style bowl to Bio - tank including clean - ability, in case of non - availability of power /air.
3.	Impact / Benefits	Pressurized flushing system provides adequate pressurized water for efficient flushing with cleanability and transfer the fecal matter from the lavatory pan/Western style bowl with reduced usage of water.

1.2 Protection plate in LHB Coaches with air spring bogies:

S. No.	Item	Description
1.	Name of work done	Implementation of protection plate designed for LHB Coaches with air spring bogies.
2.	Detailed description	It was implemented to protect the leveling valve lever from physical damage due to ballast hit or other hit to the lever.
3.	Impact/Benefits	It will protect leveling valve from external sources such as ballast, foreign material etc.

1.3 Dummy wheel sets for bogie frame design:

S. No.	Item	Description
1.	Name of work done	Preparation of dummy wheel sets to facilitate the bogie frame design validation for Mozambique Railways.
2.	Detailed description	Dummy wheel sets were prepared at Alambagh workshop in the supervision of MCF design team to facilitate and expedite the progress of cape gauge bogie fabrication in the absence of wheel sets for Mozambique Railways.
3.	Impact/Benefits	To facilitate the bogie frame design validation for Mozambique Railways

1.4 Wheel Axle Set

S.N.	Item	Description
1.	Name of work done	Wheel axle set production by charbagh workshop with consultation of MCF design team when the external agencies failed to deliver within time.
2.	Detailed description	Wheel & axles are currently being machined at Charbagh workshop for cape gauge bogies. Problems faced are being jointly solved by MCF design team & Charbagh workshop to expedite the process.
3.	Impact/Benefits	To fulfil the requirement of wheel & axles for cape guage bogies of Mozambique Railways

1.5 Improvement of website contents of MCF design Office

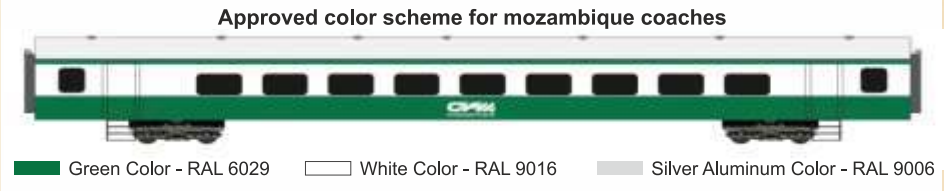
S.N.	Item	Description
1.	Name of work done	Web publication of important policies and documents for the standardization and transparency on the design web portal
2.	Summary	In view of having transparency in terms of various policies being followed by mechanical design office and also to standardise the design office letter format new items as i) Official Logos and ii) Forms and Important Policies under section " Department -> Design -> Resources" on MCF's website has been created.
3.	Impact/Benefits	Having transparency in terms of various policies being followed by Design office and also standardisation.
4.	Detailed Description	MCF design office has created a web repository of essential resources on the MCF's website. It contains official logos, design department letter template, and a few import ant policies related to mechanical design office. It will be updated with newer content from time to time. It can be accessed as mcf.indianrailways.gov.in -> Department -> Design -> Resources It can also be seen by using below link https://mcf.indianrailways.gov.in/view_section.jsp?lang=0&id=0,298,732,912,914

2. New coach variants:

2.1 Mozambique Railway Coaches:

S.N.	Item	Description
1.	Name of work done	Manufacture and Supply of Cape Gauge Passenger Coaches to Mozambique Railways with 05 years maintenance.
2.	Summary	This export order consists of Cape Gauge (1067mm) coaches-60 loco hauled and 30 DEMU coaches (05 rakes).
3.	Impacts/Benefits	• By executing the first export order MCF will be able to establish its global presence in manufacturing market of passenger rolling stocks and gain expertise to meet world standards in passenger safety and reliability. • MCF will add a feather in its cap by adding new gauge in its production capability along with complying specific customer requirements both in terms of interior furnishing as well as operating conditions. • With this order it is quite obvious that in near future MCF will get orders from worldwide Railway Networks for Rolling stocks and ultimately adds up more to Non -Railway Customer (NRC) Revenue. • Increased demands of coaches from Non - Railway Customers will lead to considerable increase profit of IR.

4.	Detailed description	MCF is going to complete its first export order to Mozambique Railways through RITES (the nominated agency for dealing export orders on behalf of IR).



The shell design of above variants is on LHB platform and bogie of Loco hauled coaches is on FIAT platform while DEMU bogie is of ICF type. The breakup of the variants to be exported are as under:

S. No.	Coach Type	Qty	Passenger Capacity
1	1st Class AC 2 Tier	6	30
2	2nd Class AC 3 Tier	12	48
3	Non-AC 3rd Class (GS)	20	66
4	2nd Class AC sitting Coach	10	56
5	AC Restaurant Car	4	30
6	Generator Car	4	0
7	Luggage Van	4	0
8	DEMU coaches -05 Rakes (sets of 6 Coach i.e. 1 DPC + 4 TC + 1DTC)	30	TC = 87 DTC = 60 DPC = 0
	Total	90	

Major Coach Parameters are:

Parameters	Cape Gauge	Broad Gauge (LHB)
Track Gauge	1067 mm	1676 mm
Maximum length of coach	20300 mm	24000 mm
Maximum width of coach	2950 mm	3240 mm
Height of coach from Rail level	3955 mm	4039 mm
Height of Compartment Floor from Rail Level	1155 mm	1320 mm

The interior furnishings have been started on painted shells and prototype bogies are also ready.

2.2 Tejas rake in sleeper variants

S. No.	Item	Description
1.	Name of work done	Tejas rake in sleeper variants
2.	Summary	**The rake composition consits of 18 coaches (First AC-01, AC Buffet Car-01, Power car-02, AC 3Tier Sleeper-10 and AC 2Tier Sleeper -04).** First 08 rakes of Tejas Coaches named as version 1.0 having almost all the upgraded features except silent power car, EP assist brake, Dust sealed gangway and semi permanent coupler which will be provided in version 2.0.
3.	Impact/Benefits	These coaches are equipped with the latest features providing comfort and safety to passengers, On board monitoring for maintenance staff and higher speeds.
4.	Detailed Description	The upgraded features of Tejas rake version 1.0 are as under: • Corrugated Sidewall in AC-3T/AC-2T: Improves aesthetics, minimize undulations. • Stainless Steel Under-frame: Complete under-frame is of austenitic stainless steel (SS 201LN). • Automatic Plug Door: All main entrance doors are centralized controlled by Guard. Train will not start until all doors are closed. • Bio-Vacuum Toilet system: Provides improved hygiene condition in the toilet due to improved flushing and also save water per flush. • Air Suspension Bogies: 120 KN air spring provided, improves ride of these coaches. • Fire Alarm, Detection and Suppression system: All coaches will be provided with Automatic Fire Alarm and Detection System. • **Smart Features:** Provided with smart features which includes following items, processed by a centralized processing unit named as PICCU (Passenger information coach computing unit). • PA/PIS (passenger announcement/passenger information system)

		• Digital destination board • CCTV- With day night vision capability, Facial recognition even in low light condition, Network Video Recorder. • Emergency Talk back for medical or security emergency • On Board condition monitoring system for Bearing, Wheel, WSP • HVAC- Air quality measurement • Switch Board Cabinet monitoring • Toilet Occupancy Sensor • Energy Meter, Exhaust Fan and Water level. • Train Supervisor and Power car Monitoring system (Kiosk): 18.5" touch screen Kiosk is provided in each power car for monitoring the health of the complete rake and also used as a surveillance monitoring station. This LCD is connected to the PICCU system of the power car for visualisation of the power car. • **Improved Toilet Unit:** Provided with touch-less fittings, Marble finish with anti-graffiti coating, Gel coated shelf, New design dustbin, Door latch activated light, Engagement display. • **Textured Exterior and Interior PVC Film:** Both exterior and interior, are provided with textured PVC film. • **Improved interiors:** Seats and berths having PU foam provide better comfort to passengers. • **Roller Blind on window:** Instead of curtains roller blinds provided. • **Mobile Charging points:** Provided for each passenger. • **Berth reading light:** Provided for each passenger. • **Upper berth climbing arrangement:** Convenient upper berth arrangement. • Push Pull arrangement **Additional features planned for Version-02** • Silent power car with provision for disabled persons. • **Dust sealed Gangway:** This will be provided in Version-2. Besides improved aesthetics and passenger safety it will reduce sound levels, dirt, and sand and water ingress. • Semi-permanent couplers. • **EP assisted brake:** This will be provided in Version-2. This brake system will have steel brake disc, sintered pads and electro-pneumatic provisions. Besides increasing the speed potential upto 200 Kmph it will reduce the emergency braking distance.

Features

1. Single piece Side Lower berth

2. Charging points for each berth

3. Reading light for each berth

4. Convenient upper berth climbing arrgt.

5. CCTV and Fire smoke detection system for passenger safety

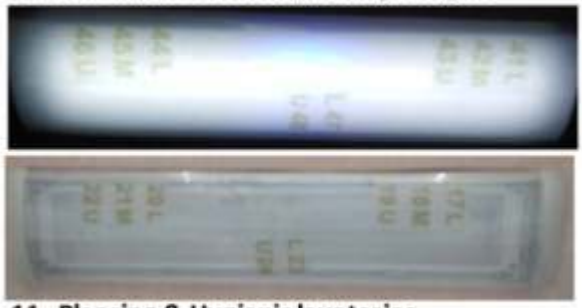
6. PICCU (Passenger information coach computing unit).

7. GPS based Public Information System

8. Fire /Smoke detection cum suppression system

Features

9. Convenient Berth numbering on lights



10. LCD Screen in First AC Coach

10"LCD Screen

18"LCD Screen

11. Pleasing & Hygienic lavatories

12. Vacuum Evacuation System

13. KIOSK

14. Attractive colourfully coordinated Seats & berths

15. Roller blinds on windows

Features

16. Anti graffiti featured Exteriors

17. Digital destination Board

18. Distinctive reflective 3D numbering

19. Plug Door

20. Cleanable vinyl flooring

21. Welcome boards

22. Time table and important helpline displayed

23. Deodorizer in Cabins

24. Power car equipped with Fire suppression system

PLANNING

1. **Shell Planning:**
   - Procurement of 11 variants of shell kits has been done.
   - Roof sheet, sole bar has been procured using CRF (cold rolled forming) technology for new coaches. By using this technology we can reduce welding joints in roof sheets thus, enhancing the strength.
   - Development of Tejas shell kit with automatic plug door and Plain/corrugated Side wall has been initiated.
   - Planning for manufacturing of new variant of shell coaches like LWACCNE, VPH coaches have been started this year.
   - Cost is reduced for shell assembly of 11 variants (UF Kit, SW kit & Roof kit) due to manufacturing using component kit.

2. **Bogie planning:**
   - Complete Bogie of MEMU DMC & TC Coaches has been planned and under procurement.
   - 160 KN Air Spring has been planned for first time procurement; to be used in LWSAC, LWACCNE coaches.
   - Complete Mozambique Cape Gauge DEMU Bogies along with Brake System has been planned.
   - Axle, Wheel & UIC Taper Roller Bearing for Cape Gauge Loco Hauled Passenger coaches for Mozambique Railway has been planned.
   - Rubber Metal Bonded items for FIAT Bogie has been procured in Kit form, so as to reduce number of active PLs.
   - E.P. Brake for MEMU DMC & TC coaches has been planned and is under procurement.
   - Axle & Wheels for MEMU DMC & TC Coaches has been planned and is under procurement.

3. **Furnishing Planning:**
   - Furnishing of Tejas coaches planned and executed using Turnkey items procured for Humsafar coaches with further additions to meet Tejas interior and exterior requirements.
   - Planning of Tejas coaches with modification as suggested by design.
   - Furnishing of LSLRD coaches.
   - Planning for new variants of coaches like Garib Rath, Parcel van.
   - Review of requirement as per revision in production plan given by Railway Board.

4. **Process Planning:**
   - Issuing of monthly production plan for material planning, work contract and turnkey projects.
   - Issuing of 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 and ensuring availability of variant/rake wise coach allotment on CMM portal for dispatch of manufactured coaches to various Railway divisions as per advice and priority set from Railway Board.
   - Study, draft and issuing of work instructions for variant LHB coaches.
   - Revised packing instructions issued.
   - To provide the material assistance to Zonal Rly./PU's/Divisions/Coaching depots as per

their requirement.

- Monitoring of variant/rake wise coach manufacturing for dispatch to various division as per defined priority.
- Maintain the status of supplied RSP Bogies along with other RSP work as per allotment given by 'Railway Board'.

Name of Work	RSP P.B. No.	Sanction Year	Status	Remarks
Complete assemble FIAT Bogies (160 nos.)	714/19-20, 1246/18-19	2018-19	78 completed	Balance- 82 Nos.
Complete assemble FIAT Bogies (408 nos.)	733/19-20	2019-20	317 completed	Balance-91 Nos.
Wheel sets (354 nos.)	710/19-20, 1242/18-19	2018-19	342 completed	Balance- 12 Nos.
Toilet up gradation (100 Coach)	652/19-20, 683/18-19, 1246/17-18	2017-18	76 completed	Balance- 24 Nos. Clubbed in Smart Coach
Provision of GPS based PAS/PIS (50 AC/Non-AC coaches)	707/19-20, 1239/18-19	2018-19	03 completed	Clubbed in Smart Coach
Wheel sets (340 nos.)	1219/19-20	2019-20	122 completed	Balance- 218 Nos.
Split type Air Brake Discs (1600 Nos.)	1222/19-20	2019-20	NIL	Balance- 1600 Nos.
Anti Chip Paint on FIAT Bogies (1000 Coach)	1233/19-20	2019-20	NIL	Balance- 1000 Nos.
Upgraded interiors in newly manufactured LHB coaches (1000 Coach)	699/19-20 1231/18-19	2018-19	NIL	Balance- 1000 Nos. Clubbed in Smart Coach
Smart Coach (100 Coaches)	601/19-20, 631/18-19	2018-19	85 Completed	Work under progress for 15 Nos. of Smart Coaches.
Complete assemble FIAT Bogies (155 nos.)	1335/20-21	2020-21	64 Completed	Balance- 91 Nos.
Provision of Smart features in 200 newly manufactured coaches @ Rs. 16 lacs	1336/20-21	2020-21	NIL	Balance- 200 Nos.

5. **Other work of planning department:**

- Internal audit of IMS and ISO: 22163 have been done for planning office successfully without N.C.
- Audit of IMS, ISO: 22163, ISO 3834 done in other departments/Shops by planning office.
- Coach costing of all variants including first time costing of All Tejas Sleeper Class Coaches.
- Preparation of different Budget Estimates for F.Y. 2020-21 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 is being revised time to time.
- Approx 941 proposals of different department/section of MCF/RBL related to fund certification/cancellation from WMS disposed off during the year.
- Maintenance of Liability register 2020-21 under plan head WMS 7200 done.

QUALITY

1. Furnishing Quality Control:

No. of Coaches inspected	Audit inspection	Bio Tank Testing	RSC Uploaded
1358	135	1358	1183

1.1 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.
- 1078 Coach details is uploaded in CMM portal.
- Humsafar (13 Coaches) inspected for quality of additional fitting.
- DEENDAYALU 267 coaches inspected.
- TEJAS 136 coaches inspected.
- AC Power Car LWLRRMDAC 01 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
519	461	2057

2.1 Activities of Bogie Quality Control:

- Bogie fabricated at bogie assembly inspected thoroughly in accordance with QCI/ 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 static 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. N.	Nos. of axle measured for seat and roughness values	Nos. of wheel disc measured for bore and roughness values	Nos. of compete wheel set checked in audit inspection	Nos. of CTRB Checked in audit inspecti on
1	1780	901	2321	2321

3.1 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.
- Special audit inspection of CTRB section also carried out by QC section time to time for maintaining/ up keeping proper mounting of CTRB.
- Proper handling of finished wheel set is also watched by QC during despatch of wheel set for further use.
- QC was also ensuring work of third party inspection by M/s Accurate.

4. Shell Quality Control:

AUDIT INSPECTION (Sample checking)

Sheet metal shop

S.No.	Activity Plan	No. of inspection of Assembly
1.	Dimensionally inspection of Sheet metal components	366

Fabrication shop

S.No.	Activity Plan	No. of inspection of Assembly
1.	Visually and Dimensionally inspection of Side wall	209
2.	Visually and Dimensionally inspection of Roof	56
3.	Visually and Dimensionally inspection of Under frame.	99

Shell Assembly

S.No.	Activity Plan	No. of inspection of Assembly
1.	Undulation of Side wall (shell assembly stage -III)	133
2.	Dimensionally inspection of shell (shell assembly stage - I)	217

2. (100% INSPECTION)

Shell assembly final inspection

S.No.	Activity Plan	No. of inspection of Assembly
1.	Total shell rollout in paint shop (April -2020 to till date)	1400
2.	Inspection of Shell Assembly (QCI)	1408
3.	X-point	1343

4.1 Activities of shell Quality Control:

- All shell assemblies are inspected according to SIP, quality control inspection (QCI), Cross examination (X-Point) and final inspection for ensuring complete quality of the 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	Electri cal	Total
Cased received	678	483	1161
Case closed with finalization of warranty claim.	442	334	776

5.1 Performance of CCMC

i. Failures within 100 days:

Year	Coach Complaints (within 100 days)	Coaches turned out	Coach complaints per 100 coaches
2019-20	17	1930	0.88
2020-21	15	1358	1.10

ii Customer Complaint index (Mech.):

Year	Coach Complaints	Coaches turned out in last 2 years	Coach complaints per 100 coaches
2019-20	510	3355	15.20
2020-21	678	3288	20.62

5.2 Activities of CCMC:

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

6. Coach Mitra:

Weekly Feedback from various Coaching Depots of Zonal Railways have been taken by MCF, coach Mitra during the year 2020-21.

However due to the Pandemic Covid-19, MCF Coach Mitra has restrained themselves from physically visiting the coaching Depots. Nominated officers have been constantly in touch with the Sr. CDO and Coaching depot officer regarding the Quality of the Coaches turned out by MCF/RBL. Mostly telephonic feedback has been taken from Coaching Depot apart from other electronic media like email and through Whatsapp.

6.1 Activities carried by third party:

Inspection of Coaches manufactured by MCF/RBL is being carried out through third party inspection by M/s Accurate Sales & Services and internationally renowned organization.

M/s Accurate Sales & Services 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 Accurate Sales & Services.

