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सत्यमेव जयते

भारत सरकार - रेल मंत्रालय
अन्य शिक्कण और मानक संगठन
लखनऊ - 226011

Government of India - Ministry of Railways
Research Designs & Standards Organization
LUCKNOW - 226011

No. EL/1.2.9.1

Dated 23.01.2008

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, Chandrashekharapur, Bhubaneswar-751016.
- Southern Railway, Park Town, Chennai-600 003.
- South Central Railway, Secunderabad-500 371.
- South Eastern Railway, Garden Reach, Kolkata -700 043.
- South East Central Railway, Bilaspur-495004
- Western Railway, Churchgate, Mumbai-400 020.
- West Central Railway, Jabalpur-482001.
- Chittaranjan Locomotive Works, Chittaranjan-713 331 (WB)

28447

MODIFICATION SHEET No. RDSO/2008/EL/MS/0353 Rev.'0' Dated 23.01.2008

1.0 TITLE:

Provision of Rotary switch in the control circuit of Cab heaters and Cab fan on SIV fitted Electric Locomotives.

2.0 OBJECT:

To avoid the line failure of Static Converter fitted Locomotives due to earth fault in Cab fan transformer TFVTINV or cab heaters circuits.

3.0 EXISTING ARRANGEMENT:

In the existing circuit of cab fans transformer [TFVTINV of Rating 300VA], on its input side, CCVTINV has been provided only on cable No.965 i.e. 'U' Phase and the other cable No. 967 i.e. 'W' phase is directly connected.

In cab Heater circuit cable No.966 i.e. 'V' phase, 16A rating CCRA-1 and CCRA-2 fuses are provided for RA-1 and RA-2 respectively and on other cable no. 965 i.e. 'U' phase, BLRA1 and BLRA2 has been provided.

In the existing arrangement, if earth fault occurs, the fault continues to get the feed through one leg even after blowing

9.0 MODIFICATION DRAWING:

As per Annexure enclosed.

10.0 AGENCY OF IMPLEMENTATION:

All Electric loco sheds, POH Shops and CLW/Chittaranjan.
On 180 KVA SIV fitted Electric Locomotives.

Encl: Annexure

(Kishore Kumar)
for Director General/Elect.

DISTRIBUTION

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

(Kishore Kumar)
for Director General/Elect

28451

9.0 MODIFICATION DRAWING:

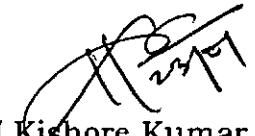
As per Annexure enclosed.

