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

EL/3.1.3

Date: 07/10/09

Chief Electrical Engineers:

1. Central Railway, Mumbai, CST-400 001.
2. East Central Railway, Hazipur-844101.
3. East Coast Railway, Chandrashekharpur, Bhubaneswar-751016.
4. Eastern Railway, Fairlie Place, Calcutta-700001.
5. North Central Railway, Subedarganj, Allahabad- 211033.
6. Northern Railway, Baroda House, New Delhi-110001.
7. South Central Railway, Secunderabad-500 071.
8. South East Central Railway, Bilaspur-495004.
9. South Eastern Railway, Garden Reach, Calcutta-700 043.
10. Southern Railway, Park Town, Chennai-600 003.
11. West Central Railway, Jabalpur-482001.
12. Western Railway, Church gate, Mumbai-400 020.
13. Chittaranjan Locomotive Works, Chittaranjan-713331.

Modification Sheet No: RDSO/2009/EL//MS/0383 (Rev 0) – Oct'2009

1. Title

Provision of LED indication near Q-50 relay for indicating status of C 145 contactor

2. Object :

During traction mode C 145 should be in open position. When driver switches from dynamic braking to traction if C 145 does not open, Q 50 will not pick up thus preventing driver from taking notches. In this situation, driver is supposed to ensure correct position of CTF/J and C 145 before wedging Q 50. The correct position of CTF/J can be visually checked but C 145 cannot be checked without opening arc chute, and thus there is a possibility of driver wedging Q 50 even if C 145 is stuck up in close position and taking traction. This will cause short-circuiting of a part of winding of ATFEX and application of full voltage across remaining part of winding, which may lead to ATFEX burning. A few cases of burning of ATFEX with extensive damage in HT compartment have been attributed by ER to C-145 remaining closed and Driver wedging Q-50 relay and taking traction.

Therefore, Provision of a visual indication of the status of C 145 near Q 50 relay will help the driver to ascertain correct status of C 145 before wedging Q 50. Caution will be printed near Q-50 advising Driver not to wedge Q-50 in traction mode if LSC-145 is glowing. This modification does not interfere with the existing control circuit and reinforces the existing trouble shooting for LSB glowing, which includes checking of C-145 by the Driver. The modification has been tried by ER on 74 ASN base Locomotives

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and since April' 07 no burning case of ATFEX occurred in ASN base Locomotive. The modification was discussed in 33rd MSG held on 8th & 9th, April '2009 at BRC/WR and group recommended for implementation of this modification.

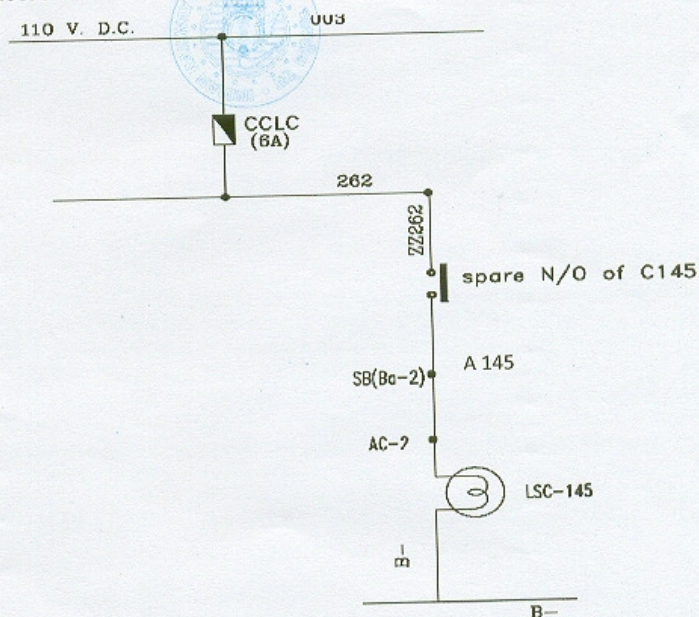
3. Modification Details

a. Material Required:

- (i) Single core elastomeric cable of size 3 mm²/ 750V, Qty. 10 Meters approx.
- (ii) Terminal socket (copper) – 3d x 5.2 mm², Qty. 07 Nos.
- (iii) Power LED (Red), 110V AC/DC, Qty – 02 No.(in parallel)
- (iv) Indication lamp fixing board (Insulated), Size 4 mm x 80 mm, Qty – 01 No
- (v) Location – Near Q 50 Relay.
- (vi) Caution board (insulated) with inscription "Driver not to wedge Q-50 in traction mode if LSC-145 is glowing ".Location near Q-50 relay

b. Procedure:

- (i) Connect a cable no. A145 in between spare terminal in SB (Ba-2) and spare N/O interlock of C 145.
- (ii) Connect another cable no. ZZ262 in between terminal in SB (Ba-2) with cable no. F262 and N/O interlock of C 145 against cable no. A145.
- (iii) Connect the cable no. A 145 with the terminal of LSC 145 via. SB (Ba-2) and SB (AC-2).
- (iv) A board for LSC 145 to be fixed near Q 50 Relay with the help of M.S. clamp.
- (v) Connect another terminal of LSC 145 with '(-) ve' cable.



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4. Additional instruction to crew:

Drivers shall not wedge Q-50 relay while LSC-145 lamp is glowing .In such case, driver should physically check C-145 and if normal, he should try to remove sticking of C-145 by putting MP on braking/traction side 2-3 times.

5. Reference:

Item no 20 of 33rd MSG

6. Application :

On all AC tap changer Locomotives provided with DBR.

7. Periodicity of Implementation :

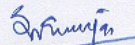
On first availability opportunity.

8. Agency of Implementation:

Electric Loco Sheds / POH / Repair shops / Manufacturing unit.

9. Distribution:

As per standard mailing list no EL/M/0019


(Ishaq Khan)

For Director General Std/Elect

