

S.No. 5095

Telegram :RAILMANAK',
Lucknow

Fax : 0522 - 2452581

Telephone :0522- 2465714

e-mail: dse2rds@yaho.co.in सत्यमेव जयते



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

No. EL/3.2.19 (G)

Dated 18.05.07

37993

Chief Electrical Engineer,

- Central Railway, Mumbai CST-400 001.
- Northern Railway, Baroda House, New Delhi-110 001.
- North Central Railway, Hastings Road, Allahabad- 211001
- Eastern Railway, Fairlie Place, Kolkata -700 001.
- East Central Railway, Hazipur-844101.
- East Coast Railway, Chandrashekharpur, Bhubaneswar-751016.
- Southern Railway, Park Town, Chennai-600 003.
- South Central Railway, Secunderabad-500 371.
- South Eastern Railway, Garden Reach, Kolkata -700 043.
- South Western Railway, 4th Floor, Laxmi Balakrishna Square Complex, Railway Station Road, Hubli- 580 020 (Karnataka).
- South East Central Railway, Bilaspur-495004
- Western Railway, Churchgate, Mumbai-400 020.
- West Central Railway, Jabalpur-482001.
- Chittaranjan Locomotive Works, Chittaranjan-713 331 (WB)

MODIFICATION SHEET No. RDSO/2007/EL/MS/0349 Rev.'0' Dated 18.05.2007

(This Modification Sheet Supersedes the DRAFT MODIFICATION SHEET No. RDSO/WAM4/202 Dated 30.04/06.05.98)

1. TITLE :

Modification of providing additional isolating cock in series with existing BP angle cock in pure air brake and dual brake Electric Locomotives.

2. OBJECT :

To avoid locomotive failure due to damage of front BP angle cock during cattle run over.

3. EXISTING ARRANGEMENT :

In the existing pneumatic brake system for Electric Locomotive on Brake Pipe (BP) & Feed Pipe (FP) line angle cock are provided

in front of buffer beam. There are cases of breakage of BP & FP angle cocks due to cattle run over.

Railways are reporting that failures of Electric Locomotives are taking place due to breakage of Brake Pipe and Feed Pipe angle cocks. Therefore, provision of additional Isolating cocks, behind the loco buffer beam at an approachable location, has been considered so that loco failures can be avoided by closing these isolating cocks, to prevent air leakage due to damage of existing angle cock by cattle run over.

4. **MODIFIED ARRANGEMENT :**

To avoid locomotive failure due to damage of front BP angle cock during cattle run over, feasibility study was done to check possibility to provide additional isolating cocks for both Brake Pipe and Feed Pipe. Study of pipe layout on various locomotives was done and it was observed that it is feasible to provide additional Isolating Cocks on Brake Pipe at both the ends of Electric Locomotives without much difficulty.

In case of breakage of Feed Pipe angle cock loco failure can be avoided by closing Isolating cock provided before Feed Valve. It will stop charging of the Feed Pipe. In such cases loco will not fail but the train will have to work on a single pipe brake system. This will slightly increase timing for brake release which may be acceptable in such occasional cases.

In view of above, one additional Isolating cock of size 1¼" without vent may be provided on brake pipe only in both the driving cabs. To ensure the 'Open' position of additional BP isolating cock fitted in the non-driving cab of the locomotive, a modification in the BP gauge pipe line may be done to adopt fail-proof system. BP pressure gauge of cab-1 may be connected to the brake pipe beyond the additional BP isolating cock of cab-2 and vice-versa. With this arrangement, the BP pressure gauge of the driving cab indicates the BP pressure beyond the additional BP isolating cock of the non-driving cab. A sketch showing the above arrangement is enclosed as Annexure - II.

The following instructions to be followed for safe operation of the Electric Locomotives :-

- (i) It is to be ensured by the Electric Loco Sheds that the additional Isolating Cocks type OPL (open parallel to line)

provided on Brake Pipe are in open position. These are to be sealed in open position before loco leaves the Sheds.

- (ii) Driver should make the entry in the log book in case the Isolating Cocks are closed due to breakage of existing angle cocks. Electric Loco Sheds should repair such angle cocks on first opportunity and again seal the Isolating Cocks provided in open position.