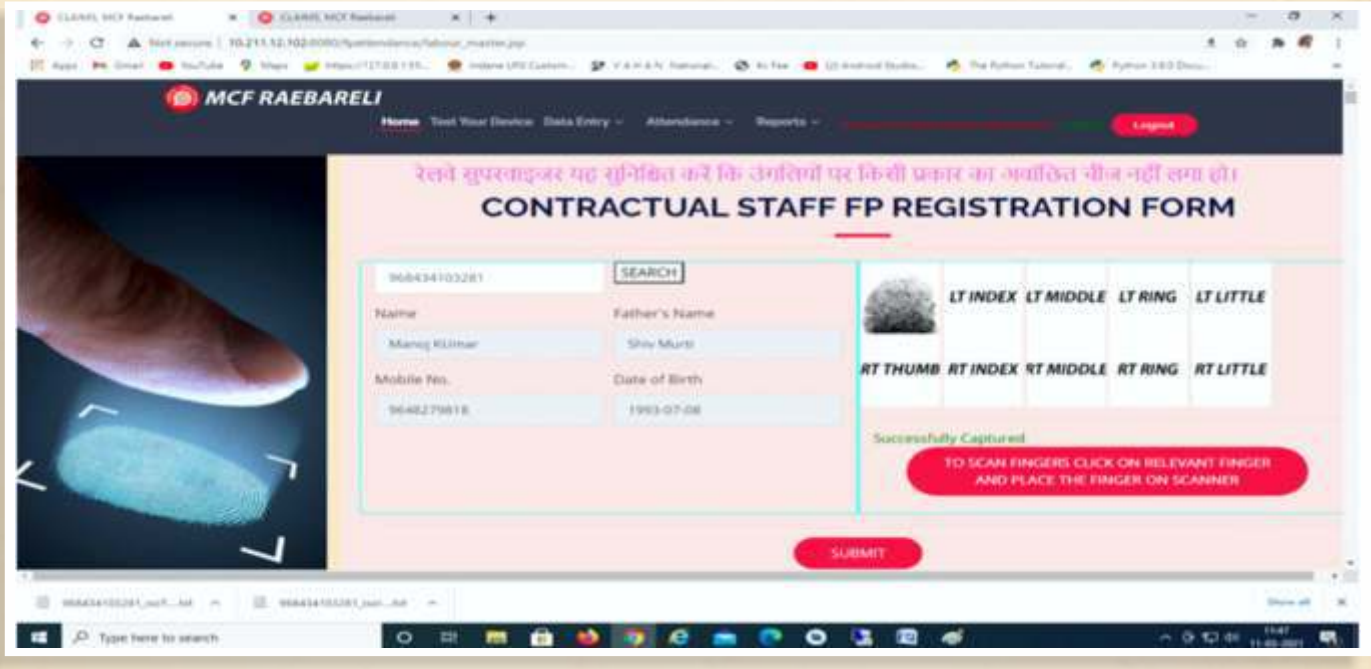
7. M&C Lab and RI wing:

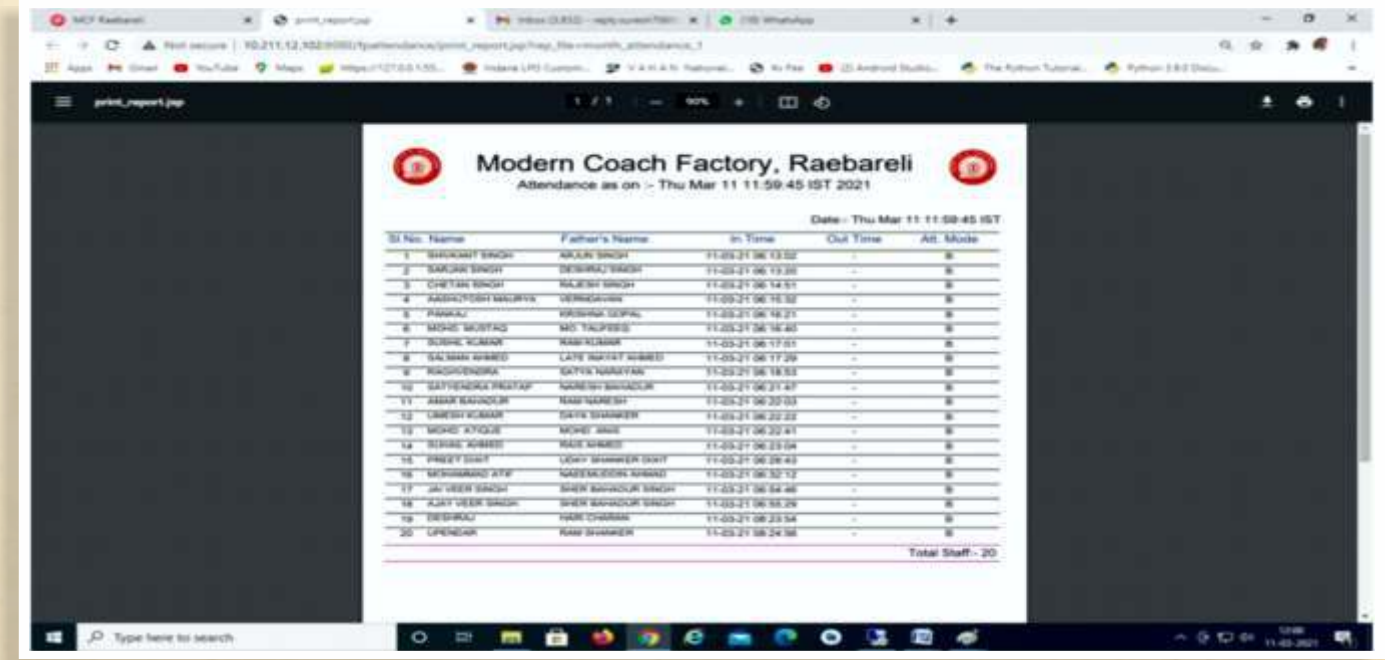
i. Testing of 1184 samples received in consignee, audit, and prototype done in this year.
ii. 20 number of NCRs are received from shop floor are scrutinised and confirmed.
iii. 6215 axles are checked by NDT technique –MPI in wheel shop.
iv. 1360 number of Shells checked by DPT in Shell shop.
v. 1480 number of painted shells are inspected and cleared from initial to final stage with help of outsourced inspectors.
vi. M&C Lab performed Ultra sonic audit on 71 axles.
vii. New M&P items procured X-Ray Machine, Vicat softening Apparatus & 02 Nos. small Angle grinder had been procured to enhance the efficiency of lab.
viii. 10 material modifications suggested after detailed study of different type of alternative materials.

IT

1. **Biometric Attendance System for Contract Manpower:** Biometric attendance is normally based on adhaar based, which requires periodic renewal of RD license. The user organisation has very little control over the database. In labour contracts, there is a possibility of fraudulent attendance by various methods like same person impersonating using his different fingers etc. Moreover, failure/slow internet connection results in delay /failure in attendance system. A software applicaton in client server architecture for biometric attendance was developed in house by IT department. Attendance is recorded using spare biometric machines with now expired RD license. This application is being used at factory premise over campus LAN for daily attendance of contract manpower and all related reports are available online.

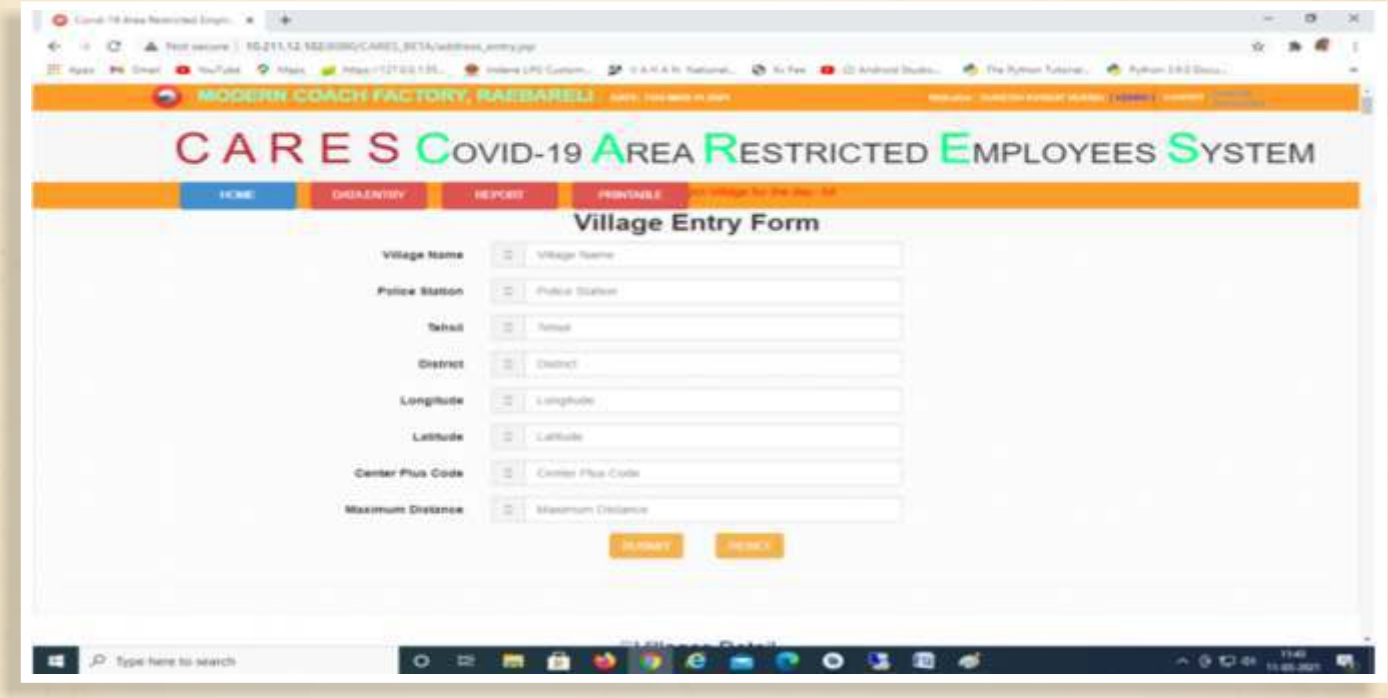
(C L A I M S) Application Screenshots





2. **CARES (Covid Area Restricted Employees System)**: During 1st phase of unlock in 2020, in order to restrict employees coming from hotspots, it was difficult for security dept to estimate the exact distance between employees' village from hotspots. This problem was overcome by software developed in-house, wherein master data of geo-tagged villages with its longitude and latitude was maintained. Daily data of covid positive patients given by state government is entered in this application. The software uses spherical geometry formulae to calculate distance of hotspot village from employees' villages, restricting all contractual staff belonging to hotspot villages and nearby villages. The software lists out staff to be restricted from duty, grouped by contractor firms as well as work place. This application is being used by security department.

C A R E S Application Screenshots



3. **Online hosting of official meeting and conferences:** Open source software application "JITSI" is being used for this purpose. Many internal and external official events have been successfully organised using this application. An internal server on LAN has been created at MCF for use by local users thereby reducing the bandwidth requirement of internet connection as well as allows VC in case of internet failure.

All the above applications have been developed and implemented using existing equipment and in-house capability of IT Department (without outsourcing any activity), hence at ZERO additional cost.

MACHINERY & PLANT

1. OVERVIEW OF PLANT DEPARTMENT :

1.1 MACHINE SUMMARY: Total Machinery = **1251**

S.N.	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 Equipment	437
6.	Transport Vehicles	185
7.	Welding sets	290

1.2 SHEET METAL SHOP:

The machines with latest technology 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.

1.3 FABRICATION SHOP:

The fabrication shop has been provided with four integrated Robotic lines for manufacturing 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.

1.4 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.

1.5 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, 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 and bolster machining center has been provided. The final quality of the bogie frame and bogie bolster is ensured by checking all the critical dimensions on 3-D Co-ordinate Measuring Machine in a single setting.

1.6 WHEEL SHOP:

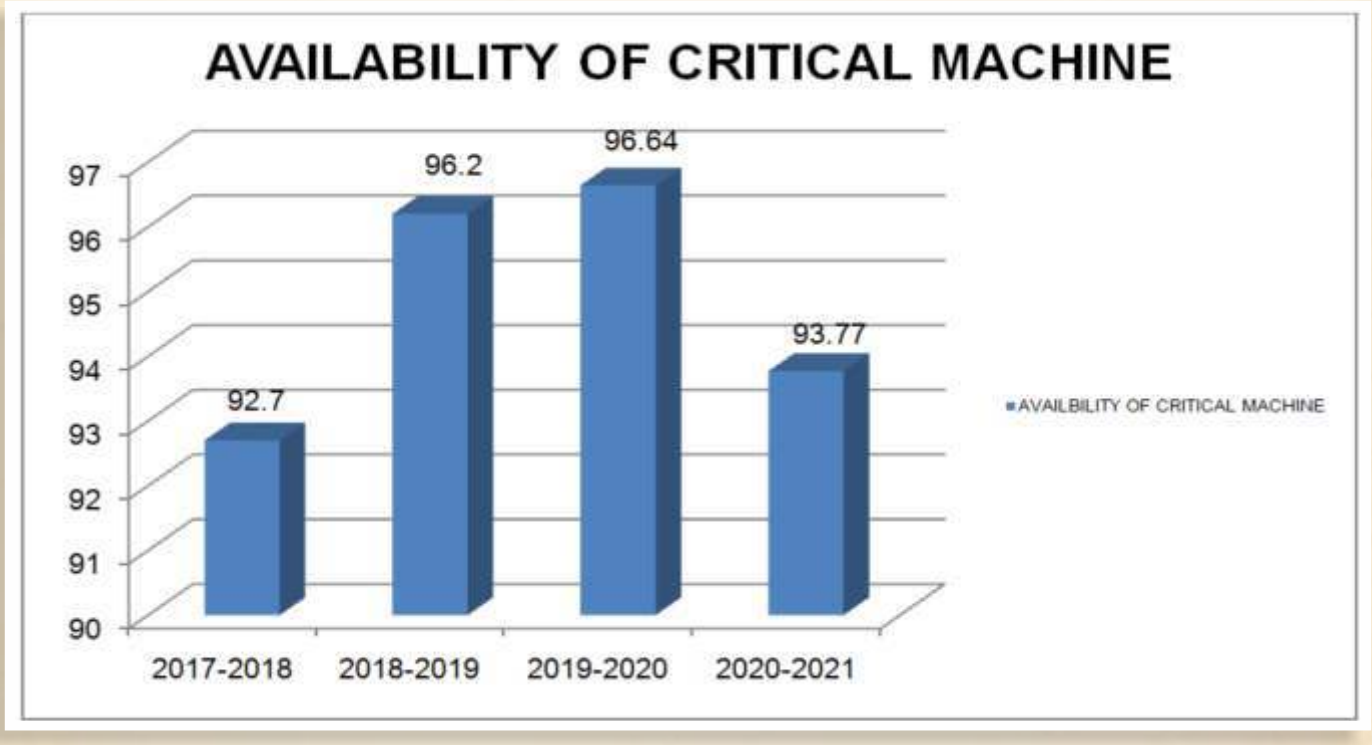
Wheel Line is totally automatic where various stations work in tandem with synchronized gantry to perform all the machining operations on axels and wheel discs. Ultrasonic and Magna-flux testing, axel washing and auto dimension measurement for matching the dimensions, pressing of wheel and brake discs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

minimum human interface.

1.7 PAINT SHOP:

Paint shop has a semi-automatic painting booth with environment friendly features or control. PU painting is 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 also been provided.

2.0 PERFORMANCE SUMMARY OF PLANT DEPARTMENT:



Complete Critical machines list attached as **Annexure-A**

3.0 INNOVATION, IMPROVEMENT & ACHIEVEMENT (MONTH VISE):

3.1 APRIL 2020:

- The periodical testing and checking of the entire critical machinery was done so that machines remain ready for production when lockdown is lifted.
- The industrial gas system, LPG system, compressed pipe line system, HSD system were checked and tested thoroughly every week as per prescribed schedule for ensuring safety and reliability.
- The manning of industrial gas system and LPG system was ensured during month due to safety reasons.
- A sanitizing tunnel was made by Plant team with in house resources.
- Availability and supply of HSD oil was maintained during lockdown for all essential vehicles (Ambulance, RPF vehicle, Covid-19 control office vehicle, Fire fighting vehicles).
- Special vehicle services were organized for essential services demanded during lockdown like truck to collect PPE, sanitizer from Delhi, LKO, Sitapur etc. Dedicated truck services are being provided in township for door-to-door delivery of vegetables and groceries.

- Ensured the payment of all labour contractors during lockdown period.

3.2 MAY 2020:

- Maintenance of all stabilizers, transformers, all AC units mounted on cabinets along with chilling units of Wheel line was done to prevent the failure in hot summer season.
- The manning and supply of industrial gas system and LPG system was ensured during month.
- Availability and supply of HSD oil was maintained during lockdown to all essential vehicles (Ambulance, RPF vehicle, Covid control office vehicle, Fire fighting vehicles).
- All the road vehicles, road mobile crane, hydra along with driver were provided for unloading the material (under frame, sidewall, roof etc.) loaded on trucks.
- Service of home delivery of food was provided during lockdown to minimize the risk of exposure to COVID-19 for township residents.
- Assisted in ambulance operation during lockdown by providing driver and doing maintenance.
- Facilitated movement of critical goods (like PPE kits, sanitizer etc.) during lockdown by providing vehicle and driver.

3.3 JUNE 2020:

OP-50 MAGNA-FLUX TESTING OF WHEEL LINE:

OP-50 left side double acting pneumatic cylinder of FESTO make shaft found broken on 02.06.2020 due to which axle clamping was not occurring. During Magna-flux testing current flows through the copper clamp for magnetizing whole axle and remaining process of testing takes place after that. But due to broken shaft of pneumatic cylinder, PLC system could not support the testing procedure of machine. Due to Covid-19 pandemic, this pneumatic cylinder of FESTO make was not available. This broken shaft was replaced by in-house machining of the shaft and OP-50 was ready for working and thus saved approximately Rs. 60000 which is equal to the cost of new pneumatic cylinder FESTO make.

3.4 JULY 2020:

OP-210 PORTAL LATHE MACHINE OF WHEEL LINE:

Continuous use and vibration caused the machine's drag and support roller to weaken and heavy noise was encountered during the operation.

A total of 06 nos. rollers were replaced with new ones and now the machine is working smoothly.

