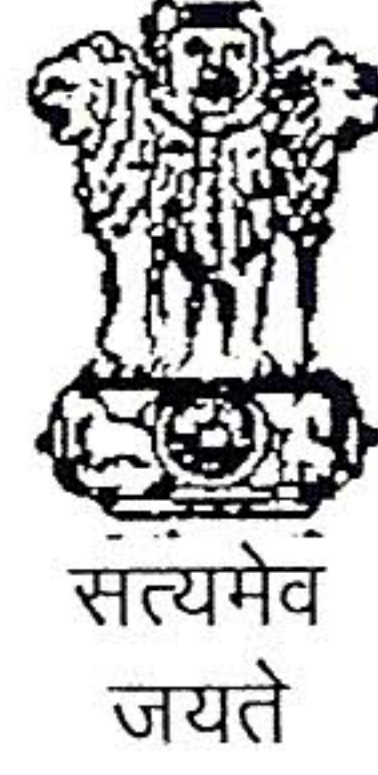


Fax : 91 - 522 - 2465754
Telephone : 0522 2465754
Rly. Telephone : 42226

e-mail : mkgrdso@yahoo.co.in



भारत सरकार – रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ – 226 011

Government of India - Ministry of Railways
Research, Designs & Standards Organization,
LUCKNOW – 226 011

EL/ 4.2.15

Date: 19/01/2010

Chief Electrical Engineer,

1. Central Railway, Mumbai - 400 001.
2. East Central Railway, Hazipur – 844 101.
3. East Coast Railway, Chandrashekharpur, Bhubaneswar – 751 016.
4. Eastern Railway, Fairlie Place, Kolkata - 700 001.
5. North Central Railway, Subedargang, Allahabad – 211 001.
6. Northern Railway, Baroda House, New Delhi – 110 001.
7. South Central Railway, Secunderabad - 500 071.
8. South East Central Railway, Bilaspur – 495 004.
9. South Eastern Railway, Garden Reach, Kolkata - 700 043.
10. Southern Railway, Park Town, Chennai - 600 003.
11. West Central Railway, Jabalpur- 482 001.
12. Western Railway, Churchgate, Mumbai - 400 020.
13. Chittranjan Locomotive Works, Chittranjan – 713 331.

Sub: Modification of loco control circuit for circuit breaker (DJ) opening and panto lowering by BLDJ and ZPT switch in 25 kv conventional locomotive equipped with microprocessor based control and fault diagnostic system (MPCS).

Enclosed Please find modification sheet No. RDSO/2009/EL/MS/0384(Rev-'0') dated : 07/10/09 of subject item for immediate implementation.

(M. K. GUPTA)

for Director General/Electrical

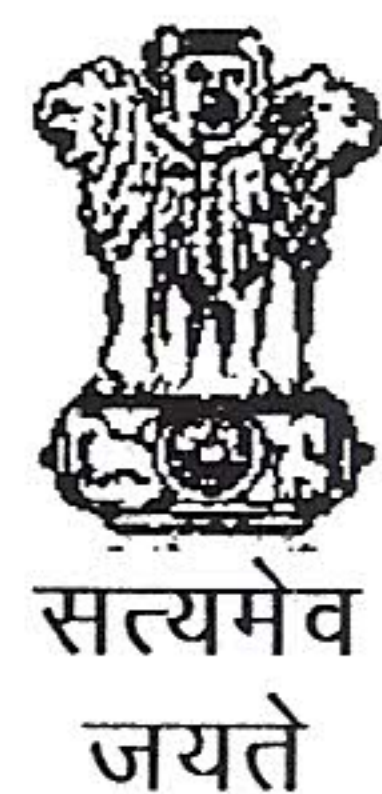
DA: MS/0384(Rev-'0') 04 pages

CC:

Secretary/Electrical Railway Board, Rail Bhawan, New Delhi –110 001.
- (kind attn: Shri Mohit Chandra, DEE/RS)

O/C

Fax : 91 - 0522 - 2465754
Telephone : 2465754
e-mail : mkgrdso@yahoo.co.in



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/4.2.15

Dated 15.01.2010

Modification Sheet No. RDSO/2009/EL/MS/0384 (Rev-'0') dated 7.10.09

1.0 TITLE:

Modification of loco control circuit for circuit breaker (DJ) opening and panto lowering by BLDJ and ZPT switch in 25 kv conventional locomotive equipped with microprocessor based control and fault diagnostic system (MPCS).

