

ABOUT US

Coach Rehabilitation Workshop is located at Nishatpura area, in the city of lakes Bhopal, which is the political capital of the State of Madhya Pradesh. The workshop is situated at a distance of 2 Km from the Bhopal Railway station.

The Workshop was started in year 1989 at a project cost of approx Rs.64.97 Cr for Mid Life Rehabilitation (MLR) of Indian Railway Coaches. It has completed more than 20 years of service to the Nation. CRWS has so far turned out 6905 coaches including 420 AC coaches. During the year 2010-11 it has achieved best ever production of 571 coaches.

During MLR entire coach furnishing is stripped off and renovated. The bogie assembly and sub-assemblies are repaired or reclaimed or replaced as the case may be, based on the service & utility factor. Overhauling activities includes heavy corrosion repair to the shell body and under frame, renewal/repair on account of furnishing, train lighting & painting. This activity results in savings in repair cost in subsequent years of service of coaches apart from providing improved customer satisfaction for passengers.

The quality of coaches coming out of CRWS has had excellent reputation over the years and now it is being treated as benchmark for all other workshops planning overhaul activity. CRWS's quality, environment and occupational health & safety management systems continue to be certified to ISO 9001, 14001 & OHSAS 18000. The workshop layout is based on U-flow with majority movement being on dummy bogies on merry go round system.

All coaches being turned out are converted to Bogie Mounted Air Brake System. All furnishings have been upgraded to latest RDSO standards. The workshop has been working on group incentive scheme since Oct 2004. Workshop premises are spread over a total area of 401.03 acres including residential areas. Staff colony has 708 quarters. The average expenditure on each Non AC coaches comes to around Rs. 18.85 lakhs while for an Air Conditioned coach it is around Rs. 27 Lakhs.

Total budget allotment of the shop is around Rs.121 Crores for a year. The shop functions out of budget provisions from railway board in the form of Rolling stock program.

The committed workforce of the workshop has carried out many innovative system improvements over the years including in-house development of RFID based gate attendance & incentive calculation system etc. The shop has outsourced many activities over the years including grit blasting of outer surface of shell, sand blasting of bogie frames, retro fitment of air brakes, over hauling of air brakes cylinders, screen of coach number printing etc.

A Regional Welding Institute for comprehensive training of welders of various railways has been set up and various modules are being operated in workshop premises.

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Our ISO Policies

Quality, Environment, Health & Safety Policy (IMS Policy)

We, commit ourselves to strive for achieving excellence in followings areas:

- Continually improve working methods/procedures/practices/systems and strive to meet specified quality requirements.
- Enhancing customer satisfaction through improvement in reliability & performance of products.
- Establish & maintain environment, health & safety parameters at work place and ensure compliance to all applicable legal & statutory requirements.
- Ensure safe working practices & develop quality work culture through Education & Training.
- Prevent accidents & property damages through regular safety checks while providing healthy & safe working environment through effective operation control.
- Preventing pollution through proper waste management practices, material substitution & conservation of resources.
- Protect all employees from occupational diseases and health hazards.

We shall achieve the above through following efforts:

- Setting quality, environment, health & safety objectives at all levels & periodically monitor their progress through internal audits & management reviews.
- Our Quality, Environment, Health & Safety policy shall be communicated at all levels.
- The Policy shall be displayed on prominent locations of workshop and provided to public on demand.
- The Policy shall be reviewed from time to time for its continuing suitability, adequacy & effectiveness.

BHOPAL

25/04/2012

CHIEF WORKSHOP MANAGER

CRWS/BPL

Services Offered

- a) MLR of BG coaches (ICF, RCF & BEML with ICF Bogies) in the age group of 12-15 years.
- b) MLR of AC Coaches.
- c) MLR of Rajdhani Express Coaches.
- d) MLR of end on generation coaches.
- e) ART coaches under RSP programme.
- f) IOH of Bogie/coaches.

BG coaches which are 12-15 years old are undertaken for complete corrosion repair & refurbishing with retro-fitment of bogie mounted airbrake taking an average cycle time of 35 days.

Apart from above work of conversion of condemned coaches to Engineering Camping Coaches and ART Coaches is also undertaken under RSP.

