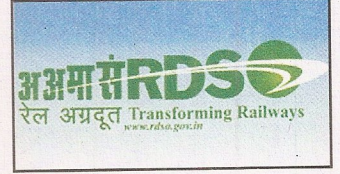




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Lucknow - 226 011
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No. EL/3.2.19/(G)

Dated - 28.03.2014

Chief Electrical Engineer,

- Central Railway, Mumbai CST- 400 001.
- Eastern Railway, Fairlie Place, Kolkata- 700 001.
- East Cost Railway, Chandrashekharapur, Bhubaneswar- 751 016.
- Northern Railway, Baroda House, New Delhi-110 001.
- North Central Railway, Block A2, Subedar Ganj, Allahabad-211 001.
- Southern Railway, Park Town, Chennai-600 003.
- South Central Railway, Rail Nilayam, Secunderabad -500 017.
- South Eastern Railway, Garden Reach, Kolkata -700 043.
- Western Railway, Churchgate, Mumbai-400 020.
- West Central Railway, Jabalpur-482001.
- South East Central Railway, Bilaspur-495004.
- East Central Railway, Hazipur-844101 (Bihar).
- Chittaranjan Locomotive Works, Chittaranjan- 713 331.

MODIFICATION SHEET No. RDSO/2014/EL/MS/0433 Rev.'0'Dated 28.03.2014

1.0 TITLE :

Modification to provide 1^{1/4} ball type isolating cock in place of D-1 Emergency Brake valve in tap-changer (unmodified CAB) Electric locomotives.

2.0 OBJECT:

To avoid locomotive failure on line, due to sticking up of D-1 Emergency Brake Valve seat (RS) when applying emergency brake through RS valve, resulting in heavy air leakage. Railways reported heavy air leakage from RS emergency brake valve, after application of Emergency brake by ALP due to struck up of valve seat.

3.0 Existing Arrangement:

- In the existing pneumatic brake system for tap changer (Unmodified cab) electric locomotive, D-1 emergency brake valve is provided in the brake system to apply emergency brakes on the train and loco in case of any emergency by the ALP. It is located near the Assistant Loco Pilot's seat.
- Some time it has been observed that Assistant Loco Pilot operates D-1 emergency valve (RS) & after releasing, the valve started leaking permanently.

On investigation it has been observed that minute metallic chip from the pipe line got stuck on the seat and obstructed the movement of valve spindle.

- To avoid the failures of locomotives due to struck-up of D-1 emergency valve (RS), CLW has already made provision of ball type isolating cock in crew friendly cab locomotive in place of D-1 emergency valve (RS) in accordance with CLW drawing no 03/0/37/53 for pipe layout for crew friendly cab locomotives . Similar arrangement of ball type isolating cock for emergency brake application already exists in 3-phase electric locomotives.
- The failures of locomotives with unmodified cab can be avoided by carrying out the modification to replace the existing D-1 emergency valve (RS) by 1^{1/4} ball type isolating cock in tap changer (Unmodified cab) Electric Locomotives.

4.0 Modified Arrangement:

The existing D-1 emergency valve (RS) will be replaced by 1^{1/4} ball type isolating cock as per CLW Drawing No.1209-18.306-187 of 1^{1/4}” isolating cock in tap changer (Unmodified cab) Electric Locomotives.

5.0 Work to be carried out:

- Remove the existing D-1 emergency brake valve connected to Brake Pipe.
- Remove the connecting pipe dia.25 mm from 'T' joint at bottom side in the cab.
- Modify the connecting pipe by providing 1^{1/4} ball type isolating cock as per CLW Drawing No.1209-18.306-187 for 1^{1/4}” isolating cock on the pipe at height about 160 +/- 10 mm below the driver desk with the help of union reducer nipple joints in accordance with CLW drawing no 03/0/37/53 for pipe layout of WAP-4 / WAG-7 (crew friendly) locomotive.
- Provide 01 Union Elbow joint with connector on the other end of isolating cock.
- Connect 01 threaded piece of suitable length to the elbow joint and place the open end of threaded piece inside the hole of existing D-1 emergency valve for exhausting the BP air pressure. Weld metal sheet to block the gap.
- Provide suitable clamping arrangement to provide strength & firmly support with the driver's desk.

Note: On completion of modification, Pneumatic testing of locomotives shall be carried out in accordance with RDSO MPMI 138/88 of 1988 & RDSO report No. MP MISC -45 of 1996 and ensure the emergency brake application / release timing within the specified limits.

6.0 Application to class of locomotives:

Tap-changer Locomotives with unmodified cab.

7.0 Material required:

- 1^{1/4} Isolating Cock : 02 Nos.
- Union Elbow FEM (32mm) : 02 Nos.
- Thread piece of length around 50-100 mm dia 32mm: 02 Nos.
- Union female & Reducing Nipple (1-1^{1/4}): 02 Nos.
- Clamp 32 mm steel : 04 sets

Note: Pipe fittings and 1^{1/4} Isolating Cock are to be procured from CLW approved sources.

8.0 Material rendered as surplus:

- Existing D-1 emergency brake valve : 02 Nos.