2.0 OBJECT:

In Microprocessor based control & fault diagnostic system (MPCS) based locomotives, DJ and panto are controlled by the output of MPCS. In case of malfunctioning and failure of MPCS, there are chances of DJ not opening by BLDJ and panto not lowering by the ZPT. Therefore, it is required that BLDJ contact in series of MTDJ circuit along with cab protection should be provided. VEPTs are directly operated by ZPT switch irrespective of the output (O-2 & O-3) signal of MPCS. In other words the opening of DJ and lowering of panto can be done manually in the event of failure of the MPCS as an added safety measure.

3.0 Existing & revised circuit layout.

3.1 Circuit breaker (DJ) opening through BLDJ.

One N/O contact of BL and one N/O contact of BLDJ switches in both the cabs are wired in series in the MTDJ branch from wire no. 053. This will open the DJ when BLDJ switch is opened in the driving cab. The details are shown in drawing no. SKEL-4765.

3.2 As per RDSO modification sheet no. WAM4/214 of 1998, paralleling of N/O contact has been done in the existing limit switch of M/s Siemens type 3 SE3-023-0AZ1, having 1 N/O + 2N/C contact arrangement. Since, the safety is required to be given preference over the reliability of contacts, the existing paralleling arrangement of 2 N/O contacts shall be opened to accommodate this modification in circuit.

3.3 In order to ensure the reliability of contacts of limit switch without paralleling arrangement, the close examination for proper crushing of the contacts in limit switch shall be done in every scheduled inspection i.e. IA, IB, IC. The switch should be replaced every year.

3.4 M/s Siemens has been requested to develop a limit switch with 3 N/C or preferably 4 N/C contacts. This will ensure paralleling of interlocks as per RDSO MS of 1998 as well as this modification. The development of 4 N/C contact limit switch will be informed to Railways.

3.5 Panto lowering through ZPT.

Wire no. 055 & 056 are opened from Output no. 2 & 3 and connected to wire no. 030 & 029 directly to the input of ZPT. This will ensure lowering of panto when ZPT put on '0' position in all the cases irrespective of working of MPCPS. The details are shown in drawing no. SKEL-4764.

4.0 CONFIRMATIVE TEST AFTER MODIFICATION :

After modification the following test should be done for confirmation of the operation with modified circuit.

- i) Connect a wire from +110V DC (wire no. 700) to I-0 (Wire no. 021) directly to make I-0 input permanent high (for the testing period only).
- ii) Open the BLDJ switch.

Results: DJ should trip from driving (activated) cab.

5.0 WORK TO BE CARRIED OUT :

Changes in wiring as shown in drawing nos. SKEL-4764 & SKEL-4765

6.0 APPLICATION TO CLASS OF LOCOMOTIVE:

All class of 25 kv AC conventional electric locomotives with Microprocessor based control & fault diagnostic system (MPCS).

7.0 MATERIAL REQUIRED:

1. 70 meter of 2.5 mm sq. 750V cable.
2. One N/O contact in each BL1DJ and BL2DJ switches (will be available after discontinuing the paralleling arrangement as per RDSO MS 214 of 1998).
3. One spare N/O contact in each BL1 and BL2 switches (already available as spare)

8.0 MATERIAL RENDERED SURPLUS:

Nil

9.0 MODIFICATION DRAWING :

Modified circuit given in drawing nos. SKEL-4764 & SKEL-4765

10.0 Agency of implementation:

Electric loco sheds, POH workshop and CLW with immediate effect.


M.K. Gupta

For Director General (Elect.)

Encl:- As above.

Copy to:- As per standard mailing list.

[illegible]