- (iii) Before turning out the loco from Electric Loco Shed, following checks are to be carried out:

- a) Open the Brake Pipe angle cock :

Brake Pipe pressure should drop and brake cylinder pressure should rise.

- b) Close the brake pipe angle cock :

Brake Pipe pressure should rise to original level and brake cylinder pressure should drop.

- c) Repeat the same procedure from other cab of the locomotives.

- iv) After attaching the locomotive on train in yard or in station, continuity test of Brake Pipe should be done.

5. APPLICATION TO CLASS OF LOCOMOTIVES:

All pure air brake and dual brake main line Electric Locomotives.

6. MATERIAL REQUIRED:

- (i) Two nos. 1-1/4" Isolating Cock.
(ii) 1-1/4" diameter seamless pipe of suitable length.

7. MATERIAL RENDERED SURPLUS:

NIL

8. REFERENCE :

- i) CELE/South Central Railway's letter No. E/.221/SMI/
Mod./ PC/ Vol. XVII Dt.19.12.06

38000

- ii) Item No.14 of Railway Board letter No. 2006/Elect (TRS) /138/7Pt dated 15.03.07 regarding decision on item of XXXI Maintenance Steady Group Meeting held at Secundrabad/S.C. Railway on 25th & 26th September 2006.

9. MODIFICATION DRAWING:

As per Annexure – I & II, the Brake Pipe line is to be modified.

10. AGENCY OF IMPLEMENTATION:

CLW, All the Electric Loco Sheds & Electric Loco Workshops.


(Kishore Kumar)

Encl: Annexure- I & II

for Director General/Elect.

DISTRIBUTION

Copy to : As per Standard Mailing List No. EL/M/0019, Ver. '2'

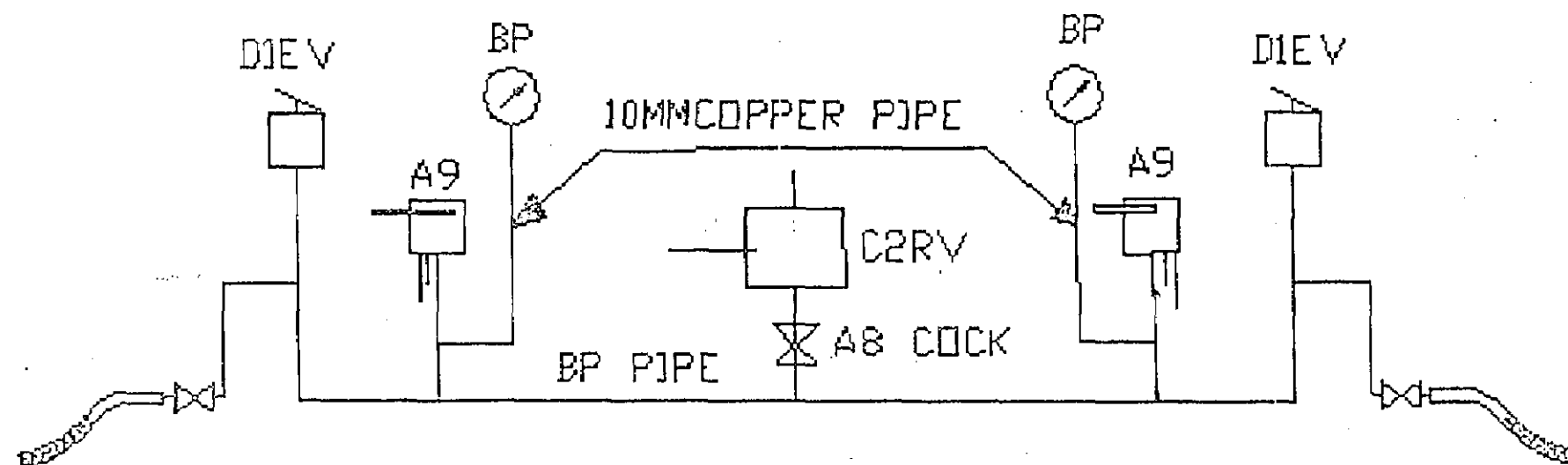

(Kishore Kumar)

Encl: Annexure- I & II

for Director General/Elect.