3.5 August 2020:

- Successful commissioning of 2850 meter long Horizontal Life Line (HLL) system on 04.08.2020 in all the bays of Shell shop which is very important for safety of the staff, during maintenance work of EOT cranes at height.
  HLL system can arrest a fall, limiting the amount of force that is transferred to both the worker and the fall arrest system.
- The cooling tower of IR air compressor has been increased by doing in-house modifications. In this modification, the cooling tower fan assembly has been shifted from ground level to 500 mm above the ground level due to which now, the air circulation area has increased along with circulating water temperature has also reduced by 4^0c as compared to previous circumstances.

3.6 October 2020:

- **Vacuum Lifting device for sidewall**:
  The sidewalls transported through Tackle had many disadvantages like bending and protrusion along the width of sidewall. To solve this problem, the vacuum based sheet lifting device was introduced which lifts the sidewalls and modules through a series of vacuum cups fitted along the length of the device. By transporting the sidewalls through this vacuum lifting device, the sidewalls are always plane and parallel to the ground eliminating the issues arising by transfer through Tackles.
- NC hydraulic shearing machine had frequent troubles, few months after its commissioning and often remained under breakdown. Under warranty, the firm had to conduct preventive maintenance schedules and attend the breakdowns with replacing the spare parts at their own cost, but they refused to honour the warranty obligations. So the M&P team brought the machine in working condition.

- The ball screws were repaired by M&P. The timing belt was removed, the servo motor was disconnected and a hand driven adjuster was installed in its place. New bolts were sourced from furnishing shop and replaced. The paddle switch was repaired by M&P many times. The blunt or broken blades were inverted. There was also accuracy problem in cut out pieces. The M&P team adjusted the blade clearance manually without any auto adjustment.

3.7 November 2020:

- Two nos. Under Water Plasma Cutting Machine are installed in Bogie Shop for cutting bogie frame and bolster horizontal and vertical members. Each machine is equipped with air compressor make Gardner, Denver for maintaining air pressure for all important activities of the machine.

Due to breakdown of compressor or during preventive maintenance of compressor, all air pressure related function of machine stopped and consequently machine completely got under breakdown.
To stop such type of breakdown a separate flexible pipe having size ¾" is connected in between centralized air supply pipe line and machine along with isolation cock. For removing moisture a FRL unit is attached just before the machine.
By doing this modification availability of machine has been increased even after failure of compressor.

3.8 December 2020:

Robotic end wall fabrication line (RH):

- Its side was damaged on 25/09/2017 by hook of EOT crane collided with machine, and machine fell down on the ground.
  Hence machine was not under used since 25/09/2017, it has been repaired by M&P, machine installation and commissioning work has been completed on 05/12/2020 and now the machine is under production.

3.9 January 2021:

- In wheel line, surface portal lathe's (OP 210) left side roller was not driving wheel set for machining. After investigation it was found that upper roller hollow shaft key way had been damaged due to which the movement of upper roller completely stopped. The machine was imported from Spain and new hollow shaft will take so much time to arrive India. So to avoid production getting hampered, same hollow shaft was reclaimed in house and brought the machine back into production.

3.10 February 2021:

- Training was conducted by M&P section with the help of OEM (M/S GODREJ) on 24.02.2021 to fork lifter drivers regarding safe and efficient operation of fork lifters. Total 48 staff benefitted from the training. A brochure containing Do's & Don'ts, accidents and its precautions etc. was also distributed to all trainees.

- CNC vertical turning lathe machine (OP-100) was under breakdown due to eccentricity in wheel bore. After investigation it was found that lever bracket was broken due to which the movement of Jaw in the chuck got restricted. Since this machine was imported from Spain and because of pandemic Covid-19, this broken part would take long time to import from Spain.
  To consider the above situation this part was manufactured locally from Kanpur and fitted in chuck and all operations like scratches removal, buffing work etc. had been done before fitting of this locally made part by M&P staff.

- A delegation of Indian Machine Tools Manufacturers' Association (IMTMA) consisting of 25 members visited MCF on 11.02.2021. An interactive session was held between key officials of MCF and IMTMA delegates, chaired by PCME/MCF. A brief presentation on existing infrastructure and future requirement of MCF was done by CPE. After that IMTMA delegates briefed about manufacturing capabilities and technological offering by Indian Machine Tools Industry for meeting specific requirement of Indian Railway.

3.11 March 2021:

- Rail cum Road Vehicle which is used for shunting purpose was under breakdown due to poor hauling power after investigation it was fund that its clutch plates set has worn out. Since this RRV was imported from Germany and because of this Covid-19 pandemic, these clutch plates would take long time to import from Germany.To consider above situation the set of clutch plates was manufactured locally from Mumbai and fitted in the RRV. Now RRV is working properly and hauling full load with proper speed.

4. Ongoing Special work:

4.1. Industrial Gas System

Installation of addition 13kl Argon tank and tri gas mixture: Additional argon tank of capacity 13kl was installed in addition to the existing 13kl argon tank. As production increased, consumption of di and tri gas mixture also increased which has argon as main component. This resulted in decrease in pressure in these lines. As a minimum pressure is required to be maintained for desired welding quality there was a need for expansion of existing gas bank facility. An addition gas mixture of capacity 250m^3/hr for tri-mix was also installed. With installation of

additional argon tank and tri-gas mixture issues of pressure drop in pipeline has been resolved. The work is under progress and will be completed by November 2021.

4.2. SURVEILLANCE & 3D MAPPING/GIS:

MCF has latest technology drone & software for GIS mapping, with the help of which security concerns as well as progress of projects can be regularly monitored. Following are major advantages 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

4.3. GIS MAPPING OF SCRAP YARD AND DUMP YARD

GIS mapping of scrap yard and dump yard has been done to calculate the amount of waste and scrap accumulated there. With the help of this map, area of the scrap spread could be 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 yard.

GIS map of the scrap yard & dump yard

4.4. VEHICLE MANAGEMENT:

Vehicle management got transferred to plant from civil department and Dy. GM (G). Due to improvement in tender condition and distribution of service between two contractor better services are being provided. Currently approximately 58 vehicles are running under our control.

4.5. INDUSTRY 4.0:

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

With its help, machine working, idle as well as break down time can be monitored. The predictive maintenance can be done with this software to maximize machine availability.

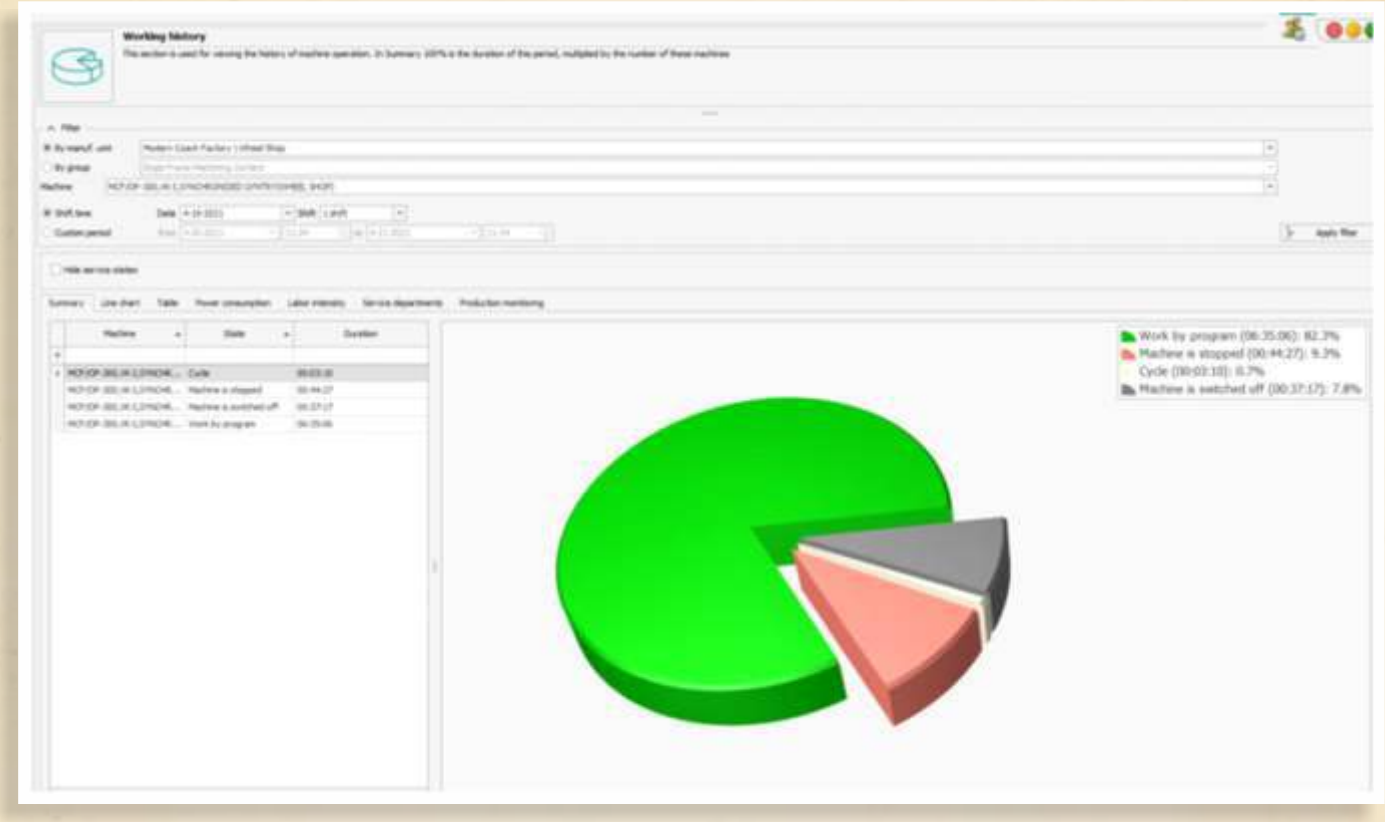
Following are the main advantage of using it.

- Reliability and continuous productivity
- Machine safety
- Product lifecycles increases
- Industry value chain
- Workers education and skills
- Less down time of machines
- Optimum 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.

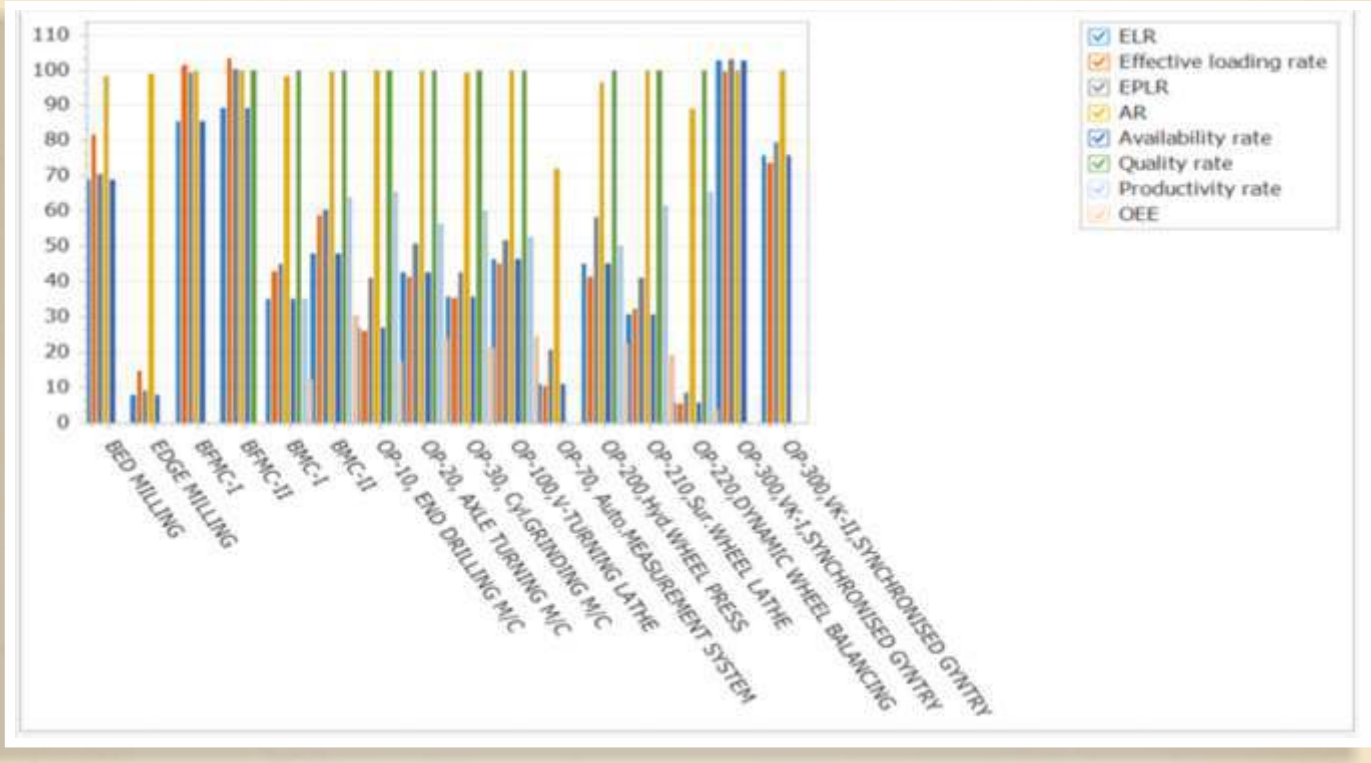
- In continuation with MCF lead in Industry 4.0 and digital manufacturing, further **20** Machine of Shell and Bogie shops in this year have been connected through industry 4.0. This will enable improvement in productivity and machine availability.
- Total 127 officers& staffs of different Workshop &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

WORKING REPORT



REAL TIME CONNECTED MACHINES

KEY PERFORMANCE INDICATOR



TMIR:

MCF is working with IIT Kanpur to develop its own production scheduler and Industry 4.0 software under Technology mission for Indian Railway (TMIR) project. Equipped with parts tracking and real time monitoring, this will be used for predictive maintenance with the help of Artificial Intelligence and machine learning apart from making production schedule for optimum production.

5.0. SPARE MANAGEMENT SYSTEM

1. Industrial grade bar code based material management system for M&P Design programming of aforementioned system was successfully completed. This is an inventory management system. Tracing of material is 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 and officers to enable transparency about availability of spares. This helps in proper planning of procurement of the spares.
2. Proper of identification of the spares on rack has been developed to search required spare in minimum time.
3. Google sheet of spares on Google drive has been developed so that shared person can see the status of available spares cell.

Tracking system of storage in spare house

6.0. FINANCIAL SUMMARY OF FY 2020-21

S.No.	Budget Sub Head	Allocation Head	Bill amount submitted (Rs.)
1.	Contract	WMS 7200	15 ,70,65,436.00
2.		PH 4100	6,04,00,000.00
Total			**21,74,65,436.00**

7.0. SAFETY AND ENVIRONMENTAL MEASURES TAKEN BY PLANT DEPARTMENT

Various safety and environmenal measures has been taken by plant department are as under :

Safety Measures

- A horizontal pipeline has been installed and commissioned on august 2020 in all the four bays of shell shop (570 meters each) it will increase the safety of staff who work on height such as maintenance of crane etc.
- 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 and people alert.
- Emergency rescue plan for LPG installation has been prepared first time in MCF and mock drill for
- Isolation of LPG pipeline in Shell shop has been completed. It was a major safety issue as LPG down takes in Shell shop was active with LPG. All the required modification in pipeline has-been completed successfully and safely.
- A training regarding safely operation of Fork Lifters was conducted by Plant maintenance department on 24.02.2021(Two Shift) 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 48 participants including 07 supervisors get benefited from the training.

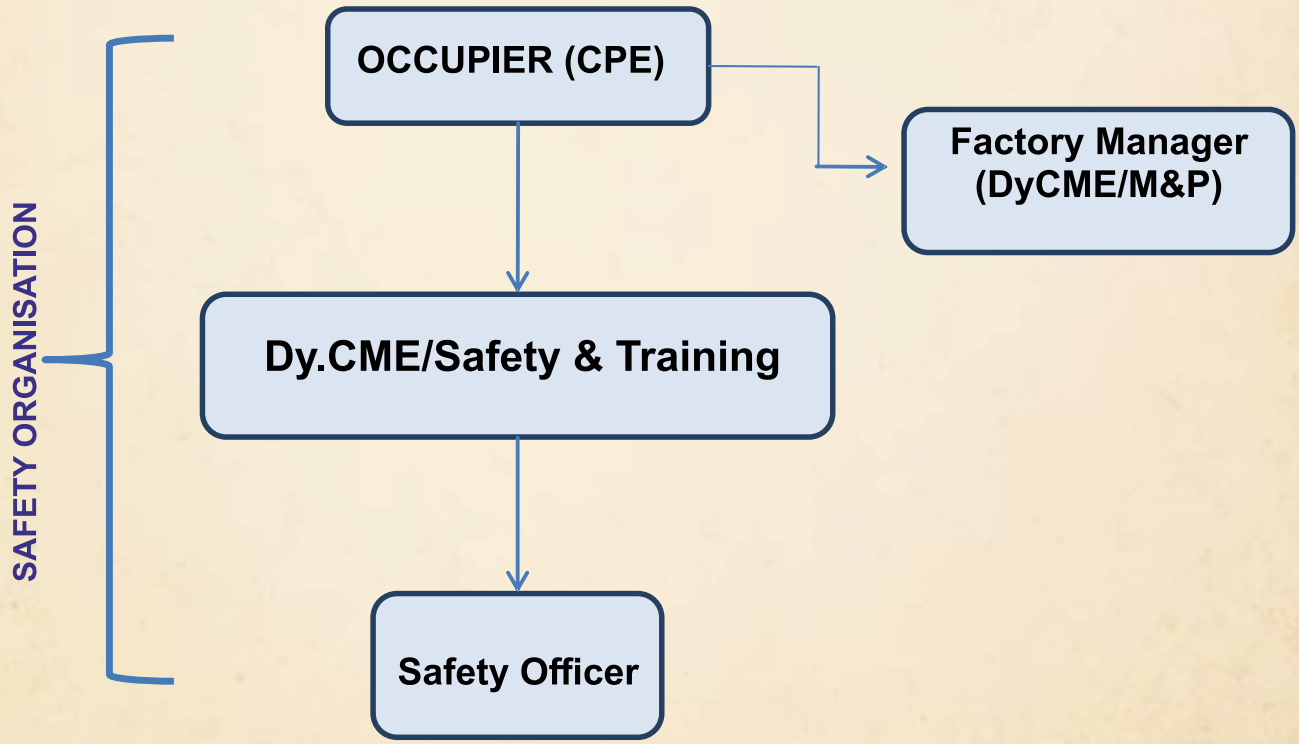
8.0 ANNEXURE (A)

