

**GOVERNMENT OF INDIA**  
**MINISTRY OF RAILWAYS**  
**RESEARCH DESIGNS & STANDARDS ORGANISATION**  
**MANAK NAGAR, LUCKNOW - 226 011**

No.EL/3.1.3  
.04.98

Dated \_\_\_\_\_

14.05.98

**MODIFICATION SHEET NO. RDSO/WAM4/205**

**1. TITLE :**

Modification to provide Ammeter/Voltmeter for metering on 6P combination Locomotives.

**2. OBJECT :**

- (i) In the existing power circuit of Electric Locomotives, TM1 and TM6 have been provided with voltmeters and TM3 and TM4 have been provided with ammeters to monitor the respective traction motor working. In the circuit of TM2 and TM5 no ammeter or voltmeter is provided. As a result in case of auto regression or less traction, driver is unable to decide about the healthy condition of TM2 and TM5.
- (ii) It is therefore proposed to provide two more voltmeters in the circuit of TM2 and TM5 as shown in enclosed power circuit schematic as RDSO's Drg. No. SKEL-4470. In the modified arrangement cab I will be provided with voltmeters of TM1 and TM2 and ammeter of TM3. Similarly, Cab 2 will be provided with ammeter of TM4 and voltmeters of TM5 and TM6.

**3. WORK TO BE CARRIED OUT :**

- (i) The schematic of power circuit showing the modified position of ammeters and voltmeters for 6p combination locomotives have been shown in enclosed RDSO's Drg. No. SKEL-4470.
- (ii) The cable index for provision of U2 and U5 shown in the power circuit schematic is to be followed as per Annexure I.
- (iii) The cable disconnections of A1-2 and A2-1 have to be done as per details given in Annexure-II.

- (iv) In the existing cable index:

- (a) A1-1 is to be redesignated as A3.
- (b) A2-2 is to be redesignated as A4.
- (c) U2 and RU2 are to be redesignated as U6 and RU6.

**4. APPLICATION TO THE CLASS OF LOCUS :**

All the locomotives having 6P combination of traction motors.

**5. MATERIAL REQUIRED :**

- (i) Voltmeter -2 Nos.
- (ii) RU resistance 88 k Ohms.-2 Nos.
- (iii) 3 Sq. mm control cable of required length as per existing specification.

**6. MATERIAL RENDERED SURPLUS :**

Ammeters.- 2 Nos. with associated cables.

**7. REFERENCE :**

Item No. 14.2 of 25th MSG (Elec. Loco) Meeting held at Secunderabad on 5th and 6th March `98.

**8. MODIFICATION DRAWINGS :**


RDSO'S Drg.No. SKEL-4470.

