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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/3.1.35.17 Dated: As signed

Principal Chief Electrical Engineer,

- Central Railway, HQs Office, 2nd floor, Parcel Office Bldg., Mumbai 400 001.
- East Central Railway, Hajipur (Bihar) 844 101.
- East Coast Railway, Railway Complex, Bhubaneswar 751 023.
- Eastern Railway, Fairlie Place, Kolkata 700 001.
- North Central Railway, Prayagraj 211 001.
- North Eastern Railway, Gorakhpur –273 001.
- North Western Railway, near Jawahar Circle, Jaipur–302 017.
- Northeast Frontier Railways, Maligaon, Guwahati 781 011
- Northern Railway, Baroda House, New Delhi 110 001.
- Southern Railway, Park Town, Chennai 600 003.
- South Central Railway, HQs Office, Rail Nilayam, Secunderabad 500 071.
- South Eastern Railway, Garden Reach, Kolkata 700 043.
- South East Central Railway, Bilaspur 495 004.
- South Western Railway, Hubli 580020.
- West Central Railway, HQs Office, Opp. Indira Market, Jabalpur 482 001.
- Western Railway, Church gate, Mumbai 400 020.
- Banaras Locomotive Works, Varanasi 221 004.
- Chittaranjan Locomotive Works, Chittaranjan 713 331 (WB).
- Patiala Locomotive Works, Patiala 147 003.

MODIFICATION SHEET NO. RDSO/2024/EL/MS/0500 (Rev. '0')

1.0 Title:

Recording of Flasher Light operation either due to fault or manually by Loco Pilot in case of emergency with time stamping in VCU of 3-phase electric locomotives.

2.0 Brief History:

Railway Board vide letter No. 2023/Elect(TRS)/440/20 dated 22.12.2023 had advised RDSO that CCRS, in his immediate recommendations pertain to enquiry of fire accident in Train No. 02570 NDLS-DBG Humsafar Clone Express at Sarai Bhopat station of Prayagraj Division of NCR at about 17:25 hrs on 15.11.2023, had suggested that the 'Operation of Flasher Light either due to fault or by Loco Pilot in case of emergency shall be recorded with time stamping either through VCD/VCU'.

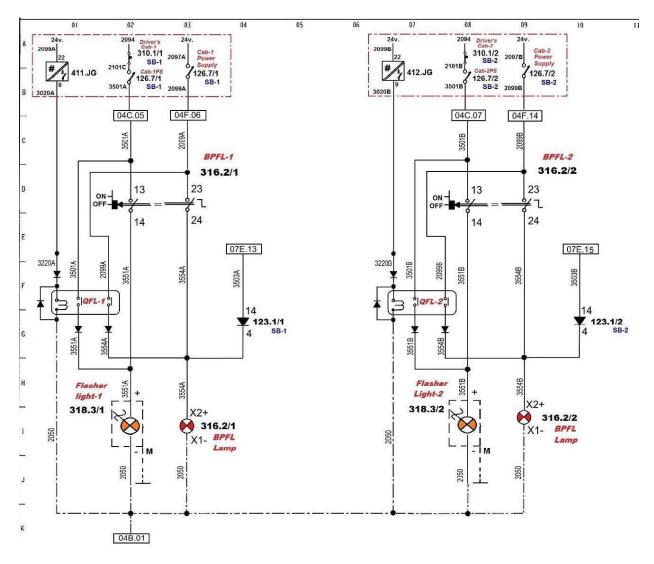
At present, signal of automatic flasher light operation is available on MVB and recorded n VCU. However, manual operation of flasher light through BPFL switch by loco pilot is not getting monitored by VCU. Therefore, there is requirement for monitoring the operation of flasher light either due to fault or manually by Loco Pilot in case of emergency with time stamping in 3-phase electric locomotives.

3.0 Objective:

To record and monitor the flasher light operation either due to fault or manually by Loco Pilot in case of emergency with time stamping in 3-phase electric locomotives.

4.0 Existing Scheme:

Signal of Alarm Chain Pulling is available on MVB which reflects the operation of Auto Flasher Light. However, manual operation of flasher light by BPFL switch (316.2) is not monitored by VCU. The existing schematic are shown below:



5.0 Modified scheme:

Since, Machine Room Blowers (MRBs) and scavenge to MRBs (ScMRBs) are being shifted from single phase supply to Auxiliary Converters' three phase supply in IGBT based three phase electric freight locomotives as per RDSO's Modification Sheet No. RDSO/2020/EL/MS/0482, Rev '1' during implementation of energy saving scheme. After the aforesaid modification, 2 nos. input channels i.e. 411. OA10 and 412. OA10 have become free. Out of these 2 nos. free input channels, 01 number (411. OA10) has been utilized for monitoring of flasher light operation either due to fault or manually by Loco Pilot in case of emergency in proposed modified scheme. The proposed modified scheme has been attached as Annexure-1 for implementation of the same.

Modification in Software: 6.0

- (i) Software modification to delete previously mapped capacitor message on 411. OA10.
- (ii) Software modification to read input channel 411. OA10 for operation of flasher light.
- (iii) Software modification in data recorder file to record operation of flasher light with time stamping for continuous recording of signal.

7.0 Material required:

- (i) Two (02) nos. VS blocking diode (used in conventional loco, Rating-12Amps.)
- (ii) Control cable of suitable size/length with lugs.

8.0 Material Rendered Surplus: Nil.

9.0 Application to the Class of Locomotives:

WAP5/WAP7/WAG9/WAG9H/WAG9HC class of 3-phase electric locomotives provided with 3phase Machine Room Blowers (MRBs).

10.0 Agency of Implementation:

Electric Loco Sheds and PUs/Workshops holding 3-phase electric locomotives.

Encl: As above.

Copy to:

Secretary (Electrical), Railway Board, Rail Bhawan, New Delhi - 110 001

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