MODERN COACH FACTORY, RAEBARELI				
YEARLY BREAKDOWN AVAILABILITY %AGE OF CRITICAL MACHINES				
Sr. No.	Equipment No.	Equipment Description	Shop	% Age Availability
1	10100001	CNC HYDRAULIC PRESS BRAKE 120-Ton-I	SMS	97.16
2	10100002	CNC HYDRAULIC PRESS BRAKE 120-Ton -II (5-AXIS)	SMS	97.69
3	10150001	CNC HYDRAULIC PRESS BRAKE 160-Ton (5- AXIS)	SMS	96.36
4	10170001	CNC HYDRAULIC PRESS BRAKE 440-Ton-I (5- AXIS)	SMS	92.58
5	10170002	CNC HYDRAULIC PRESS BRAKE 440-Ton-II (5-AXIS)	SMS	81.43
6	10200001	CNC HYDRAULIC PRESS BRAKE 800-Ton (5- AXIS)	SMS	94.85
7	10500001	STRETCH BENDING & FORMING MACHINE	SMS	99.78
8	10910001	FOUR COLUMN HYDRAULIC PRESS 800-Ton-I	SMS	88.59
9	10910002	FOUR COLUMN HYDRAULIC PRESS 800-Ton-II	SMS	99.01
10	10950001	CNC SHEAR CENTRE HNC 4113 , BAYKAL	SMS	82.96
11	11010001	CNC LASER CUTTING MACHINE - I (SIS KOREA) (3-AXIS)	SMS	0.00
12	11010002	CNC LASER CUTTING MACHINE -II (SIS KOREA) (3-AXIS)	SMS	22.31
13	11020001	CNC LASER CUTTING & WELDING MACHINE-I (SIS KOREA) (3-AXIS)	SMS	88.87
14	11020002	CNC LASER CUTTING & WELDING MACHINE - II (SIS KOREA) (3-AXIS)	SMS	88.84
15	11030001	CNC FIBER LASER CUTTING MACHINE	SMS	90.33
16	13100001	CNC FOLDING MACHINE- I	SMS	90.47
17	13100002	CNC FOLDING MACHINE – II	SMS	72.12
18	41800004	AUTOMATIC STORAGE AND RETRIAVLE SYSTEM	SMS	100.00
19	12090001	SIDE WALL ROBOTIC MIG WELDING MACHINE-I (RH)	SIDE WALL	97.31
20	12090002	SIDE WALL ROBOTIC MIG WELDING MACHINE-II (LH)	SIDE WALL	98.84
21	12100001	SIDE WALL ROBOTIC SPOT WELDING MACHINE-I (RH)	SIDE WALL	97.80
22	12100002	SIDE WALL ROBOTIC SPOT WELDING MACHINE-II (LH)	SIDE WALL	98.61
23	12110001	ROOF BEARER 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	12120001	CARLINE ARCH ROBOTIC MIG WELDING MACHINE-I (RH)	SIDE WALL	100.00
26	12120002	CARLINE ARCH ROBOTIC MIG WELDING MACHINE-II (LH)	SIDE WALL	100.00
27	12130001	END WALL ROBOTIC MIG WELDING MACHINE-I	SIDE WALL	100.00
28	12130002	END WALL ROBOTIC MIG WELDING MACHINE-II	SIDE WALL	99.85
29	12800001	CNC ROBOTIC SPOT WELDING MACHINE	SIDE WALL	98.12
30	12250001	SHELL ASSLY ROBOTIC MIG WELDING MACHINE -I	SHELL ASSLY.	99.13
31	12250002	SHELL ASSLY ROBOTIC MIG WELDING MACHINE -II	SHELL ASSLY.	100.00
32	17010001	CNC END DRILLING,COUNTER SINKING, TAPPING&RE-CENTERING M/c (SM-2)(OP-10)	WHEEL SHOP	92.60
33	17020001	CNC AXLE TURNING MACHINE (TCN-16-2T), (OP-20)	WHEEL SHOP	99.37
34	17030001	CNC CYLINDRICAL GRINDING MACHINE (HG- 72 3000 S), (OP-30) *	WHEEL SHOP	98.19
35	17040001	CNC VERTICAL TURNING LATHE MACHINE (OP-100)	WHEEL SHOP	90.49
36	17050001	ELECTROMAGNETIC CRACK DETECTOR (OP-50)	WHEEL SHOP	98.11
37	17060001	ULTRASONIC FLAW DETECTOR LATERAL & LONGITUDINAL (OP-40)	WHEEL SHOP	100.00
38	17070001	AUTOMATED MEASUREMENT SYSTEM, (OP- 70)	WHEEL SHOP	93.94
39	17080001	CNC HYDRAULIC WHEEL PRESS (RP 3000 2PP) (OP-200)	WHEEL SHOP	95.66
40	17090001	CNC SURFACE WHEEL LATHE MACHINE (DPL-2600-CNC),(OP-210)	WHEEL SHOP	94.81
41	17100001	DYNAMIC WHEEL BALANCING MACHINE (OP- 220)	WHEEL SHOP	99.29
42	17120001	SYNCHRONISED & AUTOMATED WHEEL HANDLING & CONVEYING SYSTEM, VK-I (OP-	WHEEL SHOP	94.33
43	17130001	SYNCHRONISED & AUTOMATED AXLE HANDLING & CONVEYING SYSTEM, VK-II (OP-	WHEEL SHOP	99.32
44	17140001	WASHING MACHINE (OP-60)	WHEEL SHOP	99.74
45	10180001	CNC HYDRAULIC PRESS BRAKE 700-Ton	BOGIE SHOP	99.94
46	13000001	CNC BED MILLING MACHINE FUQ150 VR/A5 (TOS KURIM)	BOGIE SHOP	95.67

47	13050001	CNC EDGE MILLING MACHINE (TOS KURIM)	BOGIE SHOP	98.14
48	14000001	CNC (UNDER WATER) PLASMA PROFILE CUTTING MACHINE-I (ITALY)	BOGIE SHOP	92.07
49	14000002	CNC (UNDER WATER) PLASMA PROFILE CUTTING MACHINE -II (ITALY)	BOGIE SHOP	98.34
50	14100001	CNC OXY-ACELYLENE GAS CUTTING MACHINE	BOGIE SHOP	97.65
51	14600001	CNC BOGIE FRAME MACHINING CENTER - I	BOGIE SHOP	97.62
52	14600002	CNC BOGIE FRAME MACHINING CENTER - II	BOGIE SHOP	90.99
53	14700001	CNC BOLSTER MACHINING CENTRE-I FUWQ 125 OR/8	BOGIE SHOP	93.80
54	14700002	CNC BOLSTER MACHINING CENTRE-II FUWQ 125 OR/8	BOGIE SHOP	92.12
55	14800002	3-D Co-ORDINATE MEASURING MACHINE-II	BOGIE SHOP	99.96
56	44010001	SHOT BLASTING & PAINTING SYSTEM (BOGIE FRAME & BOGIE BOLSTER)	BOGIE SHOP	98.28
57	44040001	PAINT BOOTH WITH MOVABLE GANTRY, SCISSOR LIFT PLATFORM, RECIPROCATION	PAINT	99.88
58	44040002	PAINT BOOTH WITH MOVABLE GAN TRY, SCISSOR LIFT PLATFORM, RECIPROCATION	PAINT	100.00
59	44050001	AIR SUPPLY UNIT WITH AIR SUPPLY FAN, LOUVERS, BAG FILTERS, WIRE MESH BIRD	PAINT	99.88
60	44050002	AIR SUPPLY UNIT WITH AIR SUPPLY FAN,LOUVERS,BAG FILTERS,WIRE MESH	PAINT	99.93
61	44060001	DRYING OVEN WITH HOT AIR FAN,BURNER CHAMBER,OVEN ENCLOSURE, LPG	PAINT	99.57
62	44060002	DRYING OVEN WITH HOT AIR FAN,BURNER CHAMBER,OVEN ENCLOSURE, LPG	PAINT	99.78
63	44070001	EFFLUENT TREATMENT PLANT & DE - SLUDGE SYSTEM (SLUDGE PIT)	PAINT	100.00
64	12910001	CNC VERTICAL SPINDLE MOULDER MACHINE (BMW - C5111AE)	CARP	100.00
65	41800002	AUTOMATIC STORAGE AND RETRIAVLE SYSTEM	FURN. STORE-I (Main)	100.00
66	41800003	AUTOMATIC STORAGE AND RETRIAVLE SYSTEM	FURN. STORE-II (Main)	100.00
67	41800001	AUTOMATIC STORAGE AND RETRIAVLE SYSTEM	SHELL STORE (Main)	100.00
Average % Availability				**93.77 %**

SAFETY

SAFETY ORGANISATION



BRIEF INTRODUCTION OF SAFETY CELL

S.No.	Item	Details		
1	**General**			
	(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 Sanjay Kumar Katiyar, CPE/MCF		
2	**Details of the In-charge**			
	(i) Name	Shri B. K. Kapur		
	(ii) Designation	Dy.CME/Safety & Training.		
	(iii) Mobile Number	07318060800, 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	Level 12 of CPC VII		

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 staff.
- 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 Machines, Chains, Ropes & lifting tackles, pressure vessels.
- 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 of the work 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.

  Firefighting operation inside/outside of factory premises. Maintenance (breakdown & Preventive) of Fire hydrant & Fire alarm system, Fire tenders, Fire Extinguishers.

INFRASTRACTURE OF SAFETY CELL

A) INFRASTRUCTURE	
(i)Total length of Fire Hydrant pipe line (in meters)	22,000 (approx)
(ii) Total no. of Fire pump houses.	3 Nos.
(iii) Total no. of Hydrant Points	273 Nos.
(iv) Total no. of Fire Fighting Person.	18+03 Relievers
(v) Total no. of Fire Extinguishers	1273 Nos.
(vi) Total no. of Fire Tenders	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 powe red addressable base mounted sounders	66 Nos.
(xi) Total no. of Optical Beam Smoke detector.	70 Nos.
(xii) Total no. of Breathing Apparatus	4 No.
(xiii) Total no. of Parameter of Hydraulic Spreading Cutter.	1 No.
(xiv) Total no. of Hydraulic pump.	1 No.
B)Medical facilities i)Name of medical centre: ii) Whether in Campus? iii) Emergency Telephone No. iv) Ambulance No. Hospital (Township) (Mini Admin)	 Railway Hospital, MCF/RBL Yes 0535-2704290 8917700809 62102, 8917700807

STEPS TAKEN TO IMPROVE SAFETY IN MCF/RBL

- Night inspections have been commenced by the plant and safety officer 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 fire fighting training have been more frequently involving Railway and Contractor employees in order to familiarize the employee with fire fighting equipments.
- Lectures on the safety related issues are being frequently organized by TTC.
- Safety seminar was organized by MCF in association with M/s Ravi Firetech Safety Engineers Pvt. Ltd. & M/s APS Smart Living & Consultant during National Safety Week – 2021.
- Safety committee meeting are being held timely, to discuss on safety related issues last safety meeting was held on 17.02.2021.
- Internal Fire Safety audit was done on 03.11.2020 in factory premises.
- Daily safety inspection has been conducted by the safety cell.
- Fire mock drill conducted on 01.02.2021 at 15:30 Hrs, and on 21.10.2020 at 15:30 Hrs.

STEPS TAKEN TO CONTROL COVID-19 IN MCF/RBL

Sanitization work being done of all incoming vehicle at gate no. 03 of Factory premises.

Factory premises, TTC Building and Administrative Building are being sanitized through Mobile Anti Smog Gun.

Regular thermal screening of all workers

All offices and workshop are being sanitized two times in a day

Covid-19 Instruction boal's has been fixed in factory premises and administrative build

STATUTORY CLEARANCE

FACTORY AREA

Description	Area	Frequency	Status
Functionality Certificate of fire fighting system	Factory	Annual	Valid upto 09.06.2023
Factory License	Factory	Annual	Valid upto 31.12.2029
LPG Storage Licence	Factory	5 Yrs.	Valid upto 30.09.2021
Air Consent	Factory	5 Yrs.	Valid upto 31.12.2022
Water Consent	Factory	5 Yrs.	Valid upto 31.12.2021
Authorization under the provision of Hazardous and Other Wastes	Factory	5 Yrs.	Valid upto 28.02.2024
Public Liability Insurance Act 1991	Factory	Annual	Valid upto 17.07.2021.
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

SAFETY SETUP

- **Fire Fighting:**
  - **In charge: SSE/Safety**
  - 1st 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)

MCF/RBL FIRE TENDER

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

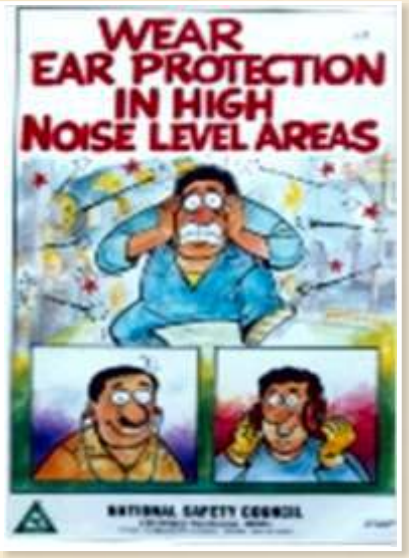
DETAILS:
Water Browser
Tank Capacity: 12000 Litre
Pump Capacity: 2200 Ltr/min

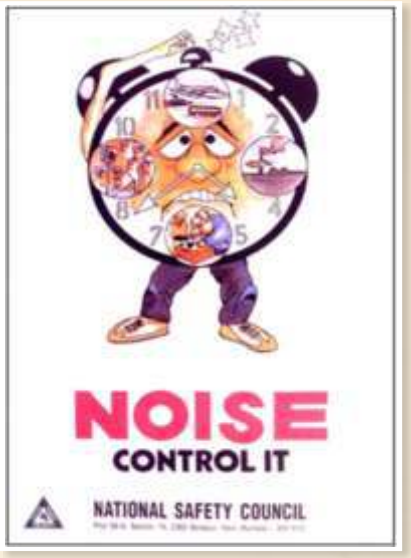
DETAILS:
Water Mist
Tank Capacity: 1000

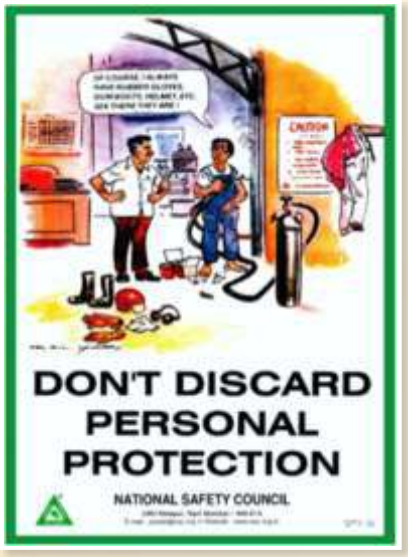
DETAILS:
Trolley Pump
Pump Capacity: 1600 Ltr/Min

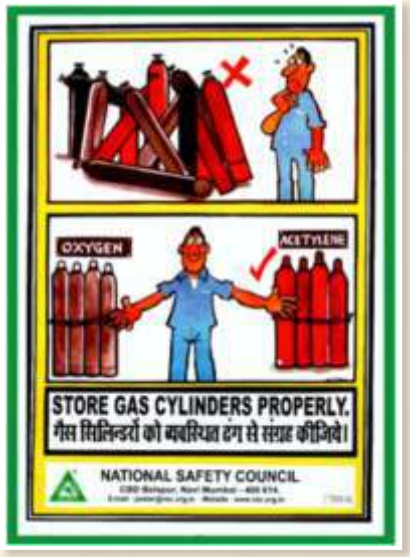
Training of Workers on Safety Awareness & use of PPEs

SAFETY BANNERS/BOARD AT DIFFERENT PLACES.









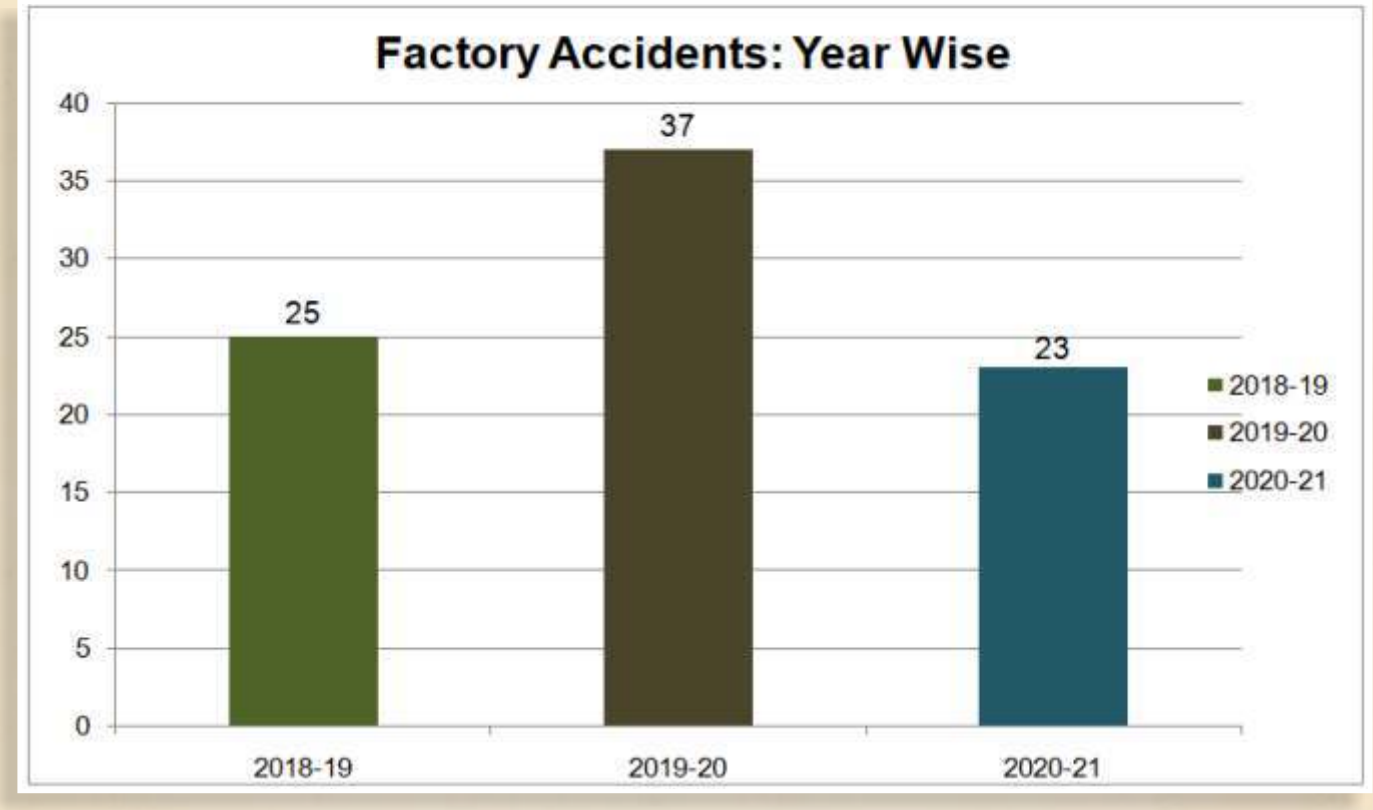
National Safety Week: Celebrated on 04-10 March 2021

