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सत्यमेव जयते

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/3.2.1/3-phase. Dt. 29.05.2008

Chief Electrical Engineers,

1. Chittaranjan Locomotive Works, Chittaranjan- 713331
2. Northern Railway, Baroda House, New Delhi-110 001
3. East Central Railway, Hazipur (Bihar)
4. Central Railway, Mumbai CST-400 001
5. South Central Railway, Rail Nilayam, Secunderabad-71

MODIFICATION SHEET NO. RDSO/2008/EL/ MS/0360. (REV. '0')

1.0 TITLE:

Shifting of transformer conservators location from OCB duct to an independent stand provided in between SR & MR blower in 3-phase drive locomotives.

1.0 OBJECT:

1.1 The conservators of main transformer in 3-phase locos are mounted on OCB(Oil Cooling Blower) duct. Oil Cooling Blower is cantilever suspended machine, rotating at very high speed and thus producing & transmitting high vibrations to conservator continuously.

1.2 Due to constant vibrations the welding points of conservator mounting plates used to crack frequently at different places resulting in oil leakage from conservator as well as from conservator gauge glass due to breakage of gauge glass tube.

1.3 Shifting of transformer conservator location from their original place i.e. OCB duct to an independent stand provided in between SR & MR blower in 3-phase locomotives will minimize the failure/leakage cases.

1.4 Electric loco shed, GMO of East Central Railway experienced 23 failures cases on transformer conservator since 05-06 on account of oil leakage due to welding cracks & breakage of gauge glass tube. ELS/GMO shifted the location of conservator on an independent MS stand provided in between SR & MR blower in WAG9, 3-phase drive locos. So far, ELS/GMO has shifted conservators on 22 locos and performances of these locos are reported to be satisfactory.

3.0 EXISTING ARRANGEMENT:

In Existing arrangement of 3-phase locomotives the two conservator tanks of main transformer are mounted on the each OCB duct. Oil Cooling Blower(OCB) is rotating at very high speed and continuously transmitting the vibrations to conservator body causing oil leakage, welding cracks & breakage of gauge glass tube.

4.0 MODIFIED ARRANGEMENT:

In the modified arrangement, the locations of both conservators are to be shifted each on an independent MS stand provided in between SR & MR blower . Following actions are required to be taken:

i) Fabrications of MS stand as shown in the drg.No. **SKEL -4730 Alt'0'.** Two MS stands are required for two-conservator tank.
ii) Fixing of MS stands in between SR & MR Blower as given in Sketch-1 & 2 enclosed as Annexure-I & II. MS stand for conservator tank shall be provided 110 mm from the SR panel and its clearance from the corridor will be approx.65 mm. Clearance between conservator stand to side loco body wall is approx. 300 mm.
iii) Mount the conservator tank on the stand. Tighten the MS flat at stand & SR panel as indicated in the section- A in the drawing No. SKEL-**4730 Alt'0'.**
iv) Mounting height of conservator tank shall be kept same as was in the original location.

5.0 APPLICATION TO THE CLASS OF LOCOMOTIVES:

All 3-phase drive electric locomotives (WAP5, WAG9, WAP7)

6.0 MATERIAL REQUIRED:

i) 50x50x6 MS angle for fabricating mounting stand as per drawing No. SKEL-4730 **Alt'0'.**
ii) 40x6 MS flat as per drawing No. SKEL-4730 **Alt'0'.**
iii) 10x30 mm-06 nos. bolt & nut with spring & flat washer for conservator mounting.
iv) M12 size nuts & Bolts for fixing MS flat with conservator mounting stand and SR panel.

7.0 MATERIAL RENDERED SURPLUS: Nil

8.0 REFERENCE :

i) Drg No. TRS/GMO/E-2/G-9/008/ECR dt. 22.02.06.
ii) HAG committee's report No. ELRS/IR/RDSO/2007/EL/RM/0123, Rev'0' dt. 21.09.07.

9.0 MODIFICATION DRAWING:

Conservator stand as per enclosed drawing No. SKEL-4730 Alt'0'.