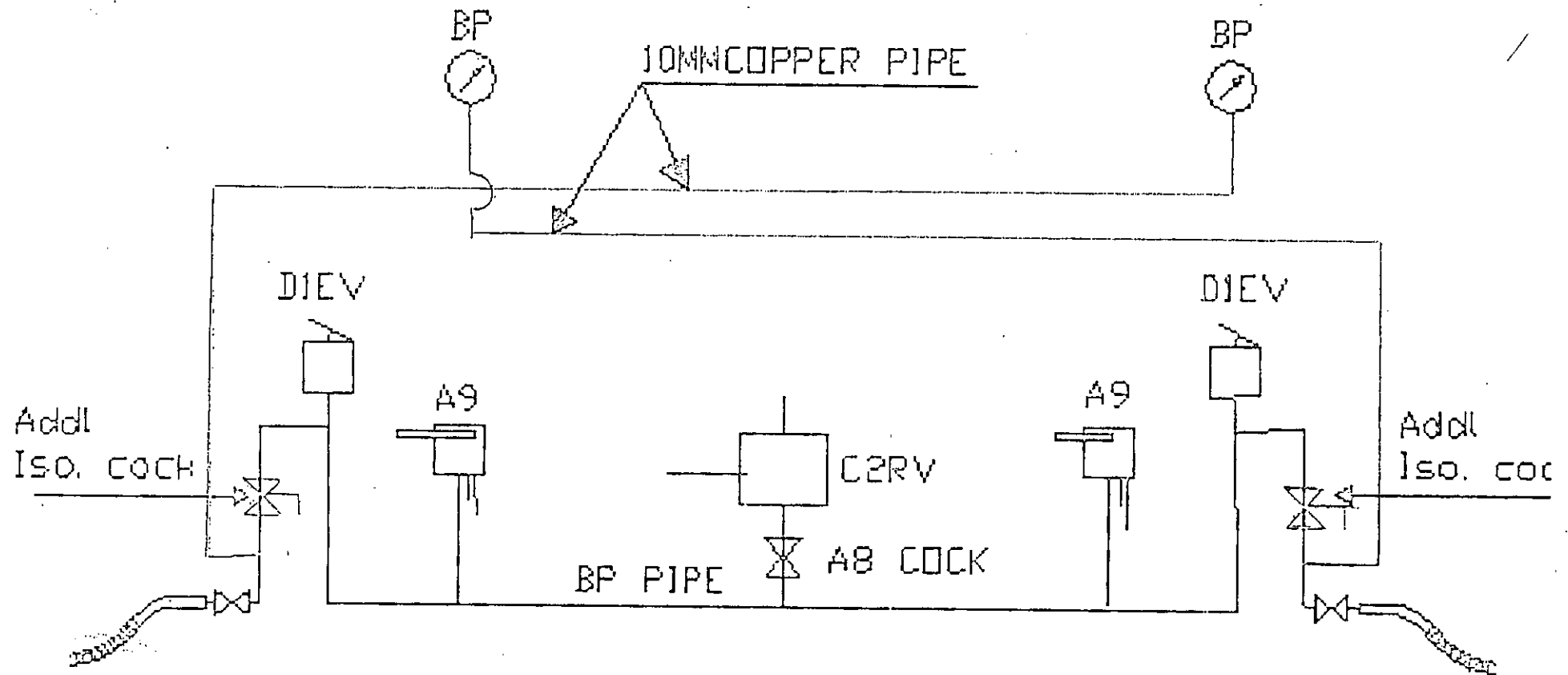
O/C

ANNEXURE- I of MODIFICATION SHEET No. RDSO/2007/EL/MS/0349 Rev.'0' Dated 18.05.2007



EXISTING ARRANGEMENT OF BP ISOLATING COCK.

ANNEXURE - II of MODIFICATION SHEET No. RDSO/2007/EL/MS/0349 Rev.'0' Dated 18.05.2007



MODIFIED ARRANGEMENT WITH ADDITIONAL BP ISOLATING COCK AND
TRANSPOSITION OF BP GAUGES

38003