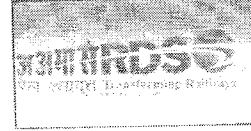




भारत सरकार - रेल मंत्रालय
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Lucknow - 226 011
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EL/3.2.15/3-Phase

Date-23.10.2015

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, Subedarganj Block A2, 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.
- South Western Railway, Hubli.
- Western Railway, Churchgate, Mumbai-400 020.
- West Central Railway, Jabalpur-482001.
- South East Central Railway, Bilaspur-495004.
- East Central Railway, Hazipur-844101 (Bihar).
- North Western Railway, Jaipur-302006.
- Chittaranjan Locomotive Works, Chittaranjan- 713 331.

MODIFICATION SHEET No. RDSO/2015/EL/MS/0445 Rev.'0' dated 30.09.15

1.0 TITLE:

Provision of 2 Nos. of lubricated compressors of 1750 LPM each on-board mounting in WAP-4 class of Electric locomotive with modified cab fed by 180 KVA SIV during POH by Electric Loco POH Sheds.

2.0 OBJECT:

Railways have been reporting problem of MR air pressure drop on line ever since 'Duranto' train was introduced on Indian Railways while working with WAP-4 locomotives hauling LHB coaches with air suspension springs and Control Discharge Toilets System (CTDS) in these trains.

With the introduction of LHB stock fitted with air spring & CTDS, the additional air requirement of 33 lpm per coach on the locomotive air supply circuit which is equal to 660 lpm on 20 coach rakes. This additional air requirement necessitated to increase the capacity of compressor.

3.0 EXISTING ARRANGEMENT:

In the existing WAP-4 class of electric locomotive there are two (02) compressors of 1000 LPM capacity each with air dryer in pneumatic control circuit. There are four (04) reservoirs of 150 Litre each & one (01) reservoir of 203 Litre capacity for maintaining MR air pressure and one (01) 53 litre capacity reservoir for auxiliary circuit feeding air to electro pneumatic contactors and tap changer.

4.0 MODIFIED ARRANGEMENT :

- (i) This work can be carried out only in the Locomotives with Crew Friendly Cabs having Panel Mounted Brake System (PMBS) with 180 KVA Static Inverter.
- (ii) Two compressors can be fitted in on board during POH with works appended below:
This has been done on trial basis in loco No. 22805 & 22803 by KPA Shop and in loco No. 22051 by Dahod shop. CELE/ECR vide letter No. ECR/ELE/RS/1484 dated 12.08.15 and CEE/WR vide their letter No. EL/91/9/4 dated 23.06.15 requested for fitment of high capacity compressor of 1750 lpm capacity in WAP-4 locos during POH.

5.0 WORKS BE CARRIED OUT AS PER Drg. No. MISC.4P4.4061

- i) Existing 1000 lpm capacity compressor base is removed and new base will be fitted. Compressor mounting pad with 16mm \varnothing tapped hole to be welded on the channel as per drawing.
- ii) PMBS is shifted perpendicularly as per drawing along with necessary pneumatic/ electric connections.
- iii) The base of the RSI block is to be shifted 190 mm towards BA Panel. The RSI panel mounting is to be created with hole and inner thread mounting pads
- iv) CP-1 base is to be shifted towards corridor one by 330 mm. and
CP-2 base is to be shifted towards PMBS by 250 mm. CP-1 and CP-2 base is to be raised by about 200 mm from existing level.
- v) The new pipe line size 32 mm corresponding to unloader valve pipe line 12 mm is required along with requisite hardware. Oil tray of size 1120 X 505 mm for 1750 lpm compressor is required in place of existing oil tray for 1000 lpm compressor oil tray.
- vi) Electrical connection for motor to be done with 10 mm² Power Cable.

5.0 APPLICATION TO CLASS OF LOCOMOTIVES:

WAP-4 class of electric locomotives with modified cab, Panel Mounted Brake System (PMBS) with IRAB-9 /10 brake system and fitted 180 KVA SIV.

6.0 MATERIAL REQUIRED:

- i) 1750 lpm capacity compressors (Oil Lubricated) - 02 Nos.
- ii) Mounting Bracket Base of Compressors - 02 Nos.
- iii) Oil Tray for compressors Size (1118X505)mm - 02 Nos.
- iv) Cable size 25 mm² - as required
- v) Delivery Port pipe 1 ¼" - 3.5 meters (approx.)
- vi) 90° butt welded elbow joint 1 ¼" - 04 Nos.
- vii) ½" M.S. Pipe length - 05 meters (approx.)
- viii) 10 mm copper pipe - 8-10 Kg.(approx.)
- ix) Elbow union female Size ¾" - 10 Nos.
- x) Straight Union Size ¾" - 06 Nos.
- xi) Elbow Union 3/8" X 10 mm. -05 Nos.III

7.0 MATERIAL RENDERED SURPLUS:

- | | |
|---|-----------------|
| i) 1000 LPM capacity lubricated compressors | - 02 Nos. |
| ii) Oil tray (old) Size (1100 x 600)mm | - 02 Nos. |
| iii) Mounting Bracket Base (Old) | - 02 Nos. |
| iv) M.S. Pipe Size ¾" | - 10 meters |
| v) M.S. Pipe Size 1 ¼" | - 02 meters |
| vi) Copper Pipe Size 10 mm. | - 03 Kg. |
| vii) Cable size 10 mm. | - As not saved. |

These materials will be utilised as spares in non modified WAP-4 and other conventional locomotives.