Safety Counselling on National Safety Week – 2021

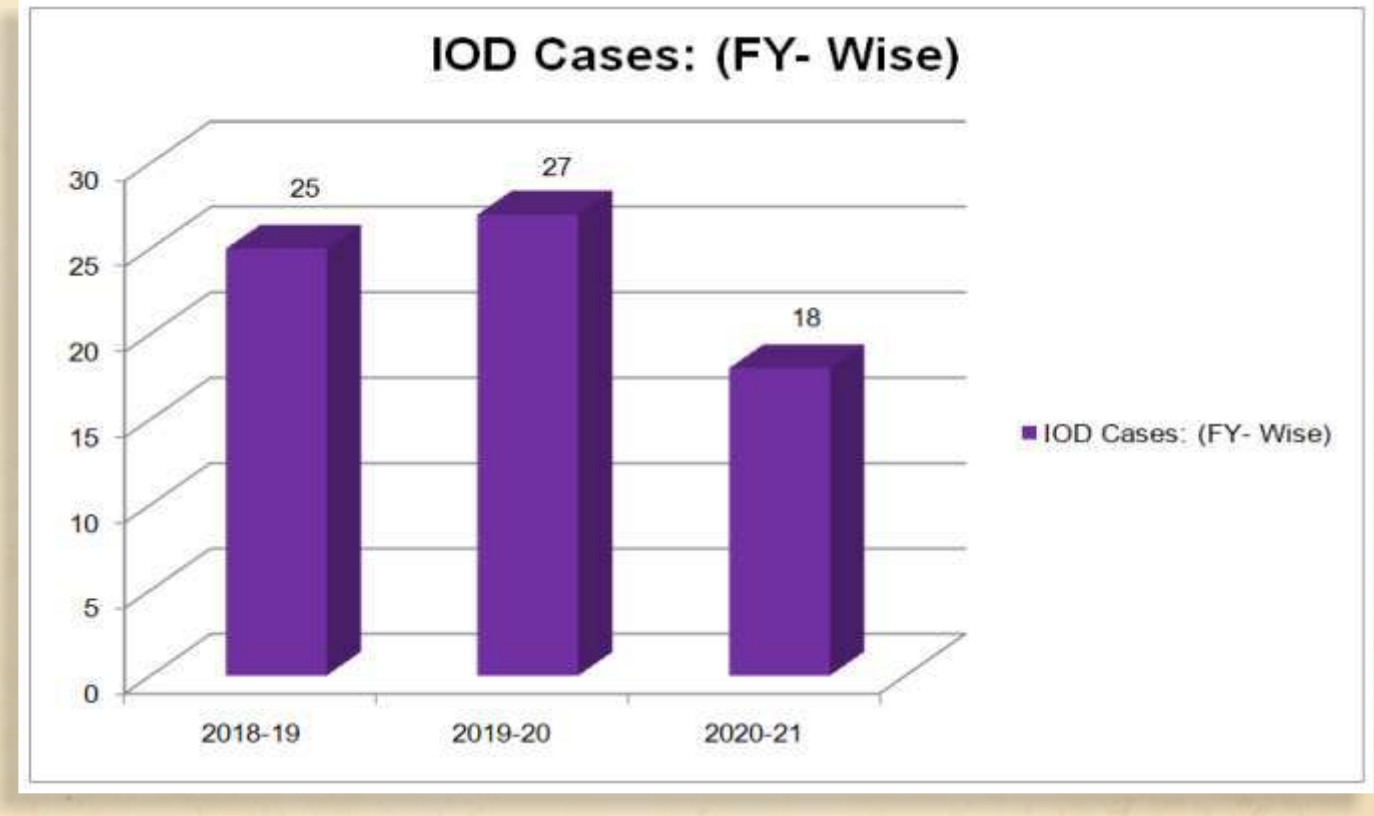
Safety committee meeting on 17.02.2021 (Quarterly).

COMPARATIVE SAFETY PARAMETER

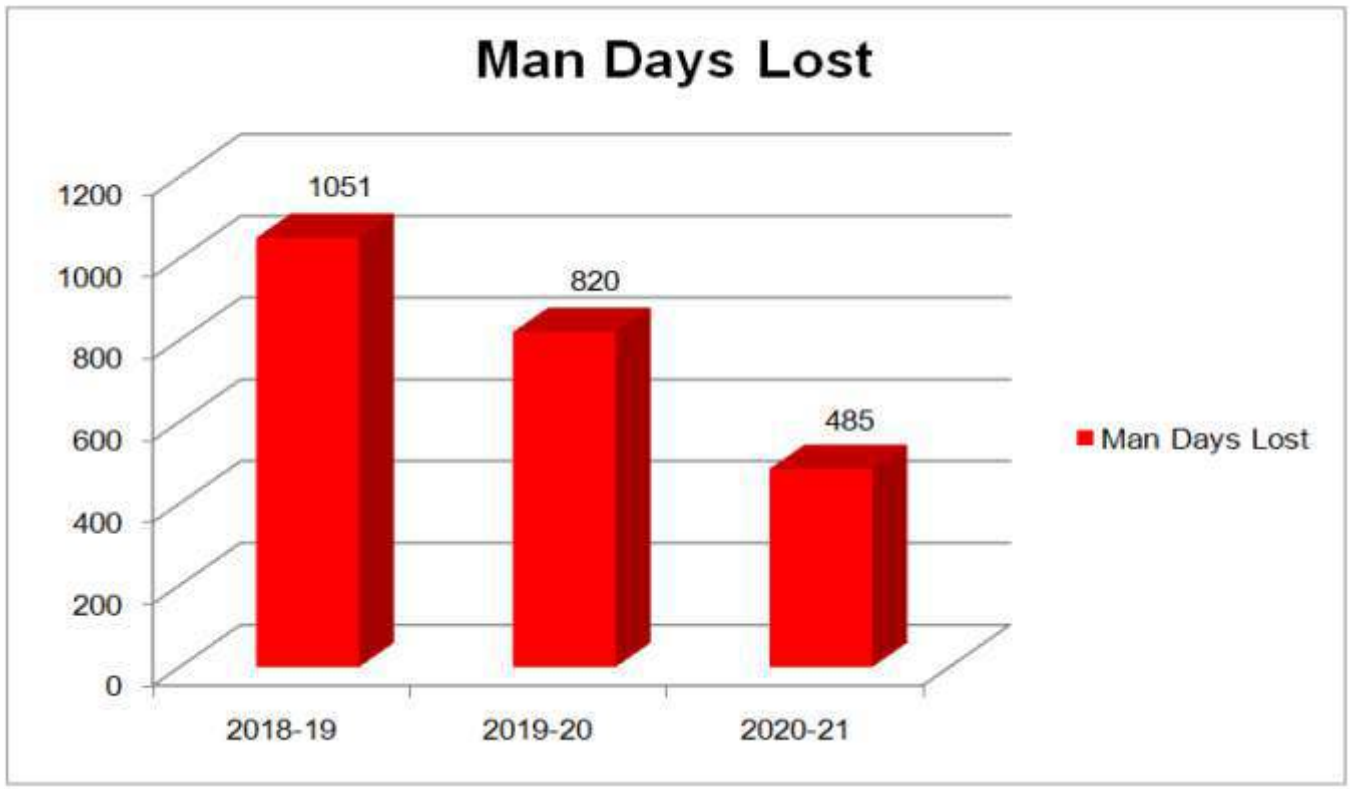
Factory Accidents: Year Wise



IOD Cases: (FY-wise)



Man Days Lost (On Account of Accidents):



ACCIDENT, IOD, FIRST AID & NEAR MISS CASES: FY 2020-21

Months	Fire Incident			IOD	Near Miss Cases/First Aid Cases	Reportable Accident
	F/Area	R/Area	Out Station			
Apr - 20	0	1	0	0	0	0
May - 20	0	0	1	0	0	0
Jun - 20	0	0	0	1	1	0
Jul - 20	0	0	0	2	0	0
Aug - 20	0	0	0	1	0	0
Sep - 20	0	0	0	1	0	0
Oct - 20	0	2	0	2	0	0
Nov - 20	0	3	1	1	1	0
Dec - 20	1	0	0	6	0	0
Jan - 21	0	1	0	2	0	0
Feb - 21	0	0	0	1	1	0
Mar - 21	1	1	0	1	2	0
Total	**2**	**8**	**2**	**18**	**5**	**0**

SIGNAL & TELECOMMUNICATION

1.0 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 LAN of RCIL and BSNL.
- 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 locations 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 MCF/RBL as per requirement.
- Issuing of cashless Ticket to all Railway staff at PRS in TTC Building.
- Also maintenance of PRS equipment installed at TTC Building and Post Office shopping complex.
- 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/MCF/RBL Inspection Carriage's.

2.0 OVERVIEW OF S&T DEPARTMENT

2.1 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	Vacancy
				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	2
4	TCM-I	5200-2020	2800	05	nil	05	07	nil	07	-2
5	TCM-II	5200-20200	2400	01	nil	01	01	nil	01	NA
6	TCM-III	5200-20200	1900	02	nil	02	01	nil	01	1
7	Khalasi	5200-20200	1800	05	nil	05	04	nil	04	1
Total				22	02	24	20	02	22	2

2.2 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	265
Video Conferencing system	2
Video Phone	1
IP based Central Announcement System	1
IP Phone	299
Analog Phone	477
Wi-Fi Access Point	106
Networking Switch	185
CUG SIM	615
PAC Unit installed at Data Center	03
VHF Walkie-Talkie Hand Set	88
Passenger Reservation system	02

2.3 Saraswati Auditorium Audio Video Systems:

Equipment's 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.

2.4 TTC Auditorium Audio Video System:

Equipment's 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 presentations on World Environment Day.

2.5 Main Conference Room, GM conference room and seminar hall Audio Video System:

Equipment's Details
Amplifiers
Mikes
Speakers
Projectors, LED Wall
DVD-CD player
Podium

2x2 55 inches LED wall with high quality wall mount speaker and delegate 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 have been installed for viewing and listening of presentation from any corner of the room without hindrance.

2.6 Video Conferencing System

Video conferencing facilities are now available in GM conference and Main Conference Rooms in the 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 No of occasions.

2.7 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 connected to existing LAN without any additional wiring.

Capacity of Telephone Exchange

S.No.	Location	Available Capacity	Used Capacity
1	Admin Building	1000 IP port & 650 Analog Lines	350
2	Township Building	1500 Lines	301

2.8 Central Announcement System

Speakers have 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 8 Microphones are available in this system for announcement purpose. This system is used for play soft music in the workshop premises for relaxing purpose during lunch time. Also it has been used for public announcement to all over MCF premises in view of oath ceremonies regarding Shadbhavana Divas, Saheed Divas and VIP Movement etc.

Distribution of Microphones

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

2.9 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.

2.9.1 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

2.9.2 At Post Office MCF Township

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

At TTC Building

At Post office

2.10 CCTV cameras at MCF/RBL

2.10.1 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**

2.10.2 RPF Post

S.No.	Description	Make/Model	Qty. (In Nos.)	Remark
1	IP based Bullet	Hikvision /DS-2CD2032	2	Display at **RPF Post** Distributed NVR RPF post and Admin Building
2	IP based Bullet	Hikvision /DS-2CD2032-I	2	Display at **RPF Post** Distributed NVR RPF post and Admin Building

2.10.3 Admin building

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

2.10.4 Admin Parking

1	PTZ Camera	Hikvision	6	Display at **RPF Post** NVR at Data Center
2	IP based Bullet	Hikvision	10	Display at **RPF Post** NVR at Data Center

2.10.5 GM Office

1	IP Based fixed dome	Hikvision	3	Display at **RPF Post** NVR at RPF post
2	IP based Bullet	Hikvision	1	Display at **RPF Post** NVR RPF post

2.10.6 Depot Office and Shops

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

2.10.7 Train Lighting PCO

1IP based Bullet Camera	Hikvision	6	Display at and NVR at **Train Lighting PCO**

2.10.8 Hospital

S. No.	Description	Make/Model	Qty. (In Nos.)	Remark
1	IP based Bullet	Honeywell	4	Display and NVR at **CMO office**
2	IP Based fixed dome	Honeywell	20	Display and NVR at **CMO office**

2.10.9 Mini Admin/Hindustan warehouse/ACME office

S. No.	Description	Make/Model	Qty. (In Nos.)	Remark
1	IP Based fixed dome	Hikvision	6	Display and NVR at **Mini admin**
2	IP based Bullet	Hikvision	23	Display and NVR at **Mini admin**

2.10.10 Township Gate

S. No.	Description	Make/Model	Qty. (In Nos.)	Remark
1	IP based Bullet	Panasonic	4	Display and NVR at **Township Gate**
2	IP PTZ	Panasonic	1	Display and NVR at **Township Gate**

2.10.11 TTC Building

S. No.	Description	Make/Model	Qty. (In Nos.)	Remark
1	IP based Bullet	Securico	10	Display and NVR at **TTC**
2	IP based Bullet	Securico	6	Display and NVR at **TTC**
3	IP Based fixed dome	Securico	4	Display and NVR at **TTC**

2.10.12 Data Centre Admin Building

S. No.	Description	Make/Model	Qty. (In Nos.)	Remark
1	IP based Bullet	Syrotech	3	Display and NVR at Data Center

2.10.13 Bogies Paint Line

S. No.	Description	Make/Model	Qty (In Nos)	Remark
1	IP based Bullet	Hikvision	7	Display and NVR at Bogies Paint Line

2.10.14 Shopping Complex

S. No.	Description	Make/Model	Qty. (In Nos.)	Remark
1	IP based Bullet	Syrotech	8	Display at RPF Thana and NVR at Shopping Complex.

2.10.15 Bogies Shop

S. No.	Description	Make/Model	Qty. (In Nos.)	Remark
1	IP based Bullet	Syrotech	16	Display not available and NVR at Bogies Shop

2..10.16 Different place in workshop

S. No.	Description	Make/Model	Qty (In Nos)	Remark
1	IP based Bullet	--	60	Display at Site and NVR at RPF Thana.
2	IP PTZ	--	22	

2.11 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 RailtelCkts	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 service in MCF has upto 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 upto 300 Mbps which is used as secondary path for internet service in case of failure of Railnet connectivity.

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

S.No	Locations	Quantity
1	Workshop and Mini Administrative Building	45
2	Admin Building	40
3	Hospital and Township/ORH	18 (10+8)
4	GM Banglow	03
5	All officer Quarter	Through ADSL Modem

3.0 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 updating data and other activities.

4.0 SPECIAL WORK COMPLETED:

- 10 KVA UPS has been installed in Township Exchange for backup.
- Youtube live streaming flag hoisting, parade and culture programme at Sarswati Auditorium for Independence day & Cricket ground on Republic day.
- CCTV Surveillance camera has been provided in Shopping Complex Township Premises, Data Center Admin Building, Bogies Paint line, Bogies Shop in Factory Workshop area.
- Optical fiber cable has been provided to interconnect networking equipment at newley shifted hospital with Telephone exchange for provision of Internet facility to medical staff for official work.
- 4658 Nos. cashless Ticket has been issued to all Railway staff at PRS TTC Building.
- Organised 47 Nos. Video Conferencing with different Railway unit and Railway Board with GM/MCF, PCME/MCF & PHOD.

5.0 Spare Management System

1. Spare of all critical equipment is available and kept in 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 from time to time.

6.0 Financial Summary of Financial Year 2020-21

S.No.	Budget Sub Head	Allocation Head	Bill amount submitted	Bill Amount to be submitted
1	Contract	WMS 7200	1,08,39,000.00	0.00
	Total		**1,08,39,000.00**	0.00

7.0 Future Plan for improvement of Data Service

Upgradation ADSL to VDSL technology, for the provision of high speed network connectivity to MCF Township for officers is under process through GeM.