Salient MLR features

It has been estimated by Work Study that rehabilitation work content is nearly 4 times that of normal POH. Normal POH does not include major corrosion repairs and takes about 2500 man-hours. Mid-life rehabilitation includes heavy corrosion repair and complete refurbishing which takes about 10000 man hours (all items of POH are, in any case, covered). At present this Workshop is capable of undertaking any type of ICF coach and BEML coach with ICF Bogies.

The underlying principle of MLR is to give 'As New' condition to the coach at its mid life i.e. when it is 12-15 years of age. Unlike in POH, the coach is completely stripped, heavy corroded areas attended to, Fibre Glass Tissue re-laid/re-painted, necessary modifications carried out and new furnishing is provided. It can be seen that while corrosion repair is minimal attended to, during POH, in MLR it is completely attended to.

Functioning of various Sections/Sequence of Operations:

Paint Removal: Incoming coaches are subjected to paint removal by Grit Blasting.

Coach Lifting Shop: Coaches are lifted to remove bogies for repairs, and dummy bogies are provided for internal movement within the workshop. Examination and repair of under-frame

including centre pivot and side bearers are done in this shop.

Stripping Shop: Internal components and fittings are stripped off to get bare shell for corrosion repairs. Wall panels and flooring is removed. Cutting of body side panels by air plasma cutting is done in this shop.

Carpentry Shop: All internal mechanical fittings and furnishings, including berths and seats and water tanks are repaired.

Electrical Train Lighting Shop: All electrical fittings of coach are overhauled and tested prior to re-fitment.

Body Repair Shop: The entire coach body including structural members are subjected to inspection and replacement of corroded members giving necessary anti-corrosive treatment to the components. RSP modifications including provision of UIC Vestibules is also done in this shop.

Paint Shop: The coach shell is given a new look by complete painting (A-Schedule is undertaken). Lettering work on exterior as well as coach interior is done by screen printing process. The work of laying of FRP tissue on the trough floor is also done in this shop. Air-brake retro fitment work is done in this shop.

Furnishing Shop: All passenger amenities fittings and internal components (both mechanical and electrical) in the coach are replaced/refitted. The work of PVC flooring and testing of plumbing in lavatories done in this shop.

Bogie & Wheel Shop: The running and brake gear provided in bogies are completely stripped, cleaned, inspected and refitted/replaced. The bogie frames are shot blasted. Bogies are modified and provided with brake gearing for bogie-mounted air-brake system.

(Machine shop/Wheel shop and Roller Bearing sections are attached to the Bogie shop.)

Final Shop: The coach body is lowered on overhauled bogies. Final adjustments and tests/inspection of out-going coaches including NTRX examination is undertaken in the final shop, which has pit inspection facility.

Ancillary Shops :

Millwright & Transport shop: Attention to all machinery and plant, lifting equipments, tracers and transport vehicle is being given by Millwright shop.

Electrical Repair shop: All repairs from electrical side to machines, plant and equipments is being given by electrical shop.

Shell Component shop: Components required for fitment in the coach shell are being manufactured from raw material (mainly corrosion resistance steel). It is a feeder shop for the body repair shop.

Laboratory: All tests including the Ultrasonic and Magnaflux testing of axles, springs, block hangers & bolster suspension hangers and die-penetrant testing of roller bearings are undertaken.

Coach Upgradation

Various modifications prescribed by Railway Board/RDSO for improving the performance of coaches, are being implemented in this Workshop. Some of them are :-

1. Laying of FRP tissue on trough floor.
 2. Provision of Stainless Steel Inlays in Lavatories.
 3. Retrofitment of Air Brakes (Bogie mounted system is being provided).
 4. All fire prevention measures/modifications are being carried out.
 5. Coach flooring with 12 mm Compreg and PVC flooring. Welding of PVC sheets is being done.
 6. Pop Riveting of mirror frame and mouldings is being done.
- The workshop has built three shunting vehicles locally without any assistance from outside. This has been done to cater for the increased shunting requirement of Workshop.
 - The Roller Bearing Section has been improved and all recommendations of COFMOW report have been implemented. All roller bearings are subjected to die-penetrant testing.
 - Magnaflux testing of helical springs (axle box and bolster), BSS Hangers and brake block hangers