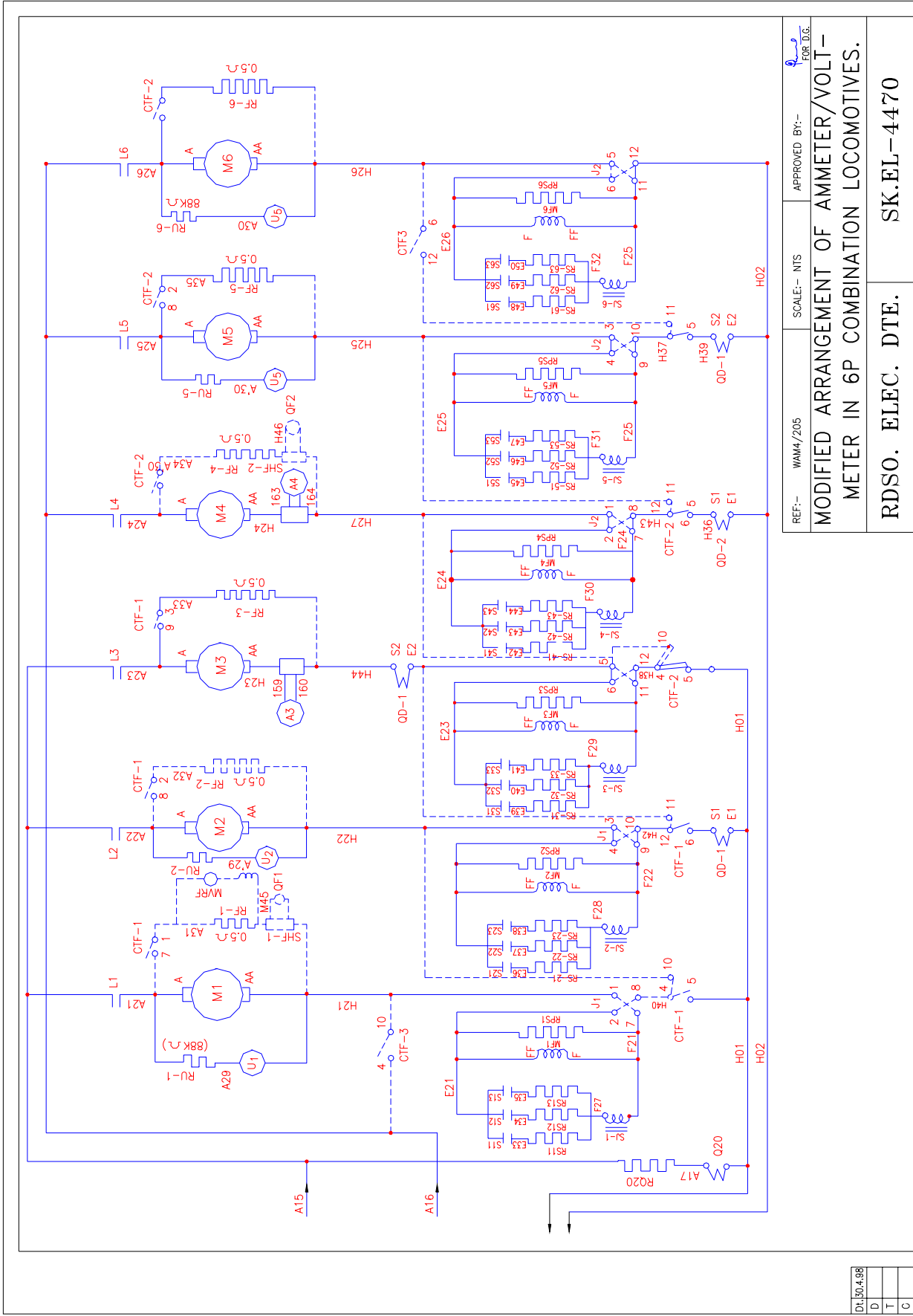
**9. AGENCY FOR IMPLEMENTATION :**

CLW, All Electric Loco Sheds and Workshops.

**10. DISTRIBUTION : As per enclosed list**

Encl: As above

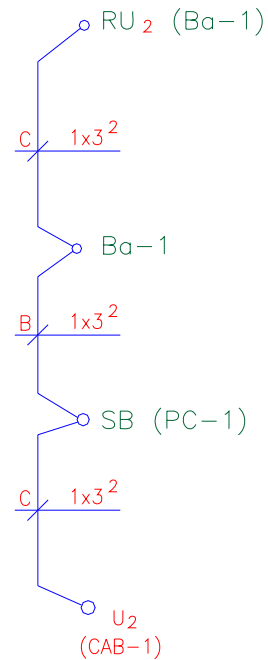
  
(O.H. Pande)  
for Director General/Elect.



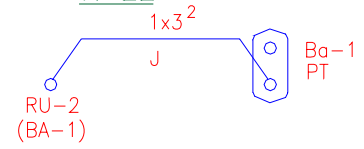
REF:-	WAM4/205	SCALE:- NTS	APPROVED BY:-
FOR D.G.			
MODIFIED ARRANGEMENT OF AMMETER/VOLT-METER IN 6P COMBINATION LOCOMOTIVES.			
RDSO. ELEC. DTE.			SK.EL-4470

## ANNEXURE-1

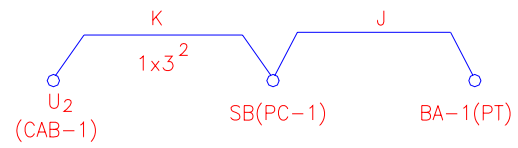
A<sup>I</sup>-29



A-22

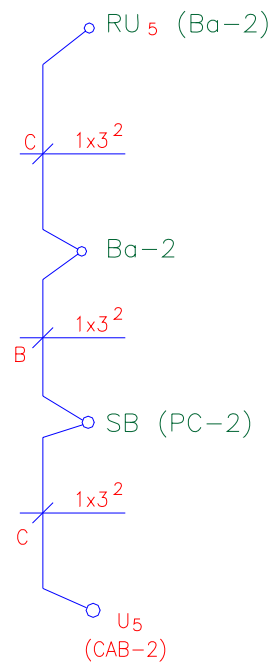


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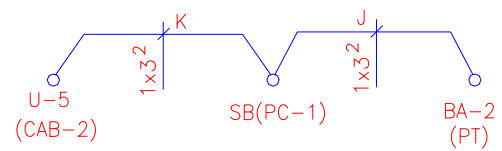