TECHNICAL TRAINING CENTRE

Certifications

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/IEC 17025:2017 (NABL)
8.	5S Furnishing & Finishing
9.	5S Bogie, Shell, Wheel & Tool Room

1.0 Annual Report of TTC

S.No.	Item	Details		
1.	**General**			
	(a) Name of the Training Institution	Technical Training Centre, Modern Coach Factory, Raebareli		
	(b) Location of the training Institution	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/IEC 17025:2017 (NABL) 8. 5S Furnishing & Finishing 9. 5S Bogie, Shell, Wheel & Tool Room		
	(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	https://mcf.indianrailways.gov.in/view_section.jsp?lang=0&id=0,300,406		
	(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)	Shri. Sanjay Kumar Katiyar, CPE/MCF		
2.	**Details of the In-charge**			
	(i) Name	Shri.B.K.Kapur		
	(ii) Designation	Dy.CME/Safety & Training		
	(iii) Mobile Number	+91-7318060800		
	(iv) Email address	pttcmcfrbl@gmail.com		
	(v) Date (dd/mm/yyyy) of joining Training Institution	19	05	2020
	(vi) Scale of Pay and Grade Pay	Level-12 as per 7th CPC		

3.	(a) Objectives of the Training Institution	• Develop TTC as Centre of Excellence • Training and Skill Development of serving as well as newly recruited Employees • Cater the training needs of the MCF/RBL • "Product based training" to all Zonal Railways & Production units as per their requirements • Contribute towards industrial development of the nation through skill development. • Act Apprentice training. • Skill Development for Local Youths.
	(b) Board Category of staff being trained (Name five major categories only)	i. Mechanical Artisan staff ii. Electrical Artisan staff iii. Supervisory staff iv. Group 'D' staff v. Contractual workers

4.	**Infrastructure**						
	(a) Lay out						
	(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)Class Rooms						
	(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				
	(C) Number of toilets near class rooms		Gents	02 blocks			
			Ladies	02 blocks			
	(d) Hostel Accommodation						
	(i) Room details	Single Bed	Double Bed	Triple Bed	Dormitory (4 beds & above)	Ladies	
	(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 06		Area (Avg. Size in sq. meter) 49.95			

	(e) Model Rooms	
	(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)	
	(f) Library Facilities	
	(i) Available (Tick appropriately)	Yes (with E-Library facility)
	If Available	
	(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
g) Computer Facilities	
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
h) Medical facilities	
i) Name of medical center:	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

	i) Recreational facilities	
	i) Indoor (Please specify 5 major games)	(i) Chess (iii) Table Tennis (ii) Carrom 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

5.	**Faculty**			
	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		
	d) Training of Trainers (TOT) course.			
	I) Number of trainers who have done TOT course	02 + 01 Officer		
	ii) Number of trainers who have not done TOT course	04		
	e) Details of Visiting Faculty (5 Names to be given) who have given lecture In FY 2020-21			
	Name	Designation	Company/ organization	Dates of Visit
1	Sh. Sanjay Tiwary	SVO	MCF/RBL	15.07.20, 16.12.20, 01.10.21, 13.01.21
2	Sh. Rajesh Kumar	AMM/HQ	MCF/RBL	13.07.20,18.08.20, 15.09.20,13.10.20
3	Sh. R.N. Tiwari	APO	MCF/RBL	20.07.20,03.09.20, 08.09.20,12.09.20
4	Sh. S.K. Gupta	SSO/Fin	MCF/RBL	15.07.20,19.08.20, 16.09.20,14.10.20
5	Sh. Avinash Ranjan	SSE/Safety	MCF/RBL	29.06.20,18.07.20, 03.08.20,22.08.20

6.	**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

7.	**Capacity Utilization**			
	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
		2020-21	60.40%	75.00%
		2019-20	81.00%	122.81%
		2018-19	41.53%	60.42%
	c) Details of trainees who have completed the training FY 2020-21 (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		
8.	**Budget Utilization**			
	a) Name of officer controlling the budget	Chief Planning Engineer, MCF/RBL		
	b) Budget	Year	Allotment	Utilization
	In-house manufacturing of PPE & Masks	2020-21	Rs. 472000.00	Rs. 472000.00
	Design and development of QR code for PPE	2020-21	Rs. 59000.00	Rs. 59000.00
	NS indents (for PPE logo, Hypochlorite, elastic for masks etc.)	2020-21	Rs. 222243.00	Rs. 222243.00
	c) Works Programs in progress/sanctioned for the training institution			

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. 1,71,18,765.00	
iv) Duration of Contract		36 months (03 Years)	

9.	**Inspections**				
	i) Number of Inspection done in 2020-21	GM	By SAG officer	By JAG officer	By Other officer
		00	02	00	00
	ii) Details of inspection				
	Designation of inspecting authority	Date of visit	--		
	CPE	21.09.20, 24.03.21	--		
10.	**Training Methodology**				
	Lecture	**Discussion**	**Group Activity**	**Individual Activity**	**Collaborative learning**
	Yes	Yes	Yes	Yes	
	Action Learning	**Problem based learning**	**Case study**	**Learning games**	**Videos**
	Yes	Yes	Yes		Yes
	Printed Materials	**Computer Aided Instruction**	**Simulators**		
	Yes	Yes	Yes		
11.	**Feedback/Evaluation**				
	a) Is there a feedback system in existence		**Yes**		
	If Yes, What is the average rating obtained in respect of the following in 2020-21				

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
Parameters	**Rating**
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	70.00	---	---	---	---	---
ii) FLT operators basic operation and certification course	60	79.00	76.00	75.00	23.00	39.00	45.00
iii)Promotee JE,s (Elect)	60	77.5	73.5	73.5	70.00	71.00	71.00

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
3	Promotee JE,s (Elect)	Written + Oral	40%	End of Course

12.	**Attach Photograph of following – day time and night photo (with lights)** **(attached as Annexure II)**	
	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)	

13.	**Performance highlights** (Please furnish additional details not already covered, if any)	1. After the lockdown period, training activities were started through Online mode and courses viz safety training for MCF artisan staff, safety training for contractual staff & Act-Apprenticeship training were conducted Online. 2. In "Training and Testing of Welders" course, total **74** no. contractual welders working for MCF have been trained and revenue of **Rs. 467680.00** has been generated, by charging training fee as per Railway Board guidelines. 3. In "EOT Crane opera tion training" course, total **10** no. contractual workers working for MCF have been trained and revenue of **Rs 63200.00** has been generated, by charging training fee as per Railway Board guidelines. 4. Training, as a part of field visit has been organized for **06** nos. Probationer officers and **45** nos. other railway staff. 5. In fight against spread of Corona Virus pandemic, work of stitching of Masks & PPE (Cover all) was done at TTC/MCF and total **44160** nos. Masks (**4160** nos. Masks were stitched by MCF employees) and **2100** nos. PPE (Cover all) have been stitched and supplied for use of Raebareli district administration, MCF Railway hospital and MCF staff etc.

Annexure I

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

S.No.	Model room/Lab/Workshop	Equipment available
1	Mechatronics and Automation Lab	Hydraulic trainer kit a. LHB coach braking systems b. Hydraulics learning center c. LHB bogie Simulator d. Bio vacuum simulator system e. E learning center for hydraulics.
		Electro hydraulic trainer kit a. E learning center for electro hydraulic.
		Pneumatic trainer kit a. E learning center 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) i. Sensor lab equipment to make aware of the basic pr inciples & 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 Pre ss 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

Photographs

Technical Training Centre/MCF/RBL

Technical Training Centre Entrance

Smart Class Room

Interactive Class Room

Technical Training Centre Conference Room

Sanitization of TTC

Technical Training Centre Conference Room

Technical Training Centre Auditorium

Technical Training E- Library inauguration

Technical Training Centre Library

Mechatronics Lab

Automation Lab

Computer Lab

Coach Component Display

Welding Shop Inauguration & Inspection

Robotic operation and Programming training

Welding Simulator

Hon'ble GM Visited TTC

Environment Day function

Technical Training Centre canteen

TTC Hostel

Technical Training Centre Hostel Room

Technical Training Centre Gym

Technical Training Centre Recreation Room

PROJECT DEPARTMENT

1.0 Annual Performance 2020-21

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 Ltd. on nomination basis. During the FY 2020-21, following works got completed:

1.1 M&Ps Commissioned in 2020-21 (Under setting up of MCF)

SN	Machine Name	Qty./Set	Cost (Rs or Cr)
1	Laser Cutting Machine (Fiber type)	01	3,29,000 Euro+71,00,000 INR
2	Box Pallet (749)	749	1.35
3	Fork lift-10 Ton	01	0.22
4	Pulse Synergic Water cooled MIG Welding Set	02	0.09

2.0 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). Detailed estimate is sanctioned at the cost of Rs. 495.42 Cr. During FY-2020-21, following works got completed.

2.1 M&Ps Commissioned in 2020-21 (Under Augmentation)

SN	Machine Name	Qty./Set	Cost (Crs.)
1	Fork Lift capacity 3TON	10	0.82
2	Pulse Synergic Water cooled MIG Welding Set	25	1.05
3	Self-propelled Hydraulic Operated platform 250Kg (MCF78001569)	10	1.01
4	Excavator	1	0.18
5	Fork Lifts capacity 5T	5	0.70
6	Rail cum Road Vehicle for Shunting of LHB Coaches capacity 600T	1	3.65
7	Welding fume extraction system	60	1.76

3.0 PH-4100 Following M&P received and commissioned during FY-2020-21.

SN	Machine Name	Qty./Set	Cost (Crs.)
1	Stackable Flat Pallets	400	0.61
2	Chiller Unit for LCWM/LCM	01	0.32
3	Portable Stud Pin Welding Machine	10	0.24
4	Portable Air Plasma cutting Machine	10	0.26
5	Tipper Truck Hydraulic (3CM)	04	0.26
6	Electro powered Telescopic lifting beam	01	0.21

3.1 Following M&P also received during 2020-21 and are under commissioning.

SN	Machine Name	Qty./Set	Cost (Crs.)	Remarks
1	Multi Station Machine	01	0.53	PH-41
2	EOT Crane-05 Ton	01	0.30	PH-41
3	Rail cum Road Vehicle 600T	01	2.91	PH-41
4	CNC Robotic Spot Welding Machine	01	26.34	PH-41
5	Battery Operated platform Truck 2000 Kgs.	05	0.21	PH-41
6	Paint Booth	01	9.83	PH-41
7	Universal Milling Machine	01	0.22	PH-41
8	Universal Bearing Press	04	0.19	PH-41
9	Fork Lifts capacity 3 T	04	0.33	PH-41

4.0 Financial Progress:

Utilization of fund under Plan Head 4100, 4200 for the FY-2020-21

(All fig. In Rs .Crs.)

PLAN HEAD 4100		
Allocation Head	**BG**	**Actual Expenditure (2020 -21)**
CAP	20.805	25.65
RRSK	0.280	0.00
Total	**21.09**	**25.65**

(All fig. In Rs .Crs.)

PLAN HEAD 4200						
Description	Abstract Project Cost	Sanctioned Estimate	BG-2020-21	Actual Expenditure (2020-21)	Cumulative Expenditure up to March-2021	% Utilization
MCF/RBL/ Project	1685.00	3192.00	34	74.01	2999.46	93.96
Augmentation 1000 to 2000 Coaches	480.00	495.42	50	44.51	54.35	10.97
Total	**2165.00**	**3687.42**	**84**	**118.52**	**3053.81**	**82.82**

STORES DEPARTMENT

Annexure-I

Statement No.38-A

VALUE OF STORES PURCHASED DURING -2020-21

(RS. in Thousands)

SN	Heading	Value of Stores Imported Direct				Value of Imported Stores Purchased in India				Value of Stores Manufactured in India or Indignep				
		Stock	Non-Stock	Constn Work	Total	Stock	Non-Stock	Constn Work	Total	Stock	Non-Stock	Const n Work	Total	G Total
1	Steam Loco parts and fiiting	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Diesel loco parts and fittings	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Electirc loco parts and fittings	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Carriage,wagon, EMU parts and fittings	0.44	0	0	0.44	0	0	0	0	24977227	0	0	24977228	24977228
5	Electrical Stores	0	0	0	0	0	0	0	0	86357	0	0	86357	86357
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	3588	0	3588	3588
9	Abrrasive tools, hardware etc.	0	0	0	0	0	0	0	0	7805	0	0	7805	7805
10	Brushes, brushware etc.	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Indian rubber, leather canvas etc	0	0	0	0	0	0	0	0	70443	0	0	70443	70443
12	Electrode & welding accessories	0	0	0	0	0	0	0	0	49999	0	0	49999	49999
13	Paints, enamels & varnishes	0	0	0	0	0	0	0	0	49042	0	0	49042	49042
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	26005	0	0	26005	26005
16	Petroleum products other than fuel oil	0	0	0	0	0	0	0	0	1984	0	0	1984	1984
17	Refractories, packing material etc	0	0	0	0	0	0	0	0	148	0	0	148	148
18	Ball & Rollar bearings	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	60364	0	0	60364	60364
20	Stationery forms etc.	0	0	0	0	0	0	0	0	3195	0	0	3195	3195
21	Metal ferrous	0	0	0	0	0	0	0	0	2153	0	0	2153	2153
22	Metal non-ferrous	0	0	0	0	0	0	0	0	316	0	0	316	316
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	20761	0	0	20761	20761
26	Scrap	0	0	0	0	0	0	0	0	92865	0	0	92865	92865
27	Rolling Stock complete units & stores	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0.44			0.44					25448664	3588		25452253	25452253

Annexure II

STATEMENT NO. 38-B

Total Value of stores purchased during 2020-21

PROFORMA-I

(Rs. in Crores)

S. No.	Item	Value
A	Imported Direct	0.44
B	Imported Stores Purchased in India	Nil
C	Stores Purchased from PSUs	Nil
D	Khadi Purchase	1.94
E	Stores purchased from Cottage & SSI units	256.80
F	Other indigenous	2286.04
	Total	2545.22

Total Value of stores purchased during 2020-21

PROFORMA-II

(Rs. in Crores)

S. No.	Item	Value
A	Stores for operation/repair & maintenance	0
B	Stores for construction	0
C	Fuel	0
D	Components/Stores purchased for manufacture of complete rolling Stock and complete units of Rolling Stock.	2545.22
	Total	2545.22

Total Value of stores purchased during 2020-21

PROFORMA-III

(Rs. in Crores)

S. No.	Item	Value
A	Through Department of Supply (DGS&D)	0.00
B	Through Railway Board	104.92
C	Direct Purchased made by Railway/PU	2440.03
	Total	2545.22

ANNEXURE-III
STATEMENT NO 39-A

Stores Transaction during the year 2020-21

(Rs. In Thousand)

Description	Opening balance (at the beginning of the year 2020-21)	Receipts during the year 2020-21)	Issues during the year 2020-21)	Closing balance (at the end of the year 2020-21)
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
Carriage, wagon, EMU parts and fittings	3525642	24977228	24544178	3958691
Electric stores	26408	86357	88404	24361
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	11380	3588	5356	9611
Abrasive tools,hardware etc,	28595	7805	10878	25522
Brushes, brushware etc.	893	0	498	395
India rubber, leather canvas etc.	24712	70443	41606	53550
Electordes & welding accessories	20865	49999	59914	10950
Paints,enamels & varnishes	3987	49042	48764	4266
Crockery, cutlery & napery	13	0	13	0
Cloth,clothing & personal equipment.	2623	26005	12691	15936
Petroleum products other than fuel oil	1882	1984	3244	622
Factories, packing material etc.	430	148	375	203
Ball & roller bearings	0	0	0	0
Genl. Stores covering acids, chemicals etc.	20211	60364	67339	13236
Stationary forms etc.	2992	3195	3120	3067
Metal ferrous	87639	2153	33110	56683
Metal non-ferrous	115	316	0	432
Fuel-coke, coal etc.	0	0	0	0
Fuel-oil	0	0	0	0
Timber	16792	20761	6002	31551
Scrap	35272	92865	107366	20771
Rolling Stock complete units 7 stores	0	0	0	0
Total	3810451	25452253	25032858	4229847
Adjustments	0	0	0	0
Grand total as per App. Account	3810451	25452253	25032858	4229847

Annexure IV
STATEMENT NO. 39-B

Summary statement of Stores transactions during 2020-21

(Rs. In Crores)

39(B)- Summary Statement of Stores transactions on Govt. Railway in 2020-21									
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
128	0.0010789	72.27	55.73	25452253	25022858	422.19	0.4893931	95	327.67

Accounts Department

Annual Report 2020-21

1.0 Setting up of MCF/RBL PROJECT: -

The Abstract Estimate for MCF/RBL Project for Rs 1685 Crore was sanctioned by Railway Board. Detailed Estimate of Rs 2973.36 Crore for MCF/RBL Project has also been sanctioned by Railway Board.

The Department wise break-up of the sanctioned cost of the Project is as under: -

(Rs. in Crore)

Department	Amount
Civil	1495.29
Electrical	303.02
Mechanical	1321.77
S&T	20.78
IT	51.15
Total	3192.01

2.0 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.

The Total expenditure under final heads for fixed assets and M&P is Rs 2943.36/- crore upto March, 2021. 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. 272.32 Crore. The break-up of fixed and floating assets is as under:-

2.1 Total Assets as on 31st March 2021:-

(Rs. in Crore)

I	Fixed Assets	Amount	Break up of fixed assets by important categories	
(a)	Project Township	51.87	**Fixed Assets**	**Amount**
(b)	Project Township (Structural Engineering Works) Building	1256.10	Preliminary Expenditure	23.07
			Land	51.87
(c)	W/s & offices	1635.39	Machinery and Plant	1520.31
			Building and other structural engg. Works including road & permanent way .	1309.52
			General Charges	38.59
	Total Fixed Assets (a+b+c)	**2943.36**	**Total Fixed Assests**	**2943.36**

(Rs. in Crore)

II	Floating Asset	Amount		
(a)	Stores Suspense	175.56		
(b)	W/s Mfg. Suspense	98.98		
(c)	Misc Adv. Cap	3.56		
	Total Floating Assets (a+b+c)	**272.32**		
	Total Assets (I+II)	**3215.68**		

3.0 STATEMENT SHOWING DEPRECIATION RESERVE FUND ACCOUNT FOR AND TO END OF THE YEAR 2020-21.

(fig. In units of Rs.)

Sl.No.	PARTICUALRS	AMOUNT
01	Opening balance	NIL
02	Appropriation during the year 2020-21	NIL
03	Interest during the year @ 5%	NIL
04	Total (2+3)	NIL
05	Expenditure on renewals & replacement during the year 2020-21	NIL
06	Net accretion to the fund during the year 2020 -21 (4 -5)	NIL
07	Closing balance (Col. 1+6)	NIL
	Details of Grant for 2020-21	
08	Original Grant	NIL
09	Supplementary Grant	NIL
10	Residual	NIL
11	Final Grant	NIL

3.1 STATEMENT SHOWING PENSION FUND ACCOUNT FOR AND TO END OF THE YEAR 2020-21.

(fig. In units of Rs.)

Sl.No.	PARTICUALRS	AMOUNT
01	Opening balance	2346790
02	Appropriation during the year 2019 -20	60000000
03	Transfer from contribution of PF	0
04	Interest during the year @ 5.75%	-955285
05	Total (2+3+4)	0
06	Withdrawals during the year 2019 -20	120858648
07	Net accretion to the fund during the year 2019-20 (5-6)	-60858648
08	Closing balance (Col. 1+7)	-59467143
	Details of Grant for 2020 -21	
09	Original Grant	90687000
10	Supplementary	0
11	Grants for	0
12	Residual	22313000
13	Final Grant	113000000

4.0 OVERHEADS: - Percentage of Over Heads w.r.t. Direct Labour for the last four years are as under:

S.No	Particulars	2018 -19	2019 -20	2020 -21	2021 -22
1	FOH (Factory Over Head)	96.80%	91.04%	76.58%	104.91%
2	AOH (Administrative Over Head)	104%	95.00%	78%	86%
3	TOH (Township Over Head)	27.48%	26.27%	20.26%	36.14%
4	SOH (Stores Over Head)	1.26%	0.82%	0.61%	0.40%
Total		**229.54%**	**213.13%**	**175.45%**	**227.45%**

5.1 OVERALL EXPENDITURE ON PROJECT :- PLAN HEAD 4200

(Rs. in Crore)

Name of Work	Year of Sanction	Sanctioned Estimate	Revised Estimate	Exp. 2020 -21	Exp. to end of 2020 -21 since commencement
1	2	3	4	5	6
MCF/RBL	**2006 -07**	**2556.04**	**3192.01**	**74.01 (EBR(S)**	**2999.46**

6. Detail of Coaches rolled out and Credit received for the year 2020-21:-

Sr. No.	Month	Nos. Of Coaches.	Amount (figure in Cr.)
1	April -2020	NIL	NIL
2	May -2020	NIL	NIL
3	June -2020	101	200 .67
4	July -2020	151	293 .56
5	August -2020	165	324 .68
6	September -2020	184	353 .25
7	October -2020	125	246 .31
8	November -2020	80	182 .65
9	December -2020	101	232 .12
10	January -2021	125	294 .44
11	February -2021	178	406 .21
12	March -2021	150	335 .04
	Total	**1360**	**2868 .93**

7. AUDIT REFERENCES AS ON 31.03.2021: -

Description	Opening Balance as on 01.04.2020	Accretion during the year	Clearance during the year	Closing Balance as on 31.03.2021
Audit Inspection Report Pt-I	17	07	10	14
Audit Inspection Report Pt-II	04	00	03	01
Audit Note Pt-1	23	05	03	25
Spécial letters	10	05	04	11
Draft Para	--	--	--	--
Total	54	17	20	51

Civil Engineering Department

(Financial Year 2020-21)

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 1869 staff quarters (1028 type-II, 560 type-III, 160 type-IVDS, 70 type-IVSS, 46 type-V, 5 type VI & above). Construction work of 94 type-II quarters, 200 type-III quarters, 120 type-IV quarters and 02 type-VI quarters is in progress.

