

**KOTA
DIVISION**

**MECHANICAL
DEPARTMENT**

1. ACTIVITIES CENTRES:

a. KOTA:

- Kota station is a major activity center of Mechanical Department in Kota division. The main activities are-
- Wagon Sick line
- Coaching Sick line
- Freight train examination yard (Premium & End to End)
- Coaching train examination(rake maintenance) at pit line
- Platform examination of through passing coaching trains
- Coach watering during scheduled halt of all coaching trains
- 'A' class ART and 'A' class SPARMV
- Satellite Diesel loco trip shed

b. Kota Super Thermal Power Station, Sakatpura(KSTPS/SKT)

- This is a nodal point of BOXN coal rakes examination.
- End to End Intensive Examination of due BOXN rakes (Rakes with invalid BPC) is done.
- After tipping operation at tippers, post tipping examination is done all the BOXN rakes.

c. Sawai Madhopur (SWM):

- Attends en-route trouble shooting in trains and line calls on short notice of C&W control.
- Attention to coaching trains during loco reversal at SWM which are running between NWR and WCR.

d. Gangapur City

- `B` class ART and `A` class ARMV are stationed at Gangapur City
- En-route trouble shooting to all through passing trains and RIRO of through passing passenger trains.

e. Bharatpur

- Attends en-route trouble shooting in trains and line calls on short notice of C&W control.

f. Shamgarh

- En-route trouble shooting to trains at road side stations between RMA-NAD.
- Mobile Accident Relief Van (Road Vehicle) is stationed at SGZ to attend minor yard derailments and level crossing accidents.

2. CARRIAGE AND WAGON ACTIVITY CENTRES

2.1 FREIGHT DEPOT

Type	Avg. Out Turn	Location
C&W Exam. Points-KOTA	3 trains per day	Kota Freight Yard
C&W Exam. Points-KSTPS	4 trains per day	Kota Super Thermal Station, Sakatpura
Major C&W Depot (Wagon Sick line)	200 VUs /Month	Kota
ROH Depot	125 VUs /Month	Kota
Mobile Gangs/C&W at Road side stations	Attends out of course wagons & line calls	Sawaimadhopur, Gangapur City Bharatpur and Shamgarh

2.2 COACHING DEPOT

Type of Depot	Coach Holding PCV			Location
	Bare	Spare	Total	
Major Depot	212 ICF	32 ICF	244 ICF	KOTA
	+	+	+	
	88 LHB	14 LHB	102 LHB	

3.0 SATELLITE DIESEL LOCO SHED / KOTA

Activity: Trip schedules of DSL Locomotive

Facilities: One 3-tier platform for WDS6 locomotive

Berthing Capacity - 1 loco

One 3-tier platform for WDM2, WDG4 Type locomotive

Berthing Capacity - 1 loco

4.0 DIESEL FUELLING INSTALLATION

Details of Storage Tanks

i	Horizontal	2 Nos.	Capacity	70 KLs	140 KLs.
ii	Vertical	1 No.	Capacity	253 KLs	253 KLs.
	Total	3 Nos.	Capacity		393 KLs.

5.0 Disaster Management: ART/ARME

ART:

2 (One each at KOTA & GGC)

ARME:

2 (1 SPARMV at KOTA & 1 ARMV at GGC)

ART/KOTA:

- A class ART equipped with MFD re-railing equipment and rescue devices.
- All rolling stock in the composition in ART is Air Brake and fit to run at 100 Kmph.
- ART has a Cowan Sheldon Diesel Hydraulic Crane 140 T capacity. It is kept separately from ART.

It has a speed limitation of 75 Kmph.

ART/GGC:

- B class ART equipped with LUCAS & BEMCO re-railing equipment and rescue devices.
- All rolling stock in the composition in ART is Air Brake and these are fit to run at 100 Kmph.

SPARMV/KOTA:

‘A’ class consists of 3 VUs commissioned on 26.12.2016 is equipped with hydraulically operated rescue devices. The coaches are air brake and fit to run at 110 Kmph.

ARMV/ GGC:

‘A’ class consists of 2 VUs and is equipped with hydraulically operated rescue devices. The coaches are air brake and fit to run at 110 Kmph.

6.0 HIGHLIGHTS

➤ Project Utkrisht train:

- Under Phase I, train no. 22983/22984 KOTA – INDB Superfast express nominated for up-gradation by HQ under project Utkrisht scheme. The up-gradation of coaches of the train has been completed by 10.02.2019 and the Utkrisht train started from Kota on 15.02.2019.
- Under Phase II, 02 ICF coaches' rakes of Kota based train no. 19809/19810 KOTA-JBP Express has been nominated by HQ for Utkrisht rakes. Conversion of these rakes shall be done in 2019-20 by Oct' 19 for which action is being taken to outsource some activities which are to be done during conversion of coaches.