NEW CABLES TO BE LAID FOR U<sub>2</sub> & RU<sub>2</sub>

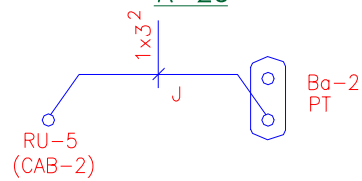
A<sup>I</sup> 30



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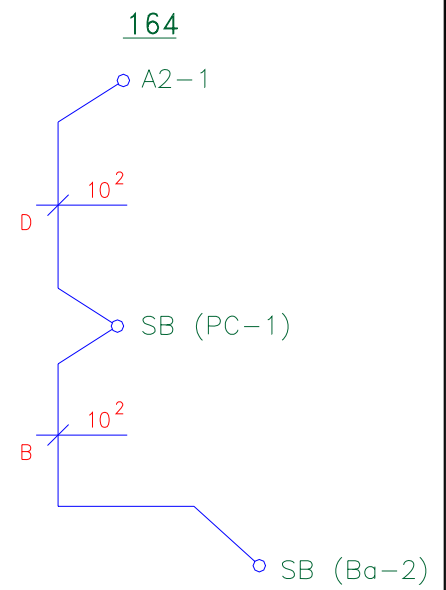
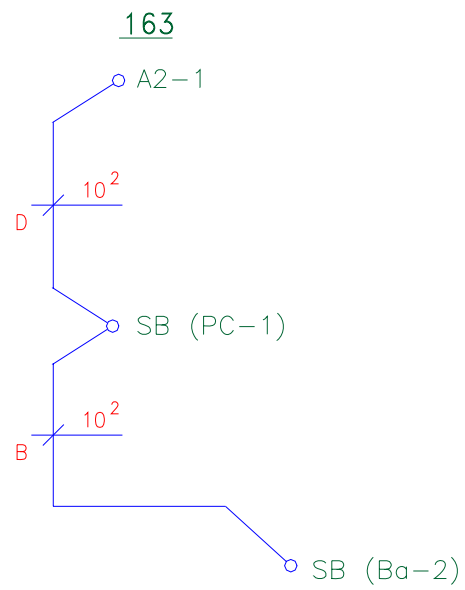
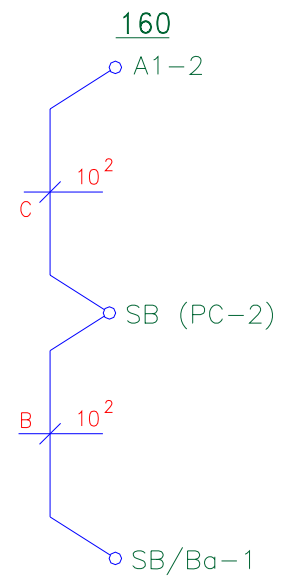
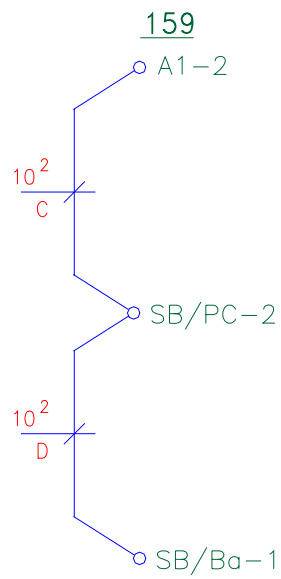
A-25



NEW CABLES TO BE LAID FOR U<sub>5</sub> & RU<sub>5</sub>

WAM4/205

## ANNEXURE-II



CABLE CONNECTIONS TO BE DISCONNECTED  
FROM BOTH ENDS AND TO BE TAPED

