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भारत सरकार — रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ — 226011
Government of India - Ministry of Railways
Research, Designs & Standards
Organization, LUCKNOW - 226011

No. EL/3.1.35/2 Electrical

Date: 18.12.2013

Chief Electrical Engineers,

- East Central Railway, Hazipur – 844 101 (Bihar)
- South East Central Railway, Bilaspur-495 004.
- West Central Railway, Opp. Indira Market, Jabalpur-482001
- Northern Railway, Baroda House, New Delhi-110 001.
- Central Railway, 2nd floor, Parcel Office Bldg., Mumbai CST-400 001
- South Central Railway, Rail Nilyam, Secunderabad – 500 071.
- Eastern Railway, Fairlie Place, Kolkata-700 001.
- Southern Railway, Park Town, Chennai-600 003.
- South Eastern Railway, Garden Reach, Kolkata-700 043.
- Western Railway, Churchgate, Mumbai-400 020.
- Chittaranjan Locomotive Works, Chittaranjan-713 331 (WB).

MODIFICATION SHEET NO. RDSO/2013/EL/MS/0428, (Rev.0), Dated 10.12.13

1.0 Title:

Modification Sheet for relocation of earth fault relays for harmonic filter and hotel load along with its resistors in three phase electric locomotives.

2.0 Object:

The earth fault relays for harmonic filter and hotel load along with its resistors in three phase electric locomotives are fitted inside the filter cubicle on bottom back side for detection of earth fault in filter or hotel load circuit. There is a need for removal and re-fitment of these relays to test the relay setting for its proper working during major overhauling or in locomotive having problem of earth fault in filter or hotel load circuit. The location of these relays along with its resistors are so critical, that it is very difficult to remove these relays or resistors from existing location for maintenance as it is fitted on bottom and back side in the filter cubicle. Moreover, the lead of these relays and resistors are also not accessible for testing the relay in-situ.

3.0 Existing Arrangement with cross-references of respective design document:

As shown in Figure-1 the relays and resistors are fitted in the bottom and back side of the filter cubicle. Hence it is not accessible for testing them or take out the relays and resistors for maintenance.

4.0 Modified Arrangement to replace existing arrangement as given above in 3.0:

The whole of the insulation board along with earth fault relays for harmonic filter and hotel load with its resistors fitted on it, is relocated at the back cover on the top left side so that it is accessible from inspection window of panel as shown in Figures 2,3 & 4.

5.0 Application to class of locomotives:

WAP-5, WAP-7, WAG-9, WAG-9H.

6.0 Material Required:

Nil.

7.0 Material Rendered Surplus:

Nil.

8.0 Reference:

- i) Northern Railway letter no. 230-Elect/TRS/92/2/4 dated 30.04.13.
- ii) Central Railway letter no. L.253.AC.17 dated 19.08.13.
- iii) West Central Railway letter no. WCR/Loco/05/2221/5154 dated 27.09.13

9.0 Agency of Implementation:

CLW, work shops and loco sheds holding WAP-5, WAP-7, WAG-9 & WAG-9H locomotives.

Encl: as above.

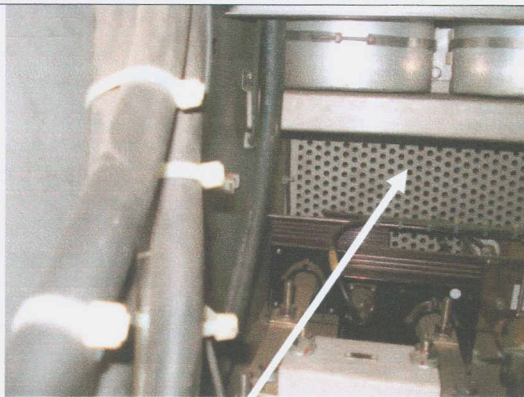
sd/- 10/12/13
(Sandeep Srivastava)
for Director General/Elect.

Copy to:-

1. **Secretary (Electric Traction)**, Railway Board, Rail Bhavan,
New Delhi-110 001
2. **Sr. DEE (TRS), Electric Loco Sheds,**
 - Central Railway, Ajni (Nagpur)-440008.
 - South East Central Railway, BMY Complex, Bhilai, Durg-490 025.
 - West Central Railway, Tughlakabad, New Delhi-110 044.
 - Northern Railway, Ghaziabad (UP)-201 001.
 - East Central Railway, Gomoh-828 401
 - South Central Railway, Lalaguda, Secunderabad – 500 017.
 - Eastern Railway, Howrah.
 - South Eastern Railway, Tatanagar-831 002.
 - Western Railway, Vadodara-390 002.
 - Southern Railway, Royapuram, Chennai-600 013.
3. **Chief Works Manager,**
 - Electric Loco Workshop, Eastern Railway, Kancharapara,
24 Pargana (N) – 743145 (W.B.)
 - Electric Loco Workshop, Central Railway, Bhusaval – 425 201.
 - Loco, Carriage & Wagon Works,
Western Railway, Dahod,
P.O. Freeland Gank – 389160 (Gujrat)

Encl: as above

sd/- 10/12/13
(Sandeep Srivastava)
for Director General/Elect.



Resistance and Earth fault relay is fitted at this location originally (Bottom back side of FB cubicle)

Fig. 1



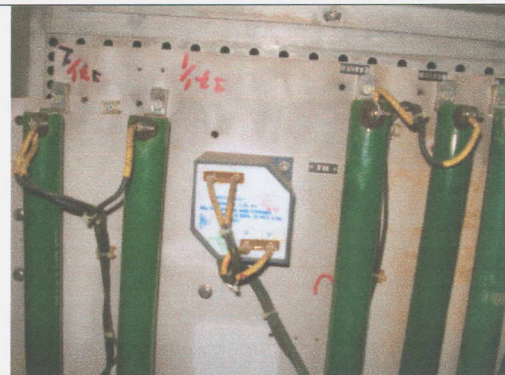
Complete sheet with resistance and Earth fault relay shifted to upper left side in FB cubicle near inspection window from inside

Fig. 2



Resistance and Earth fault relay can be checked / changed from FB cubicle inspection window.

Fig. 3



Inside view of Resistance and earth fault relay.

Fig. 4