Salient features of Utkrisht train No. 22983/84 and up-gradation of coaches are as under:

- ❖ The train runs from Kota in Rajasthan to Indore in Madhya Pradesh state of India.
- ❖ In 07 Hours and 45 Minutes, the train covers a distance of 433 Kilometers.
- ❖ The train has 12 en-route halts between Kota – Indore.
- ❖ PU exterior painting with distinct Utkrisht colour scheme.
- ❖ Screen printed Belly board, destination board, train name board, coach indication board.
- ❖ Vinyl wrapping on wall inside toilets and doorways areas.
- ❖ Epoxy flooring in toilets.
- ❖ Venturi type force ventilation system, louvers in door and Dual flush valve in all coaches toilets and also exhaust fan, auto janitor, soap dispenser in toilets of AC coaches.
- ❖ Health faucet in toilets of coaches
- ❖ Train time table, OBHS sticker, QR code posters, cleanliness posters and fire safety poster in doorways areas.
- ❖ LED lights
- ❖ Bib cock at washbasin and Firex in doorways area in all coaches

NPOH Repairs to “C” category unloadable BOXN Wagons

Kota division has taken initiative to attend NPOH repairs to ‘C’ category unloadable BOXN wagons in Wagon sick line Kota. During NPOH repairs, complete renewal of side walls, end walls and floor is done on need basis. An average 116 unloadable BOXN/BOXNHL wagons are attended during 2019-20 and 238 BOXN/BOXNHL wagons attended during 2020-21(up to Feb’21).



CAMTECH design Coach Watering System

- The coach watering system at Kota station equipped with 3 booster pumps of 40 HP with flow rate of 200 cubic meter/hour each
- Provision of Auto control of booster pump's pressure at 3.5 Kgs per sq. cm
- It has capacity of coach watering even 2 trains of 24 coaches simultaneously within 10 minutes
- Provision of butterfly valve butterfly valves in main pipe line at all platform of Kota station to control water wastage.