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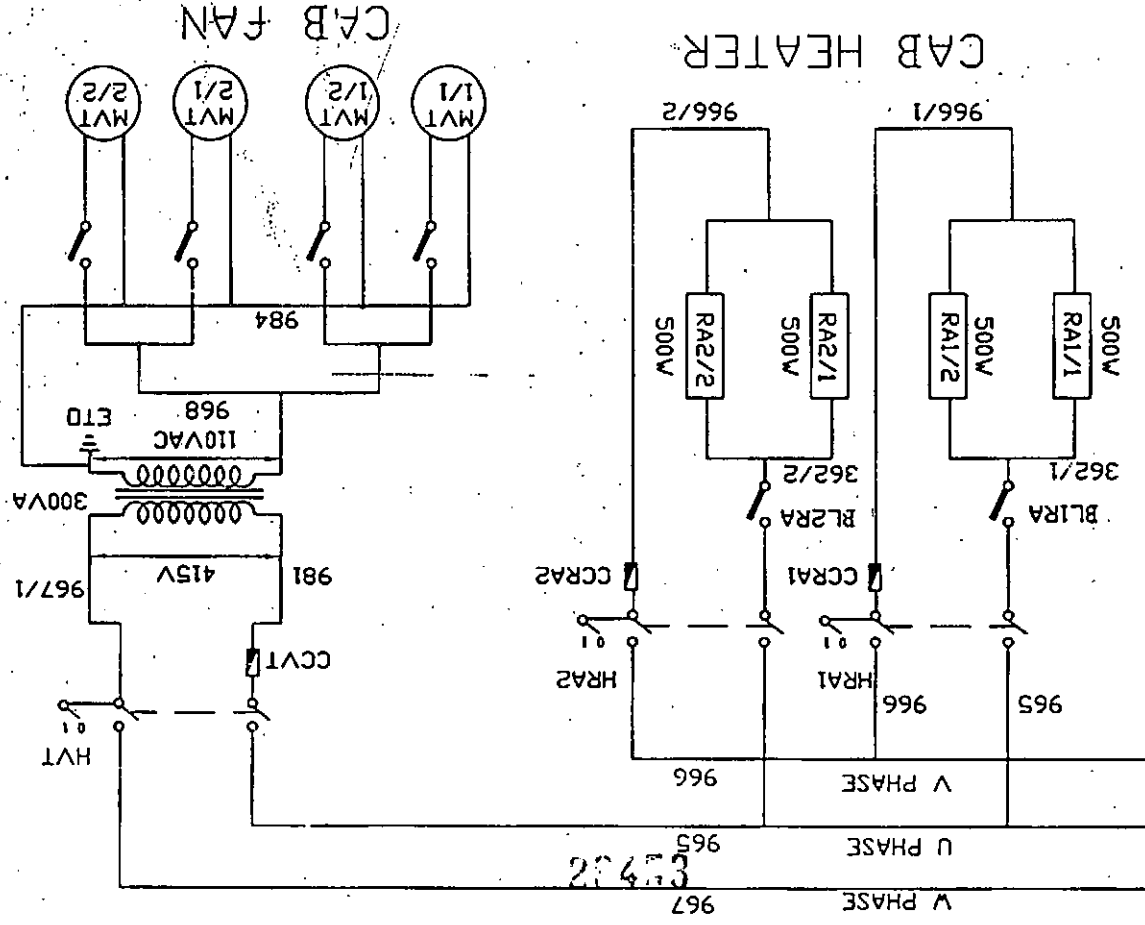

(Kishore Kumar)
for Director General/Elect.

DISTRIBUTION

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(Kishore Kumar)
for Director General/Elect

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HR1,HR2 & HVT - Similar to HVSI/HVSL/HPH of Siemens make.

retary(Electric Traction), Railway Board, Rail
van, New Delhi-110 001 (Kind Attn: EDEE
// Railway Board)

.(Elect.), Railway Board, New Delhi-110 001.
nd Attn: DEE(RS)/ Railway Board)

if Electrical Loco Engineer,

tral Railway, Mumbai CST- 400 001.

stem Railway, Fairlie Place, Calcutta- 700 001

st Coast Railway, Chandrashekharapur,
ubarneshwar- 751 016.

thern Railway, Baroda House, New Delhi-110

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orth Central Railway, Hasting Road, Allahabad-
1 0

uthern Railway, Park Town, Chennai-600 003

outh Central Railway, Rail Nilayam,
ecunderabad -500 071

outh Eastern Railway, Garden Reach, Calcutta-
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outh Western Railway, Hubli.

Western Railway, Churchgate, Mumbai-400 020

West Central Railway, Jabalpur-482001

outh East Central Railway, Bilaspur-495004

ast Central Railway, Hazipur-844101 (Bihar)

orth Western Railway, Jaipur-302006.

Chittaranjan Locomotive Works, Chittaranjan- 713
331

Chief Electrical Traction Engineer,
Central Railway, Mumbai CST- 400 001.

Chief Works Manager,

Elect Loco Workshop, Eastern Railway,

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24 Pargana (N) -743145 (W.B.)

Electric Loco Workshop, Central Railway,
Bhusaval- 425 201.

Traction Motor Workshop, Central Railway,
Nasik-422 101.

Loco, Carriage & Wagon Works, Western
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Sr. Divisional Electrical Engineer (TRS),
Electric Loco Shed,

West Central Railway, New Katni Junction, Katni (
M.P.)

North Central Railway, Jhansi - 284 001 (UP)

Central Railway, Bhusaval-425 201.