1.3 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 Training Center & 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. 1350 Crore. Now Workshop is being augmented from production capacity 1000 coaches per year to 2000 coaches per year.

1.5 Dense forestation of 25500 trees has been done in township side in consultation with Forest Department UP. Including this total plantation done so far in MCF is 120500 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 1.1MLD + 0.4 MLD in township and 1.1 MLD in workshop). Entire treated water is being used in irrigation of greenery.

1.7 Assets are being maintained regularly on planned manner with minimum departmental labour. General sanitation & horticulture activities are being outsourced along with other civil engineering maintenance works & special sanctioned works. Efforts of Civil Engg. Deptt. are to maintain assets regularly in due time with economical methods. 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	0 3
Group 'D'		30	07	23
Total		**101**	**57**	**44**

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 Tubewells in colony and 2 Tubewells in workshop each with pumping unit. Requirement of water supply in colony as well as in workshop is met with through 200mm dia, deep Tubewells (320m to 360m) having enough yield. Water from the Tubewells 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 statuary 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 800mm Pipe	-	3370
Total		**7919**	**22169**

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	33200
2	Bituminous Road	11123	1,89,557

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
Total	**540** Hectare
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
Total	**17470**	**1107**	**30555**	**49132**

3.8 Residential Accommodation

Type	No. of quarters
II	1028
III	560
IVDS	160
IVSS	70
V	46
VI	4
GM Bungalow	1
Total	1869

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

Description	Length (Km)
Ballasted Track	10.26
Embedded Track	17.983
Points & crossing	21 Nos

4.0 Expenditure during financial year 2020-21

(Rs. in Thousand)

SN	Plan head	Allocation	Expenditure
1	4200	CAP	795600
2	7200	WMS	492500
Total			**1288100**

5.0 Major Achievement of the year 2020-21

- 3000 (1670+1330) mtr. embedded track and ballasted track has been constructed to facilitate smooth shunting and stabling of newly built coaches.
- Pacca flooring covering an area of about 15600 sqm and 8600 sqm paver block has been provided for stacking of coach material and other production activities.
- Covering shed of 1750 sqm have been constructed for stacking of bogie material near Bogie shop & MRS.
- Three Shower Testing Units have been constructed and commissioned for Shell Shop.
- Provision of lift has been made in the GM/MCF camp office at New Delhi.
- 3800 sqm two wheeler parking shed in workshop and 680 sqm in administrative building has been constructed.
- 1000 sqm shed with proflex sheet has been constructed near gate no. 3.
- Plantation of 25500 trees has been done in the Factory and Township area .
- New lawn area about 35,000 sqm have been developed in Township and 2000 sqm in the Administrative Building.
- Door to Door garbage collection introduced in the Township area.
- Renovation of Road work in MCF Township.
- Management/Distribution of Grossery/Rashan to 320 Labourers for four months in civil during COVID Period.
- Conversion of SRH into Regular hospital, separate entry for COVID hospital.
- Construction/Development of pond for Chhat Pooja.
- Agreement and distribution of 5000 plants and 10000 seasonal flower plants to staff.
- 2 Nos of New Tube well & Six Km of water line for betterment of good quality of drinking water.
- Road Guide map and colony guide map was provided in Township.
- Development of various sports facilities like as Swimming Pool, Hockey Stadium, Football Stadium, Cricket Stadium, Sports Hostel and Golf Club etc.

Major work planned and in progress of the year 2020-21

Following work is in progress in connection with augmentation of coach production capacity from 1000 to 2000 per year and other major works.

- 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 new stabling lines.
- Construction of 50 type-IVSS quarters.
- Construction of 70 type-IVDS quarters.
- Construction of 120 type-III quarters
- Construction of balance 94 type-II quarters
- Construction of balance 80 type-III quarters
- Construction of 2 type-VI quarters
- Civil assets maintenance contract of Township & Workshop have been awarded successfully in this year
- Modernization of Kota Workshop (Phase-I) is completed and Modernization of Alambagh workshop (Phase-I&II) and Kota Workshop (Phase- II) are in progress.

Personnel Department

Over all Cadre position of MCF/RBL as on 01.04.2021

S.No.	Category	Revenue	W/C	Total	On roll	Vacancy
1	Gazetted	157	1	158	130	28
2	Supervisors	426	54	480	345	135
3	Artisan	1560	00	1560	1381	179
4	Ministerial	239	06	245	208	37
5	Others (A/C, RPF, Med. G. Branch)	149	19	168	110	58
6	Group - D	380	5	385	183	202
	Total	**2911**	**85**	**2996**	**2357**	**639**

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

The staff strength of Gazetted cadre during the year 2020-21 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	4	1
3	SAG	21	0	21	20	1
4	SG/JAG	43	0	43	36	7
5	SS	29	0	29	27	2
6	JS/Group - B	59	1	59	42	17
	Total	158	1	159	130	28

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

The staff strength of Non-Gazetted cadre after Nursing staff cadre and Track Maintainer cadre restructuring during the year 2020-21 (as on 01.04.2021) is given below:-

S.No.	Category	Revenue	W/C	Total	On roll	Vacancy
1	Supervisors	426	54	480	345	135
2	Artisan	1560	00	1560	1381	179
3	Ministerial	239	06	245	208	37
4	Others (A/c, Security, Gen. Admn, Med.)	149	19	168	110	58
5	Group - D	380	5	385	183	202
	Total	**2754**	**84**	**2838**	**2227**	**611**

2 a) Work Charged Gazetted Posts:-

The details of work charged/temporary gazetted posts created/Extended during the year 2020-21 are as under:-

S.No.	Deptt.	No. of Posts	Grade	Period of Currency	
				From	To
1	Pers.	1	4800	01.07.2019	30.06.2020

b) Work Charged Non-Gazetted Posts:-

The details of work charged non-gazetted posts operated during FY 2020-21 are as under:-

S.No.	Deptt.	No. Of Posts	Period of Currency	
			From	To
1.	Supervisor	48	01.07.2020	30.06.2021
2	Supervisor (CDMS)	6	01.07.2020	30.06.2021
3.	Ministerial	6	01.07.2020	30.06.2021
4.	Medical	2	01.07.2020	30.06.2021
5.	Others (Accounts)	16	01.07.2020	30.06.2021
6.	CLA/Personnel	1	01.07.2020	30.06.2021
7.	Group 'D/Accounts	5	01.07.2020	30.06.2021
	Total	**84**		

3. **Indent Position:-** The detail of Indents placed and panel received during the year 2020-21 are as under:

Category	Indent placed	Panel received	Balance	Remarks
Nil	Nil	Nil	Nil	Nil

4. **APPOINTMENT IN GROUP C&D AGAINST VARIOUS QUOTAS:-**
The detail of appointments on various quotas during the year 2020-21 is as under:

S. No.	Category	For the year 2020-21
1	Compassionate Ground	01
2	Sports Quota	00
3	Ex -Serviceman Quota	00
4	Physical Handicapped Quota	01
5	Crash Programme for wiping out shortfall of SC/ST	00
6	Casual Labour absorbed	00
7	No. of Staff Recruited Scout/Cultural Quota	00
8	Sub. B/Kh.	00
	Total	**02**

5. **Engagement of Act Apprentices:**
During the FY 2020-21, 63 candidates have been empanelled. All have been directed to report Technical Training Centre, MCF/Raebareli on 01.07.2020

6. **Settlement Dues:-Total no. of cases in which payment of settlement dues has been made during the year 2020-21.**

S. No.	Nature of Settlement	No. of Cases received	No. of Cases Settled	Balance Cases
1	Superannuation	19	19	0
2	Voluntary Retirement	3	3	0
3	Compulsory Retired	0	0	0
4	Resignation	3	3	0
5	Removal, Dismissal & Others	2	2	0
6	Medical Unfit Cases	0	0	0
7	Death Cases	7	7	5*
	Total	**34**	**34**	

* 4 Only DCRG withhold due to non-vacation of Railway quarter, for death cases.
* One case of late sh. Rahul gupta Ex. Tech-III/Fitter has expired on 28.10.2020. Employee was unmarried , son dependency in not clear CG appointment as per service record

7. **PROMOTIONS:-**
During the year 39 no. of selections, suitability & Trade Test were conducted. 475 Non-Gazetted employees of various categories have been promoted. 01 employee of Mechanical departments has 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	01
2	Supervisor	49
3	Ministerial	24
4	Artisan	357
5.	Group " D" to "C"	45
	Total	**476**

8. Recruitment:-

41 candidates have been recruited in the following categories during the period of 2020-21.

S.No.	Category	Recruited
1	Supervisors	16
2	Ministerial	01
3	Technicians	17
4	Paramedical	0
5	Group - D/TADK	7
	Total	**41**

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.)
2361	38460758/ -

10. Salary Payment during 2020-21:-

Type of staff	Amount Paid
Gazetted	190516629/ -
Non Gazetted	1278684750/ -
Total	**1469201379/ -**

11. Disbursement of Advances for the year 2020-21**:-**

Following advances on various accounts had been disbursed during the year 2020-21:

(Fig in Thousand)

HEADS	FUND ALLOTED	FUND PAID	FUND BAL.	No. of Staff	Remark
HBA	1000	--	1000	--	--
M.CAR	--	--	--	--	--
M.CYCLE/ SCOOTER	--	--	--	--	--
COMPUTER	2500	100	2400	02	--
CYCLE	--	--	--	--	--
TOTAL	**3500**	**100**	**3400**	**02**	--

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

- **CPGRAMS**
- **NIVARAN**
- **Mobile Apps**

13. Industrial Relation:-

- During the Year 2020-2021, the Industrial relations have remained cordial at MCF/Raebareli with not even a single incident of unrest or indiscipline.
- Informal meetings are being conducted with all delegate members of NFIR, AIRF, SC/ST & OBC Association/MCF/RBL. Relationship of staff representative with management is very cordial; Staff council is yet to be formed in MCF/RBL.

14. Staff Contact and Grievance handling:-

Staff & Welfare Inspectors are visiting every day in shop floor 10:00 AM to 12:00 PM and contact the employees to collect the grievances for redressed within stipulated time.

i) Total 194 complaints have been collected and 187 complaints have been disposed of till 31.03.2021.

ii) 13 complaints were registered in NIVARAN Portal & all complaints cases have been disposed off.

iii) 58 complaints were registered in CPGRAMS portal & 57 complaints have been disposed of till 31.03.2021.

iv) 23 complaints were registered in Mobile Apps Online portal and all complaints have been disposed off till 31.03.2021.

15. Educational Facilities:-

- A full-fledged Kendriya Vidyalaya is in operation from November, 2013 with 2 sections in each class. In this academic session 2020-2021 for classes up to 12th standard, a total of 922 students are enrolled.

- 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, activity room, smart room, kitchen and playground for the children. A total of 165 students are enrolled in Gyanda Bal Mandir.

Kendriya Vidhyalaya

Gyanda Bal Mandir

16. Staff Welfare

- Facilities of Loan & membership for Staff of MCF, RBL has been 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.

➢ Online Objective Type Quiz Competition was held successfully on 25.09.2020 from 12:00 to 12:30PM on the subject of "Cleanliness" during Swachhata Pakhwada-2020, 57 employees have participated from their working place in this quiz competition. This programme was inaugurated by PCPO, MCF/RBL.

➢ The winners of Online Objective Type Quiz Competition were awarded by PCPO on 29/09/2020 in the Meeting Hall of Personnel Branch.

❖ MCF/Raebareli has organised various type of programmes on Rajbhasha Pakhwada-2020 (01 September to 14 September) :-

➢ Letter drafting & Word translation competition was held on 03.09.2020 at Acharya Mahavir Prasad Dwivedi library, Admin Building, MCF/Raebareli.

➢ An Essay writing on the subject of "Relevance of cleanliness in the COVID Pandemic" & technical vocabulary competition was held on 05.09.2020 at Acharya Mahavir Prasad Dwivedi library, Admin Building, MCF/Raebareli.

➢ A quiz competition on the subject of Rajbhasha was organized in three groups-Munshi Premchand, Acharya Mahavir Prasad Dwivedi & Ramchand Shukla on 07.09.2020 at Acharya Mahaprasad Dwivedi Library, Admin Building, MCF/Raebareli.

➢ Kavya Sangosthi was held on 10.09.2020 by MCF employees at Seminar Hall, Admin Building, MCF/Raebareli.

- Award was distributed to the winners of All programmes (Letter Drafting, Word Translation, Essay Writing, Quiz Competition & Kavya Sangosthi) was held during Rajbhasha Pakhwada (01 September to 14 September, 2020) at Seminar Hall, Admin Building, MCF/Raebareli on 14.09.2020.

- Corona Pledge programme was organised on 08th October, 2020 at Modern Coach Factory, Raebareli with social distancing guidelines for awareness of pandemic COVID-19. All officers & staff took Corona Pledge solemnly at their working place.

- A quiz competition on the subject of "constitutional values and fundamental principles of the Indian Constitution" was organized on Constitution Day i.e. 26.11.2020 from 16:00 PM to 17:00 PM at Seminar Hall, Admin Building, MCF/RBL.

- Award was distributed to the Ist, IInd & IIIrd winner of quiz competition held on Constitution Day i.e. 26.11.2020 at MCF/RBL on 27.11.2020.

- An Essay Writing competition was organised at Technical Training Centre, MCF/Raebareli on "SAMAJ KE UTTHAN ME MAHILAON KA YOGDAN" on 08.03.2021.

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

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

➢ Bharat Scouts & Guides, Distt.-MCF was celebrated birth anniversary of Bedden Pawell, the founder of BS&G as Chintan Diwas at Welfare Centre, MCF/Raebareli on 22.02.2021.

➢ MCF District of Bharat Scouts & Guides team was participated in camp of **BASIC SCOUTS MASTER & ADVANCE SCOUT MASTER COURSE** at Leela Bery Training Centre, Indian Railways Bharat Scouts and Guides, Raiwala on 18 March to 24 March, 2021.

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

- Homeopathic Medicine Arsenic Alb-30 was distributed under the Staff Benefit Fund at Welfare Centre, MCF/Raebareli on 26/27.05.2020 for all MCF officers & staff.
- Homeopathic Medicine Arsenic Alb-30 was distributed under the Staff Benefit Fund at Welfare Centre, MCF/Raebareli on 29/30.06.2020 for all MCF officers & staff.
- Scholarship was distributed by General Manager for 30 beneficiary candidates' wards of employee who are studying in Technical/Professional education courses for the Year 2019-20 under the Staff Benefit Fund in Saraswati Auditorium, MCF/Raebareli on 12.03.2021.

- Bicycle was distributed by President of RWWO/MCF for 25 beneficiary girls' student wards of employee who are studying in class 9th to 12th for the Year 2019-20 under the Staff Benefit Fund in Saraswati Auditorium, MCF/Raebareli on 12.03.2021.

- 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/-	5,05,860.00
Scholarship for Higher Technical/professional education of Girls Children of Staff in grade pay up to Rs. 2400/-	18,000.00
Scholarship for Higher Technical/professional education of Mail Children of Staff in grade pay up to Rs. 2400/-	Nil
Women Empowerment Activities.	1,28,600.00
Recreation other than sports	Nil
Recreational facilities at Institutes and Clubs etc.	Nil
Promotion of Cultural Activities	Nil
Relief of distress and Scheme of Sickness.	1, 10,000.00
Indigenous system of Medicines including Homeopathic.	2,53,650.00
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.	21,118.00
Total	**10,37,228.00**

19. Celebration of various important events/days:-

- **Important events during 2020-21 like Independence Day, Republic day, Ambedkar Jayanti etc. were organized with full enthusiasm.**

➢ An Anti Terrorism Oath was organised on the Anti Terrorism Day, 21st May, 2020 at Modern Coach Factory, Raebareli with social distancing guidelines. All officers & staff took anti-terrorism pledge solemnly in their working place.

- All officers & employees with family, MCF/RBL have learnt Yoga from digital media platform i.e. Common Yoga Protocol (CYP), Yoga e-book, T.V. Channels & YouTube on the occasion of International Yoga day (21st June, 2020) from their homes.
- Independence Day-2020 was celebrated with full enthusiasm and fervour at Saraswati Auditorium, Prashanti Parisar, Modern Coach Factory, Raebareli with seating arrangement of social distancing, proper sanitization and compulsory of mask. Flag was hosted by the Chief Guest (General Manager). Besides above, RPF Parade, cultural programmes and award distribution of Corona Warriors was organised successfully. Only SAG officers and above with their family were present in this programme. Live telecast of MCF Independence Day programme was streamed in YouTube.
- Sadbhavana Pledge was organised on the Sadbhavana Diwas, 20th August, 2020 at Modern Coach Factory, Raebareli with social distancing guidelines. All officers & staff took Sadbhavana Pledge solemnly in their working place.

- March Past programme was organised to preserve the unity, integrity and security of the nation by Railway Protection Force of MCF on National Unity Day- 31st October, 2020 from 16:30 PM at Shopping Complex, Prashanti Parishar, MCF/Raebareli.
- The role and contribution of Sardar Patel in integration of freedom India, their videos clip was operated in platform of digital media on National Unity Day- 31st Oct., 2020 at MCF/Raebareli.