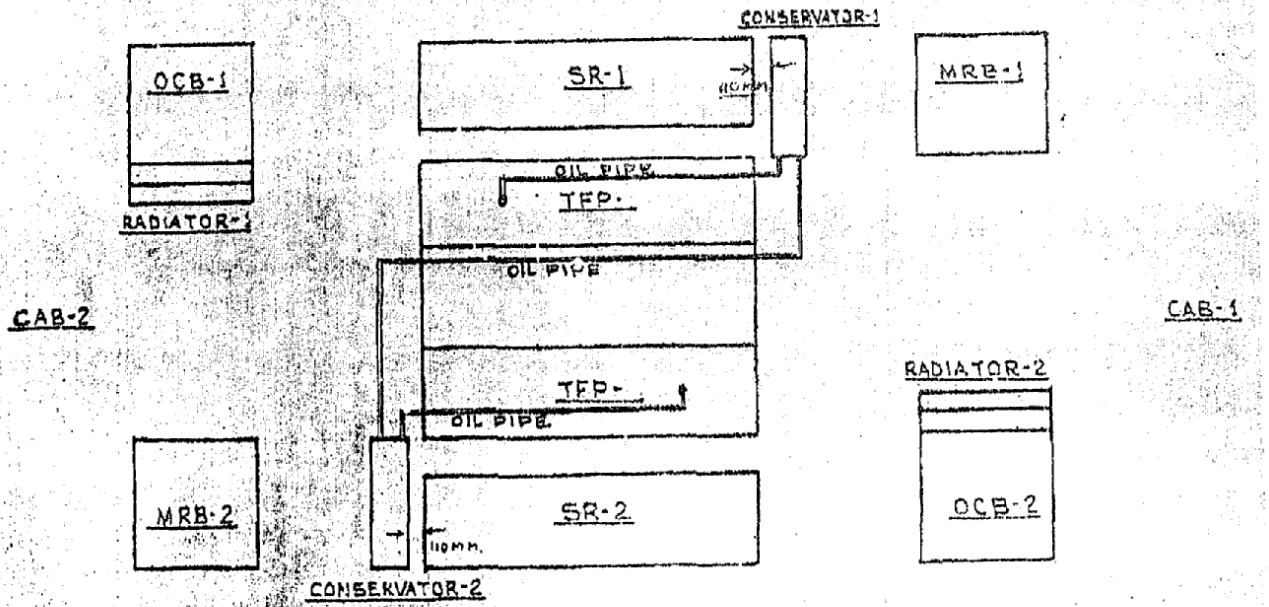
10.0 AGENCY OF IMPLEMENTATON:

CLW and Electric loco sheds holding 3-phase drive locomotives.

DA: As above.

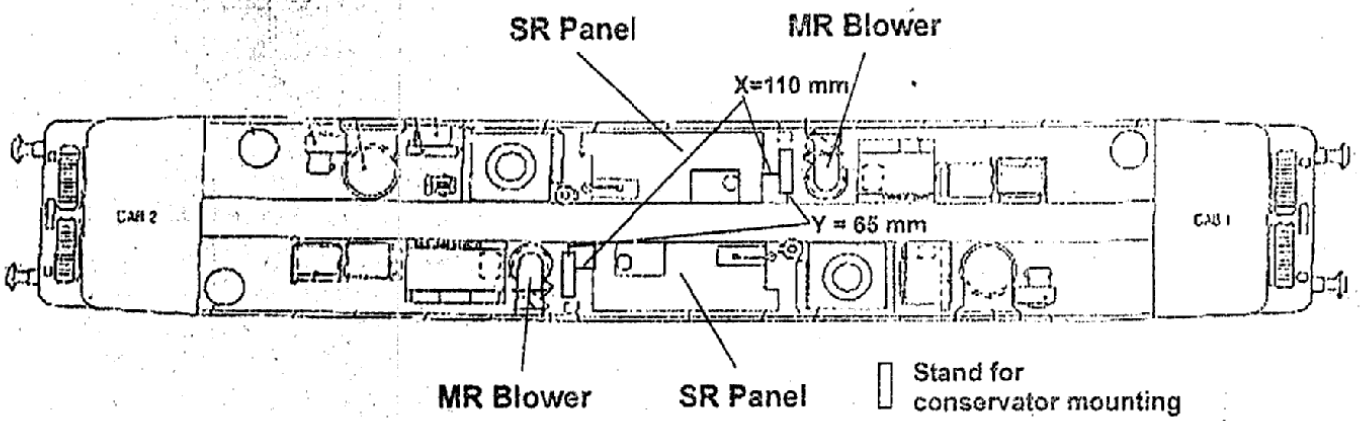
29/5/08
(Sanjiv Swarup)
for Director General (Elec.)