West Central Railway, Itarsi (MP)

Central Railway, Ajni, Nagpur-440 -008

- Central Railway, Kalyan (Maharashtra)
- East Central Railway, Gomoh.- 828 401
- Eastern Railway, Asansol-713 310.
- East Central Railway, Mughalsarai-232 101.
- Northern Railway, Ghaziabad-201 001.
- North Central Railway, Fazalganj,
Kanpur-208 003.
- Northern Railway, Ludhiana.
- Southern Railway, Arrakonam-631 001.
- Southern Railway, Erode-638002.
- South Central Railway,
Vijayawada- 520 009.
- South Central Railway, Lallaguda,
Secunderabad-500 017.
- South Eastern Railway, Santragharichi,
Howrah-711311
- South Eastern Railway, Tatanagar-831 002.
- South East Central Railway, BMY Complex,
Bhilai, Durg-490 025.
- East Coast Railway,
Vishakhapatnam- 530 001.
- South Eastern Railway, Bondamunda,
Rourkela-770032.
- Western Railway, Vadodara-390 002.
- Western Railway, Valsad-396 001.
- West Central Railway, Tughlakabad, New Delhi-
110 044.

7. Sr.Divl.Elect.Engineer

- Traction Motor Shop, North Central Railway,
Fazalganj, Kanpur.-208003
- Divisional Electrical Engineer, Electrical
Repair Shop, Tatanagar- 831 002.

8. Dy. Chief Electrical Engineer, POHShop/Loco Works

- Charbagh Workshop, Northern Railway,
Lucknow- 260 005.
- POH Shop, South Eastern Railway,
Kharagpur (W.B.)-721301.
- POH Shop, Southern Railway, Perambur,
Chennai-600 038.

9. Director Inspection (Electrical), RDSO

- Inspection Cell at BHEL,
Bhopal-462 022.
 - Director, Centre for Advanced Maintenance
Technology, Indian Railways, Maharajpur,
Gwalior-474 020 (MP).
 - Director, IRIEEN, Nasik Road, Post Box
No.233, Nasik-422 101.
 - Principal (Electrical), Railway Staff College,
Vadodara-390 004.
10. DD/Doc./ Electrical Directorate, RDSO (Four
Copies)

of the fuse. It is therefore considered essential to isolate both the legs of the circuits in the event of earth fault.

4.0 MODIFIED ARRANGEMENT:

Three nos, of Rotary Switches shall be provided one each in two cab Heater circuits and one cab fan circuit as given below.

To avoid the line failure, due to earth fault in these circuits:

- i) HVT shall be provided on both the input side cables i.e. 'U' and 'W' phases of TFVTINV.
- ii) HRA-1 and HRA-2 shall be provided on input cables No. 965 and 966 i.e. 'U' & 'V' phases in series with CCRA-1 and CCRA-2 fuses of cab-1 heaters and cab-2 heaters.

Normally existing switches shall be used for switching ON/OFF of Cab fan and Cab Heaters, the HRA-1, HRA-2 & HVT Rotary switches being in ON position (ie position '1'). Incase of earth fault HRA-1, HRA-2 or HVT shall be switched OFF (ie position '0'). to isolate the circuits of Cab Heaters or Cab fans respectively.

5.0 APPLICATION TO CLASS OF LOCOMOTIVES:

Modification is applicable on all Electric Locomotives fitted with 180 KVA static Converter.

6.0 MATERIAL REQUIRED:

- (i) Three number Rotary Programmed switches similar to HCHBA 2Pole, 2 Position, type 3LAO-650-2YW/004W of 16Amp., 415 Volt, 50Hz rating suitable for A.C. application shall be used for isolation of cab fans Transformer TFVTINV and cab Heaters.
- (ii) Control cable 3 mm² / 2.5 mm² of requisite length.
- (iii) Insulated cable lug suitable for 3 mm² / 2.5 mm² cable of requisite Nos.

7.0 MATERIAL RENDERED SURPLUS:

Nil.

8.0 REFERENCE:

Discussion held during taken in CELEs' Co- ordination Meeting held at CLW/Chittaranjan dated 27/28.09.2007 and subsequently decision taken in 32nd MSG Meeting held at Garden Reach/ S.E. Railway/Kolkata based upon feedback of the Zonal Railways.

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