9.0 REFERENCES:

- This modification has been proposed by Southern Railway in XXXVI Maintenance Study Group meeting as agenda item no.21.
- 1^{1/4}" ball type isolating cock has already been provided in new locomotives being manufactured at CLW as per pipe layout drawing No.03/0/37/53 for WAP-4/WAG-7 locomotives (Isolating Cock 1^{1/4}" drawing No. 1209-18.306-187)
- The problem of air leakage from RS has been reported by the Railways.

10.0 MODIFICATION DRAWING :

- The details enclosed as annexure depicting the modified fixing arrangement of the 1^{1/4}" ball type isolating cock in the pipe line.
- CLW drawing No.1209-18.306-187 for 1^{1/4}" isolating cock.

11.0 AGENCY FOR IMPLEMENTATION :

Electric Loco Sheds, POH & Workshops .

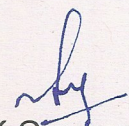
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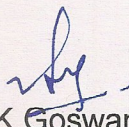
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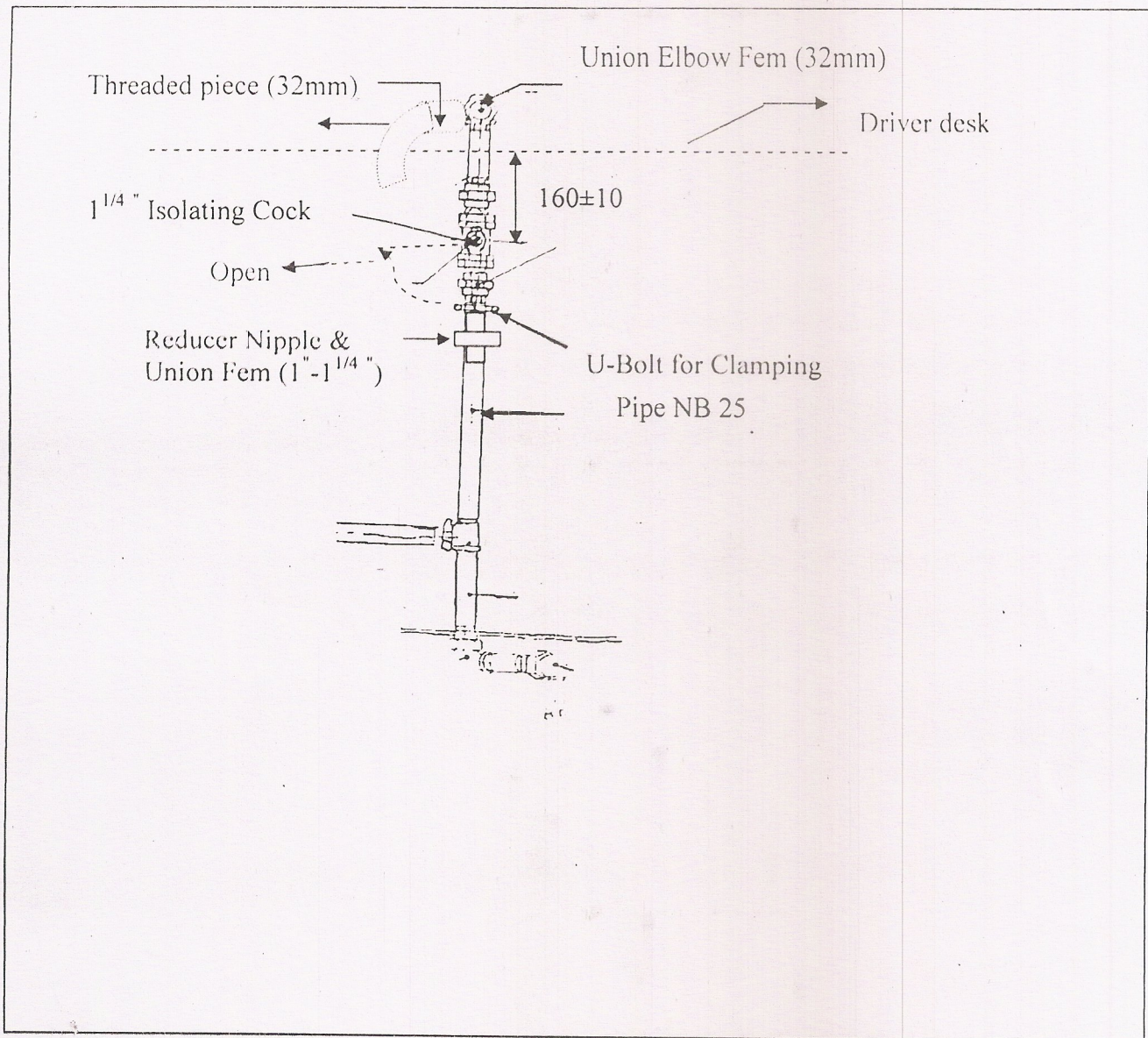
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(A.K.Goswami)
for Director General/Elect.

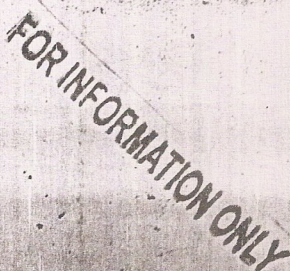

(A.K.Goswami)
for Director General/Elect.

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28.03.2014



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