MODIFIED OIL CIRCUIT IN 3 PHASE LOCOMOTIVE



Sketch-2

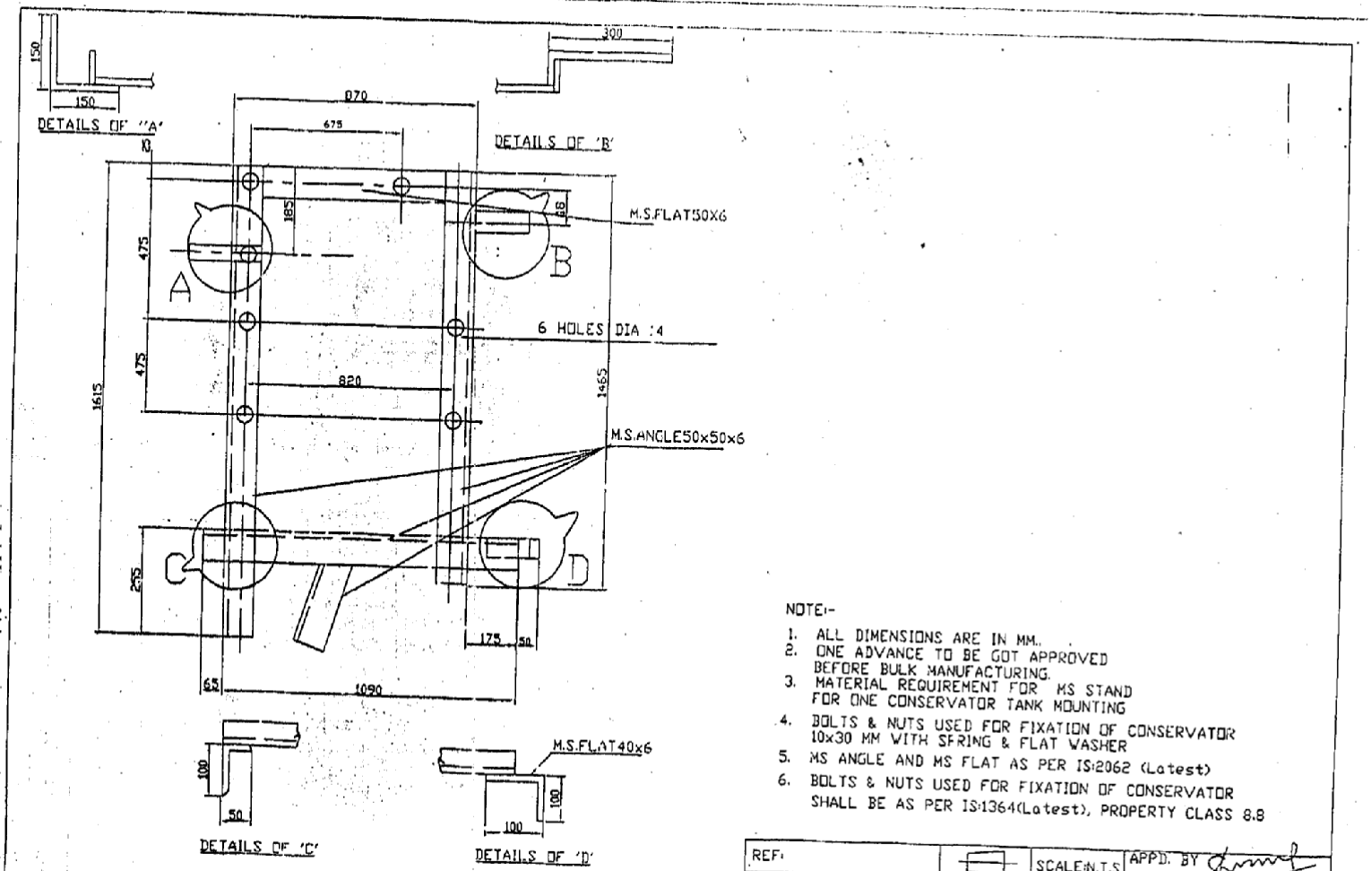
Annexure-1



Note:

1. Distance between SR-1,2 to conservator stand is 110 mm.
2. Distance between conservator stand to side body wall is approx. 300 mm.
3. Distance between long beam of corridor to conservator stand is 65 mm

Sketch-1



NOTE:-

1. ALL DIMENSIONS ARE IN MM.
2. ONE ADVANCE TO BE GOT APPROVED BEFORE BULK MANUFACTURING.
3. MATERIAL REQUIREMENT FOR MS STAND FOR ONE CONSERVATOR TANK MOUNTING
4. BOLTS & NUTS USED FOR FIXATION OF CONSERVATOR 10x30 MM WITH SPRING & FLAT WASHER
5. MS ANGLE AND MS FLAT AS PER IS:2062 (Latest)
6. BOLTS & NUTS USED FOR FIXATION OF CONSERVATOR SHALL BE AS PER IS:1364(Latest), PROPERTY CLASS 8.8

REF:		SCALE:N.T.S	APPD. BY FOR DG

MS STAND FOR CONSERVATOR OF WAG-9 LOCOMOTIVE

FIRST ISSUED:-

06.02.08
AJAI