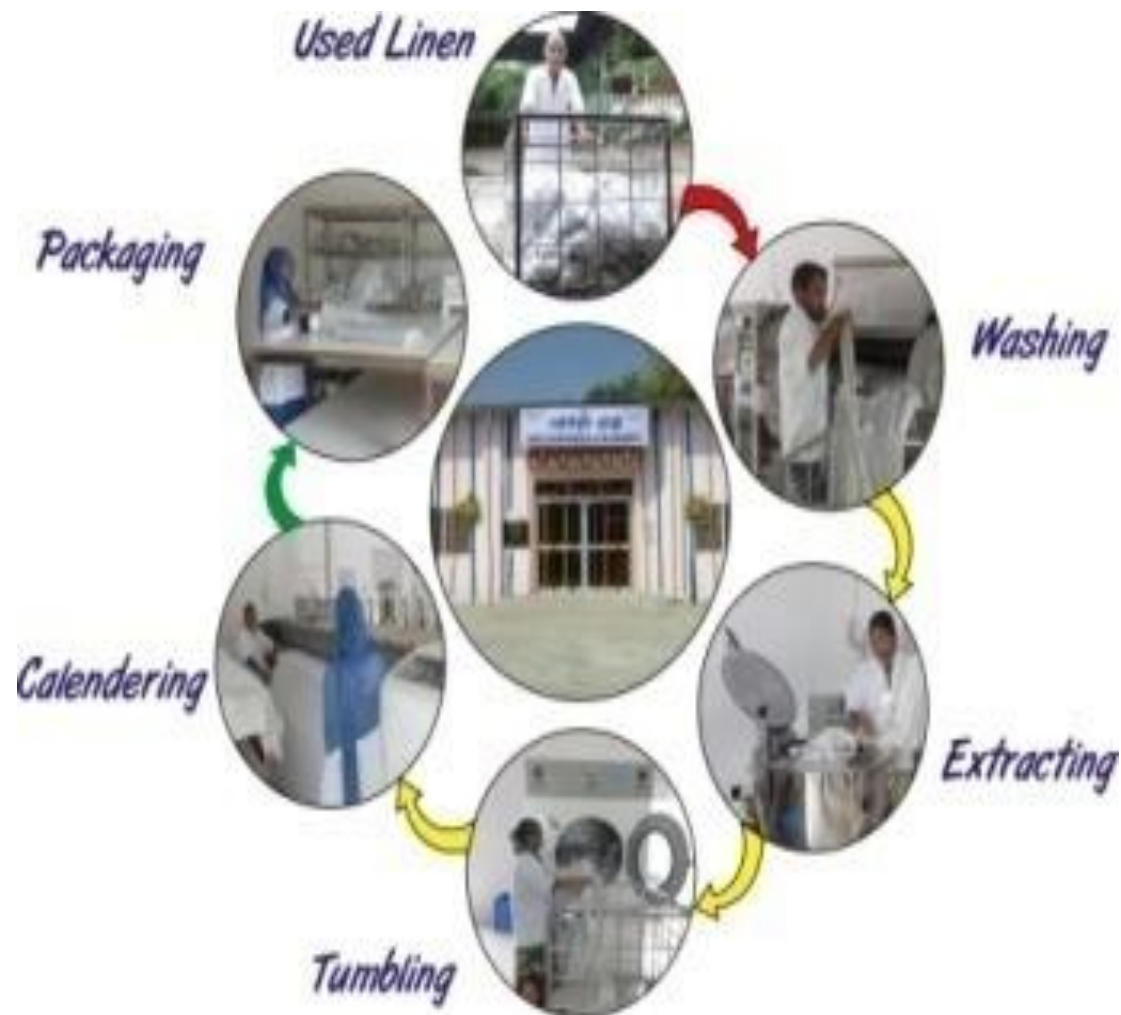
CAMTECH design Coach Watering System



Mechanized Laundry

- Capacity : 01 TON/ Shift
- Sanction : DLB - 2015-16
- Cost : 98.15 lac
- LOA issued : 28.10.2015
- Location : Near old loco shed about 3 Kms from Kota
- Commissioning : 04.03.2016

LINEN FLOW CHART



➤ FITMENT OF BIO TANKS IN KOTA BASED COACHES:

- ICF Coaches: 100% fitment of bio-tanks with S trap conversion work has been completed for all coaches available in coach holding of Kota division
- LHB Coaches: 100% LHB coaches in the coach holding of Kota division are fitted with bio-toilets.

➤ **INSTALLATION OF HOT BOX DETECTOR (HBD)**

- In Kota division, Hot Box Detector has been installed between ALNI – DDV station (near ALNI station) on down main line track. The performances of HBD are found to be satisfactory.
- 03 more HBD sanctioned for Kota division for which site selection is being done and these will be installed in balance sections of Kota division during 2019-20.

HOT BOX DETECTOR (HBD) INSTALLED NEAR ALNI STATION ON DOWN MAIN TRACK BETWEEN ALNI-DDV STATIONS



**Automatic Coach Washing Plant (ACWP) at KOTA
commissioned on 29.12.2020**



• High lights of Automatic Coach Washing Plant

- Clean coaches during Normal shunting Speed.
- Work up to 98% humidity and 50 degree Celsius temperature.
- Required only 20% Fresh water of total water requirement. Rest water will be Recycled.
- Cleaning of coaches with minimum 3 bar nozzle pressure.

Proposal of Kota:

Supply, Erection & Commissioning of automatic coach washing plant

Sanctioned on 30/11/2018 under 1% EnHM

❖ Sanctioned Cost in Rupees

- Mechanical - 22151880
- Electrical - 2614275
- Total - 24766155

Tender open at COFMOW on 05/08/2019 LOA issued on 15/11/2019 to M/s NISSAN clean India of Ahmadabad.

❖ Fund of Rs 2.48 Cr allotted on 05/03/2020.

❖ GAD with latest amendment approved on 31/07/2020

Technical Details:

No of Stations	08
Station1	Pre Wet ETP water(@ 02mtr from start of Apron)
Station2	Brush Station-1/Soft Water+ Detergent(@ 04mtr from station -1)
Station3	Brush Station-2/Soft Water+ Detergent(@ 05mtr from station -2)
Station4	Brush Station-3/Soft Water+ Detergent(@ 05mtr from

station -3)

Station5	Brush Station-4/ETP Water+ Detergent(@ 05mtr from station -4)
Station6	Pre Rinse with Soft water(@ 05mtr from station -5)
Station7	Final Rinse with RO Water (@ 03mtr from station -6)
Station8	Blower (@ 03mtr from station -7)
Entry Sensor	17 mtr(towards SWM)from end of Apron
Exit Sensor	05 mtr (towards NAD) from end of Apron
Water Storage	04 Nos Tanks of capacity 10000 Ltr each
ETP System	01 Nos
Soft Water	01 Nos
RO Discharge	01 Nos
Water Treatment	02 Nos Underground Tanks
Waste Water	01No (Capacity 25000 ltr)
Fresh Water	01No (Capacity 30000 ltr)
Fresh Water requirement	300ltr per coach without recycling
Fresh Water recycling	80%
Fresh Water requirement after recycling	60ltr per coach
Saving of fresh water per coach	240ltr
Number of coaches cleaned per day	107 coach
Water requirement per day without recycling	32100ltr
Water requirement per day with recycling	6420lter
Saving of Water per day	25680ltr
Saving of Man hours	240 man hours/day
Saving in Cost (in Rs)	Rs 7815/day

Organizational Chart of Mechanical Department