8.0 REFERENCE:

CEE/East Central Railway vide their letter No. ECR/ELE/RS/1484 dated 12.08.2015 and CEE/WR letter no. EL/91/9/4 dated 23.06.15.

9.0 MODIFICATION DRAWING:

WORKS TO BE CARRIED OUT AS PER Drg. No. MISC.4P4.4061

10.0 AGENCY OF IMPLEMENTATION:

All the Electric Loco POH Shops while carrying out POH/POH+RC/MTR of WAP-4 class of locomotives and by Electric Loco Sheds to the extent possible on need basis.



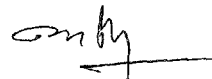
(A.K. Shukla)

for Director General/Elect.

Encl: Drg. No. MISC.4P4.4061

DISTRIBUTION

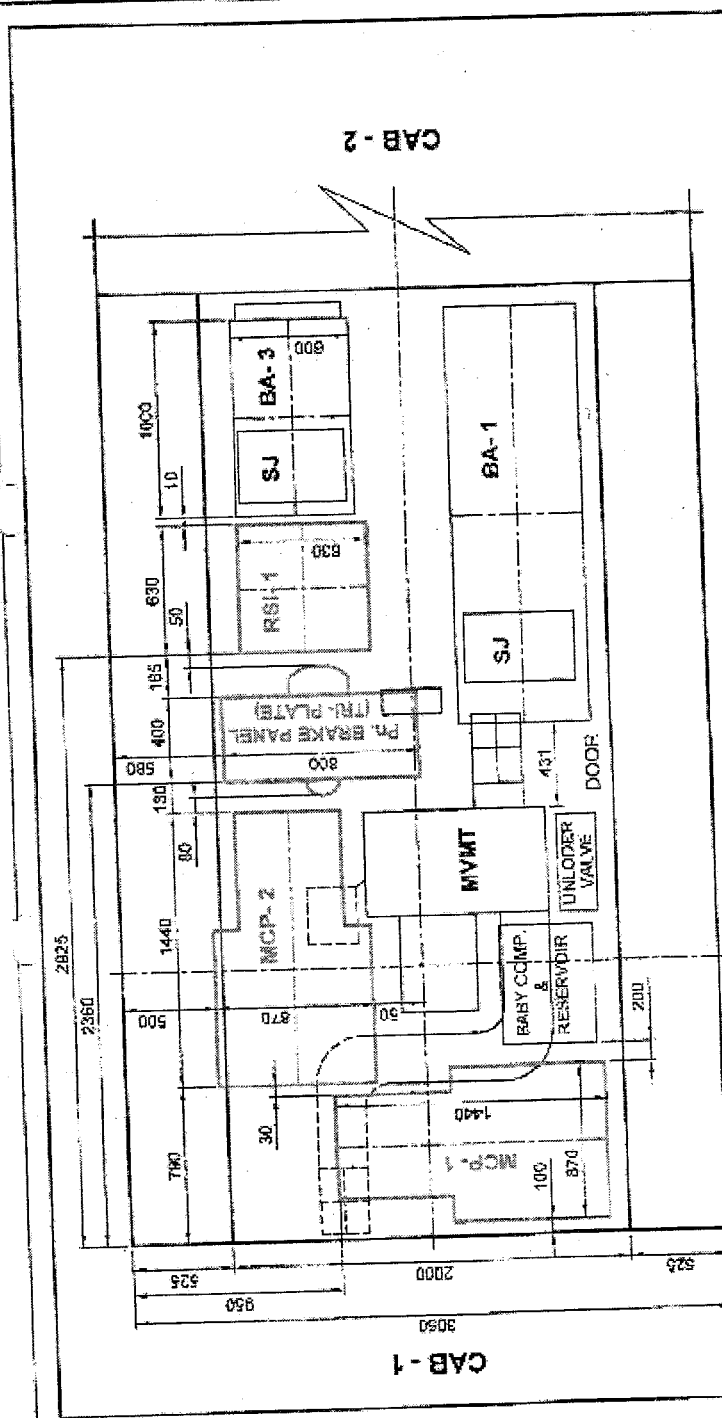
Copy to: As per Standard Mailing List No. EL/M/0019, Ver. '2'



(A.K. Shukla)

for Director General/Elect.

Encl: Drg. No. MISC.4P4.4061



NOTE :-
 1. ALL DIMENSIONS ARE IN MM.
 2. MCP - 1 & 2 (1000 LPM) ARE REPLACED BY MCP - 1 & 2 (1750 LPM) AS USED IN WAG-9 LOCOMOTIVES.

7/10/01

SSR/ 3/11
 SSR/ 3/11
 DRG. 3/11

SCALE : NTS

EASTERN RAILWAY
 ELECTRICAL DRAWING OFFICE
 KANCHRAPARA

**MODIFICATION OF LAYOUT OF EQUIPMENTS
 AT CAB - 1 SIDE CARRIED OUT DURING POH
 ON WAP-4 LOCOMOTIVES NO. 22805**

DRG. NO. **MISC.4P4.4061**
 WEE/W-1/CPA