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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

Dated 31.05.2013.

Chief Electrical Engineers,

1. Central Railway, Mumbai CST-400 001.
2. Northern Railway, Baroda House, New Delhi-110 001.
3. Eastern Railway, Fairlie Place, Kolkata -700 001.
4. East Central Railway, Hazipur-844101.
5. Southern Railway, Park Town, Chennai-600 003.
6. South Central Railway, Secunderabad-500 371.
7. South Eastern Railway, Garden Reach, Kolkata -700 043.
8. South East Central Railway, Bilaspur-495004
9. Western Railway, Churchgate, Mumbai-400 020.
10. West Central Railway, Jabalpur-482001.
11. Chittaranjan Locomotive Works, Chittaranjan-713 331.

MODIFICATION SHEET NO. RDSO/2013/EL/MS/0425, (Rev.'0'), Dated 22.05.13

1.0 Title:

Modification Sheet for improving illumination of headlight in dimmer mode in three phase electric locomotives.

2.0 Object:

During 34th MSG, SC railway raised the issue that head light under dimmer mode is too dim and does not serve any purpose. Hence little enhancement in light intensity in the dimmer mode is desirable by providing 25 ohms/250 watts resistor instead of 47 ohms/250 watts resistor. The draft MS was circulated to the sheds. Central Railway vide their letter no. L.253.AC.02 dtd. 25.02.13 has indicated that there is very little improvement in the brightness even after providing 25 ohms/250 watts resistor. Western Railway vide their letter no. EL 91/2/2 dtd. 20.03.13 has suggested provision of 10 ohms/250 watts resistor which gives output in dimmer mode as 56% instead of 15.25% with 47 ohms/250 watts resistor. Western Railway has carried out the modification with 10 ohms/250 watts resistor in place of 47 ohm/250 watts in two locos and positive feedback is received from LP/LI.

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

As per ABB doc. No. 3EHP281147 sheet no. 07C of G1 the circuit diagram indicates resistor head light dimmed/bright Sch.Pos. 332.3 of rating 47 ohms, 250 watts resistor.

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

Now the same resistor is to be changed by 10 ohms, 250 watts resistor.

5.0 Application to class of locomotives:

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

6.0 **Material Required:**

Resistor as per following details:

Resistance	:	10 \pm 10% ohm.
Maximum Voltage	:	110 V _{DC}
Maximum Current	:	3 Amps.
Power	:	250 watts.
Sch. Pos.	:	332.3
No. required per loco.	:	2 nos.

The resistor should be procured from CLW approved sources as per CLW Specification No. CLW/ES/3/0014 (item no. vii).

7.0 **Material Rendered Surplus:**

Resistor of rating 47 ohms, 250 watts, 2nos./loco.

8.0 **Reference:**

- i) 34th MSC item no.19(i), Rly.Bd. letter no. 2011/Elect(TRS)/138/2 dated 16.8.11.
- ii) W.Rly. letter no. EL 91/2/2 dated 20.03.13.

9.0 **Modification Drawing:**

Not required.

10.0 **Agency of Implementation:**

CLW, work shops and loco sheds holding, 3-phase locomotives.

(Signature)
02/06/13
(Sandeep Srivastava)
for Director General/Elect.

Copy to:-

Secretary (Electric Traction),

Railway Board,

Rail Bhawan, New Delhi 110 001.

Sr. DEE (TRS), Electric Loco Sheds,

1. Central Railway, Ajni (Nagpur)-440008.
2. South East Central Railway,
EMY Complex, Bhilai, Durg-490 025.
3. West Central Railway, Tughlakabad,
New Delhi-110 044.
4. Northern Railway, Ghaziabad
(UP)-201 001.
5. East Central Railway, Gomoh-828 401
6. South Central Railway, L.Laguda,
Secunderabad – 500 C17.
7. Eastern Railway, Howrah.
8. South Eastern Railway,
Tatanagar-831 002.
9. Western Railway, Vadodara-390 002.
10. Southern Railway, Royapuram,
Chennai-600 013

: For kind information please.

: For information and necessary
action please.

(Signature)
03/06/13
(Sandeep Srivastava)
for Director General/Elect.