No.2012/M(N)/951/24

New Delhi, dated 3.02.2015

The Chief Mechanical Engineers
All Indian Railways except WCR

Sub: Innovations and system improvements in Indian Railways

CME/WCR through his PCDO for the month of December, 2014 has informed about the following innovations/system improvements on the freight side:

- **Fixture for retrofitment of two part sliding doors in BCNHL wagons by WRS/KTT**

The same is enclosed for your kind information.

(Gaurav Puri)
Deputy Director, M(N)

Encl: As above

Copy to: EDS(U)/RDSO
2. INNOVATIONS & SYSTEM IMPROVEMENT –

2.1 Name of the innovation: Provision of magazine pocket by CRWS/ BPL.

In AC coaches, Magazine bags are fitted in LP sheet panel using pop rivet. Due to working out of these pop rivets, whole panel area looks shabby. The nylon mesh Magazine bag is also not durable. To overcome this problem, M S Chrome plated Magazine pocket has been designed & fitted just below the luggage rack through nut bolt. This arrangement is suitable for four/six berth compartment in AC coaches. This magazine rack will be durable and can be easily replaced. Such magazine racks have been fitted in coach no. WC 02102 WGACCN.

2.2 Name of the innovation: Energy conservation by CRWS/ BPL

1. A saving of 6.68 % in energy consumption has been achieved upto Nov.'14 compared to last year’s consumption. It was achieved by strict implementation of energy conservation measures.
2. For energy conservation 80 nos LED street lights and 20 nos. LED high bay lights have been fitted in body shop.

2.3 Name of the innovation: Fixture for retro fitment of two part sliding doors in BCNHL wagon by WRS/ KTT.

Background
The BCNHL door has undergone a series of modifications to add more and more improvement in its design because there have been complaints of breaking / damage and opening and hitting with OHE / Signal mast. Two part sliding door is the latest design and this is to be retrofitted to the existing damaged door of BCNHL wagon.
Innovation:

The two part sliding doors have been invented in Kota Workshop and the door system is being received in disassembled condition which broadly includes -- doors (LH & RH), top coping (2 nos.), sliders assembly (containing slider, vertical rollers, horizontal rollers and bearings) (2 Nos.), bottom guide rail with transfer ball (2 nos.), guide rail stiffener plate (2 Nos.). These are to be fitted on the BCNHL wagon body. Fitting directly on the wagon body is very tedious work. So a fixture has been devised where all the parts are first assembled and then the whole assembly is fitted as unit (LH & RH) to the BCNHL wagon body.

Construction details: The following components were used:

1) Screw and nut assembly - 01
2) Base Channels (150 x 75 ) mm
3) Angles (50 x 50) mm
4) Base plate (10 mm)
5) Plate strips (8 mm)

Benefits: 1) Two part sliding doors can be assembled with accuracy and ease and in less time.
2) This process is simple and safe.

Cost: Rs 1500/-
3. Performance of Workshops

3.1 CRWS/ BPL achieved an MLR outturn of 53 Coaches and carried out IOH of 22 Coach bogie set.
Due to non-availability of bio-tank, only 28 coaches could be provided with bio-tank. 15 eligible coaches were turned out with brackets only.

3.2 During the month Kota workshop has turned out following wagons after POH as under :-

3.2.1 06 nos BOXNR and 19 BOXN "C" wagons under RSP.
3.2.2 07 BVZI wagons (all these wagon received with twin pipe system).

3.2.3 81 BCN, 109 BOXN, 70 BLC, 51 BTPN, 06 BTPGLN, 10BVZC, 02BFNS/ BRN, 02 LOBYN and 02 BRHN.
3.2.4 47 BTPN wagons are converted from vegetable oil to petrol tank.

Other wagons

3.2.5 09 BTPN wagon were ROHed.
3.2.6 29 BTPN, and 02 BTPGLN wagons NPOHed.

4 Divisional Performance

4.1 Under "People Centric" initiative of IR, following steps have been taken for improving the cleanliness in trains as well as improving the quality of linen during the month.

a. Measure taken to improve the cleanliness in trains-