- A Run programme was organised for Women Employees on occasion of International Women's Day at Shopping Complex, Modern Coach Factory, Raebareli on 06.03.2021.

- A Cycle Race programme was organised for Women on the occasion of International Women's Day at Shopping Complex, Modern Coach Factory, Raebareli on 07.03.2021.

- One Day Seminar was also organised at Technical Training Centre Auditorium, Modern Coach Factory, Raebareli on 08.03.2021. This programme was inaugurated by Chief Guest, President of RWWO, MCF. During Seminar, lectures on awareness on female health, women and society and role of spiritual activities in women's life were delivered by Dr. Bhumika Singh, Dietician, Dr. Shilpa Priydarshini, Paediatrician, Smt. Lakshmi Sinha, Social Worker and Bramha Kumari Alka. In addition to this, cultural programme was also included for women Employees on this occasion.

18. Activities of MCFWWO

- One of the major activities of MCF/WWO is being run A Pre-school named of Gyanda Bal Mandir for the children of employees, MCF/Raebareli. The school holds various functions on all important Days like Republic day, Independence Day but children are not present due to COVID-19.

MEDICAL DEPARTMENT

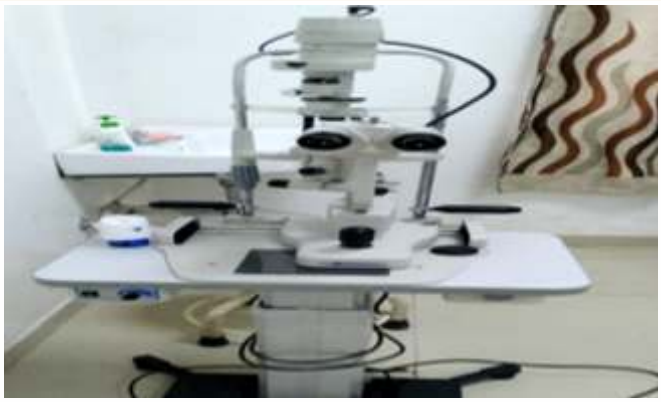
- Modern Coach Factory Hospital is established in its township which is 4 km away from Lalganj town. The MCF hospital building was handed over to state authority on 23.05.2020 for setup L-2 Covid hospital. MCF hospital shifted in the Supervisor Rest House temporarily to provide uninterrupted medical facilities to MCF beneficiaries equipped with 11 beds for IPD and emergency services.
- MCF hospital provides OPD and 24 hrs emergency services to Railway beneficiaries with Obs. & Gynec. Specialist, Child specialist, Ophthalmologist and other doctors.
- MCF hospital is fully equipped to provide routine and regular medical services to the officers, employees and their dependents. MCF hospital arranges for safe and comfortable transport of Railway patients requiring specialist care through empanelled hospitals.
- MCF hospital is remotely located, so it provides 24x7 ambulance services to Railway beneficiaries through 02 ALS (Advance Life Support) and 01 BLS (Basic Life Support) ambulance. ALS ambulance is equipped with ventilator, multipoint cardio monitor, defibrillator, syringe pump, life saving drugs etc. One nursing staff is permanently posted in the Mini Admin. Dispensary in Factory premises.
- Total patients in 2020-21 was 37327, in which 378 patients treated in IPD and 36949 patients treated in OPD.
- Total 1926 patients were referred during the year, out of 1441 patients referred to empanelled Hospital and 485 patients referred to Government Hospital.
- Fogging and Anti Malaria spray have been conducted in Prashanti Parisar and Factory site regularly.
- Covid-19 Vaccination is being conducted at MCF Hopital from 12.03.2021 to control Covid-19 epidemic.
- MCF Hospital has installed App based Android/IOS HMIS system which is interactive, inclusive, participative & informative for MCF beneficiaries. HMIS has been implemented in MCF/RBL hospital as a step in the direction of paperless, hospital and to provide important instructions and pathological reports direct to beneficiaries mobile to manage our patients more effectively and their state of health can be better monitored by themselves and from hospital part.

1. Pathology Wing:

Automated Chemistry Analyser Machine

Automated Haematology Machine

3. **Ophthalmologist Room :**

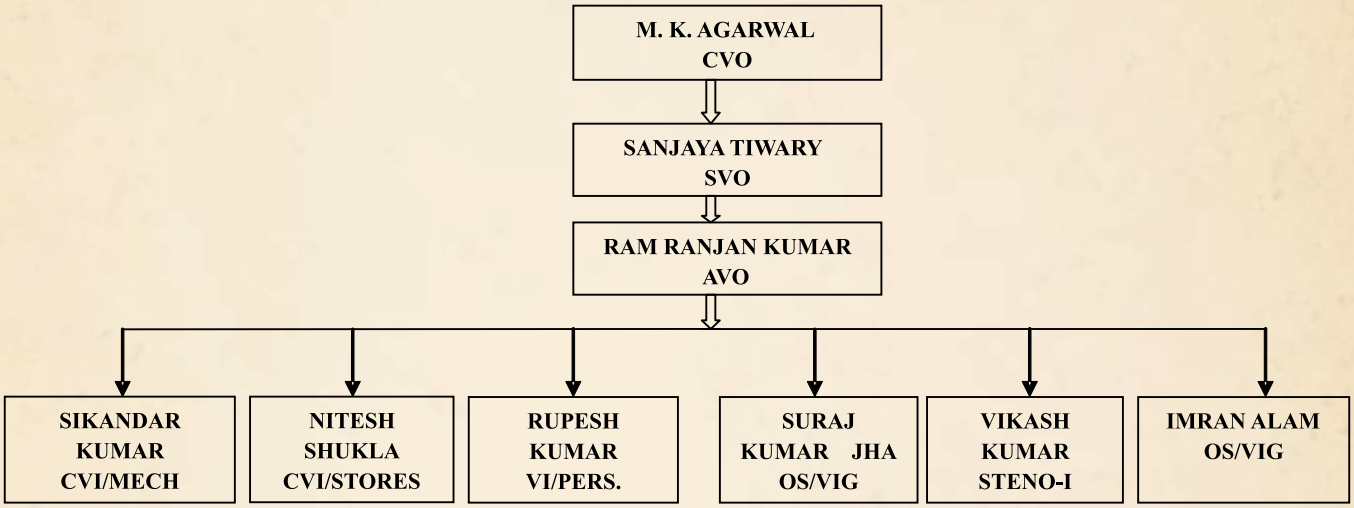


2. **Advance Life Support Ambulance:**

4. **COVID-19 Vaccination :**

VIGILANCE

Organisation chart of Vigilance Department



➢ **Summary of Cases:-**

- In year 2020-21, 18 Railway Board referred complaints & 15 other (Direct/Other Railway referred) complaints have been received.

➢ **Achievement:-**

(i) During the year 2020-21, 33 vigilance complaints have been received including18 Railway Board referred complaints & 15 other (Direct/Other Railway referred) complaints. Out of 33 vigilance complaints, 18 complaints have been closed (13 Closed as pseudonymous, 02 closed as anonymous & 03 closed as no vigilance angle noticed) and action has been taken in respect of 15 complaints.

(ii)During the year 2020-21, 13 System Improvement issued for transparent working & 27 preventive checks has been conducted.

(iii)The Vigilance Awareness week, 2020 was observed at Modern Coach Factory, Raebareli from 27.10.2020 to 02.11.2020 as per directives issued by Railway Board. The main theme of this year's Vigilance Awareness Week was “Vigilant India, Prosperous India". Various activities were conducted during this week like administration of Vigilance pledge in administrative building & workshops premises, display/distribution of pamphlets, posters and hoardings exhibiting anti-corruption themes at prominent places in admin building, workshop and township premises. Webinar on policies/procedures of the organisation and preventive vigilance measures, Works Contract/Service Contract, Stores Contract and an online customer/vendor grievance redressal camp were organised. Essay writing competition on the topic “Vigilant India, Prosperous India" was organised at Ganesh Inter College, Aihar & an online Cartoon/Poster/Essay writing competition on the theme “Vigilant India Prosperous India” was organised, in which about 150 students of Kendriya Vidyalaya, MCF have participated. E- Vigilance Bulletin, 2020 has been released by the General Manager /MCF. A prize distribution ceremony was also held at conference room, administrative building. During this, prizes were distributed by CVO to all winners of essay writing/poster/cartoon competition organised during Vigilance Awareness Week' 2020 at schools and colleges.

ELECTRICAL DEPARTMENT

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

1. 132/11 KV MRS (Main Receiving Sub-Station) **- 02 X 12.5 MVA Transformer**
2. 33/11 KV Sub-Station (ASS) **- 01 X 10 MVA Transformers**
3. Auxiliary Sub-Station (ASS) **- 10 ASS, 32 Transformers of 750kVA**
   Details as below:
   7 ASS x 03T/F - 21 no.
   2 ASS x 04T/F - 8 no.
   1 ASS x 02 T/F - 2 no.
   1 Spare Transformer
4. Compact Sub-Station (CSS) **- 10 X 750 kVA – 10 nos. Transformer**
5. Compact Sub-Station (Solar CSS) **- 03 X 1250 kVA – 03 nos. Transformer**

6. Solar Power Plant –

a. Installed Capacity - 3MW (Land based, grid connected, MCF Owned-Capex Mode)

b) REMCL has been advised to float tender for 14 MW roof mounted solar plant at MCF/RBL

7. DG sets

a. 04 X 1010 kVA installed at 132/11 kV MRS

b) 02 X 380 kVA DG set, One at MCF hospital (at present L2- Covid hospital), another one is used as a portable genset in the factory area of MCF.

c) 01 X 125 kVA DG set at PME Office / ORH Lucknow.

d) 01 X 10 kVA DG set at MRS for emergency control supply

e) 01 X 30 kVA single phase at ORH.

B Sanctioned Load-

- 1000 kVA at 132 kV line, UPPTCL (under open access)
- 1000 kVA at 33 kV, MVVNL (under migration to open access)

C Energy details -

- Energy consumption during F.Y. 2020-21 (non traction + renewal) **– 179.08 Lakh units**
- Power generation by solar plant during F.Y. 2020-21 **– 37.79 Lakh units**

D Miscellaneous Electrical Assets:

- Total no. of Day Light Pipes – Approx. 1600 nos. (in factory area)

Achievement of 2020-21

Energy Conservation measures

1. A walkthrough energy audit of high mast lighting has been done. 12 nos. Highmast Lights completely switched OFF reducing 28.8 kW load; and 19 no. Highmast lights switched OFF partially after 22:00 hrs reducing 16 kW load, resulting in ~ 1, 73,000 units savings per annum amounting to ₹10 lakh.
2. Provision of BLDC Fan (25-30W) is made in ongoing work of Residential Quarter instead of Conventional Fan (60W).
3. Total energy expense in F.Y 2020-21 is 1.41 Cr units comparative to 1.88 Cr units in F.Y 2019-20. Thus saving 24.75% in electrical energy consumed. This energy expenses is excluding renewable energy generated and consumed inhouse and is based on data recorded at SCADA.
4. 15 no. astronomical timers have been provided in street lights in place of normal timers.

Safety Measures

1. In the cable trench of 11kVAuxiliary substations, water was getting flooded and accumulated. By capillary action this water was reaching into the electric panel in the form of moisture, damaging properties of Insulators, Spouts etc, ultimately causing weakening of insulation and breakdown of power supply.

   To overcome this problem, arrangements for pumping out of this accumulated water have been made. A sump has been prepared adjoining the cable chamber with provision of float operated water pump. Any water logging here thus will be pumped out. This will avoid moisture accumulation in the panel and will prevent power supply breakdown.
2. 284 no. industrial plug sockets of 32A/63A have been provided in different shops to check unsafe and improper tapping of power supply.
3. A comprehensive safety drive has been launched for checking feeders load and protection switchgear setting. Accordingly 568 no. MCCBs settings have been adjusted according to load.

Reliability Improvement-

1. Three shower testing pumping stations have been installed and commissioned near the shell shop. This will enable shower testing of coaches before entering the furnishing shop. Three power supply points (2x63 amp) have also been provided for welding of leakage points detected in the coach. This will enable on the spot rectification after shower testing.

   This will save approximately 1.5 working days (as judged through practical working at shower testing near the finishing shop).

2. Additionally four no. shower plants at Shell shop end have been sanctioned by competent authority. Tender work for the same is in progress.

Staff Amenities Improvement-

Reviewed procurement of Switchgear in ongoing project works:- Correct size protection switch gear incorporated in ongoing project work, details are as below

S.No.	Previous Provision	Reviewed Provision	Remarks
1	63 Amp TPN isolator	32 Amp B type TPN MCB	Construction of new residential quarters Type-II 46 no. Type-III 120 no. Type-IV (DS) - 60 no. Type-IV (SS) - 20 no. Type-VI -2 no.
2	63 Amp 4 pole RCCB 300 mA sensitivity	32 Amp 4 pole RCCB 30 mA sensitivity	
3	250 Amp incoming MCCB in Feeder Pillar	125 Amp incoming MCCB in Feeder Pillar	
4	63 Amp TPN outgoing MCB in Feeder Pillar	40 Amp TPN outgoing MCB in Feeder Pillar	

Economy/Expenditure reduction measures

1 Reviewed manpower outsourcing to keep it to bare minimum to control expenditure and save Railway revenue. Existing tender of 63 persons per day is dropped, fresh tender of with reviewed manpower quantity (35 persons per day) is under process. This leads to monetary savings of ~ ₹ 70 lakh per annum.

2. **Reviewed requirement of compact substations** against sanctioned work of "Procurement of electrical items for power supply distribution system in MCF" and "Supply, Installation, testing and commissioning of 01 no. 750kVA 11kV/433V compact substation for township area of MCF" covering 01 no. each. It is decided to drop one CSS indent, resulting **in savings of ~ ₹ 30 lakh.**

3. **Reviewed requirement of High mast lights**, against sanctioned work of "Provision of high mast lighting in MCF Raebareli" and decided to drop the 9 high mast resulting **in saving of ₹ 58 lakh**.

4. By **adopting feed and load management, Excess Demand Charge** is avoided on 33 kV MVVNL supply, resulting **in saving of approx. ₹ 38 Lakh** in F.Y. 2020-21. In the year 2019-20 ₹ **38, 98,669/-** were paid as excess demand charge to MVVNL. With this arrangement, **excess demand charge on 33 kV MVVNL supply is nil.**

5. Did critical review of **03 nos. Auxiliary Substation** work costing **6.96 Crores** sanctioned under estimate No.E/759/700/CE/MCF/RBL/Aug/2 for the work "Augmentation of production capacity from 1000 to 2000 coaches per annum (Phase –I)", reducing the ASS from 03 nos. to 2 nos., resulting in saving of **Rs.2.32 Crores.** This saving amount is being utilized for provision of LT ring main system for important substations for improving reliability of power supply and providing back up feed arrangement for HT Bus Bar in 132 kV substations to ensure 24x7x365 supply to MCF.

RAILWAY PROTECTION FORCE

Annual Report = 2020-21

THE SECURITY BRANCH

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 64 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 Pr. Chief Security Commissioner/RPF Modern Coach Factory, Raebareli.

RPF Strength

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 PCSC/RPF/NR. The Members of the Force are regularly trained to update their Soft & Hard Skills. The Present Strength for the year 2020-21 of the RPF Personnel is as under:

Description	PCSC	SC	ASC	IPF	SI	ASI	HC	Const	Total
Sanction Strength	01	01	01	02	08	09	11	31	64
Present Strength	01	01	01	02	04	11	-	42	62
Vacancy	-	-	-	-	04	+2	10	+11	02

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.

CRIME CONTROL

During the year 2020-2021, the RPF unit of MCF was able to successfully implement the Zero Tolerance Policy towards the criminal activities due to which 06 cases of theft of Railway Property were registered with recovery of Railway Property total value Rs. 36600/- and arrested 12 accused and 09 cases of Railway Act were registered with the fine of Rs. 28000/-. 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	Ammun itions	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 Butt2A**	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.	--	--
Total =		**45 Nos.**	**08 Nos.**	**2550 Nos.**	**136 Nos.**	**04 Nos.**	**08 Nos.**

MODERNISATION

- 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 N o
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.

SPORTS ASSOCITATION

1. Sports Facilities in Modern Coach Factory, Raebareli

   (a) **Indoor Sports Facilities**

- Squish Court/Hall
- Basketball (Indoor)
- Aerobics Hall
- Power lifting
- Taekwondo
- One Kabaddi Mat
- One Multi games Mat
- One Boxing Ring

- Two Wooden Badminton Courts

- Wooden Basketball Court (Indoor)
- Wooden Volleyball Court (Indoor)

- Gymnasium Hall

- Squish Court/Hall

• One Billiards table

(b) Outdoor Sports Facilities

• Football & Athletics Stadium (under Construction)

• Cricket Stadium

• Swimming Pool Stadium

• Basketball Court (with flood lights)

• Lawn Tennis Court (with flood lights)

• Hockey Astro-Turf

• Golf Course (18 Holes) with Driving range

2. Achievements at various levels.

2.1 Modern Coach Factory Sports Association has organized various interdepartmental sporting activities during 2020-21 as mentioned in table below:

Sl. No.	Event description	Date	Month
01	Fit India Freedom Run	15.08.2020 to 02.10.2020	Aug - 2020
02	Fit India Cyclothon	31.12.2020	Dec-2020
03	Bicycle Race	03.01.2021	Jan-2021
04	Interdepartmental Cricket Tournament GM Cup	04.01.2021 to19.01.2021	Jan-2021
05	Athletics Championship	05.02.2021 to 06.02.2021	Feb- 2021
06	Interdepartmental Football Championship	22.03.2021 to 25.03.2021	March- 2021

2.2 Cricket

Sh.Vikash Chaudhary, Ch.OS/Stores department was nominated as fitness trainer for selection Trial of Indian Railway Cricketer for Syed Mushtaq Ali Trophy for 2020-21.

Sh. Vikash Chaudhary, Ch.OS Stores department was nominated as fitness trainer for Indian Railway Senior Women Cricket coaching camp from 07.02.2021 to 28.02.2021 at RWF Bangaluru.

MCFSA as organized a Cricket coaching camp from 07.01.2021 to 27.02.2021 for children of MCF Employees.

2.3 Boxing

Sh. Sandeep Kumar was nominated as attendant for Boxing Coaching Camp at New Delhi from 27.01.2021 to 25.02.2021.

2.4 Athletics Team

Sh. Munna Singh was nominated as Technical Official for selection trials of Indian Railway Men & Women athletics team held at East Coast Railway Bhubaneswar on 07.02.2021.

MODERN COACH FACTORY

Raebareli - 229120

Website : mcf.indianrailways.gov.in