

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RESEARCH DESIGNS & STANDARDS ORGANISATION

Manak Nagar, Lucknow - 226 011

No.EL/3.1.3

28
Dated: January 98.

SPECIAL MAINTENANCE INSTRUCTIONS No.RDSO/ELRS/SMI/195

1.0 Title :

Trouble shooting instructions for "Tripping through QOP" cases.

2.0 Object :

Railways have been regularly reporting the cases of traction motor burnings due to internal earth faults or external earth fault in the respective T.M. circuit. As a result, RDSO had taken up a study of "Tripping through QOP" in electric locomotives. During the study, it was found that existing trouble shooting instructions for Electric Loco Drivers in case of 'Tripping through QOP relay' were not correct. Hence revised instructions were formulated and are being issued through this SMI.

3.0 Instructions:

3.1 The earlier instructions on this subject issued by RDSO vide letter No.EL/3.1.3 dated 9/11.6.97 stands superseded by the revised instruction being issued under this SMI.

3.2 Some Railways have proposed to provide line contactors on the negative side of the traction motor in the power circuit. Same is not to be followed.

3.3 Revised instructions for 'Tripping through QOP' cases will be as follows;

3.3.1 For Driver :

- i) If the loco trips through QOP, reset QOP, close DJ and resume traction.
- ii) In case the loco trips again through QOP, put HQOP in 'OFF' position and inform the TLC at the first possible opportunity.

- iii) Driver to continue the journey with all the motors in circuit, keeping a watch on smoke emission from motors/H.T. compartment (which may take place in case there are two earth faults simultaneously). In case, there is smoke emission from any of the motor then fail the locomotive.

3.3.2

For Shed Staff :

- i) It is necessary to isolate the defective traction motor circuit from both Armature as well as Field from positive and negative side AT THE EARLIEST OPPORTUNITY either at the end of journey or before.
- ii) Such isolation should be done by skilled staff by isolating the armature and field cables from line contactor and reverser respectively.
- iii) After proper isolation, HQOP should be put 'ON' and loco used for service.
- iv) It is extremely important that the motor terminals are opened at the very first opportunity, because if there is a second earth fault, it will surely burn the motor.

4.6

Application:

All AC Electric Locomotives manufactured by CLW and BHEL.

5.0

Instruction Drawing :

Nil

6.0

Agency of Implementation :

Electric Loco Sheds/Workshops

Encl: Nil

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

DISTRIBUTION

As per enclosed mailing list.

Copy to :

1. Sr.DEE/TRS, Electric Loco Shed,

- Central Railway, Jhansi (U.P.)
- Central Railway, Ajni, Nagpur -440 008.
- Central Railway, Itarsi (M.P.)
- Central Railway, Bhusawal- 425 201.
- Central Railway, Katni.
- Eastern Railway, Mughalsarai- 232 102
- Eastern Railway, Asansol-713 310
- Eastern Railway, Gomoh (Bihar)
- Northern Railway, Ghaziabad- 201 001.
- Northern Railway, Kanpur- 208 001.
- South Central Railway, Vijayawada- 520 001.
- South Central Railway, Lallaguda.
- South Eastern Railway, Tatanagar - 831 002.
- South Eastern Railway, Bhilai Marshalling Yard, Bhilai-01
- South Eastern Railway, Bondamunda - (Orissa)
- Southern Railway, Arakkonam (Tamil Nadu)
- Western Railway, Valsad (Gujarat)
- Western Railway, Vadodara - 390 002.
- Western Railway, Tughlakabad, New Delhi - 110 044.

2. Dy.Chief Electrical Engineer, POH Shop/Loco Works,

- Eastern Railway, Kancharapara Workshop, Kancharapara.
- Northern Railway, Traction Motor Shop, Kanpur-208 001.
- Northern Railway, Charbagh, Lucknow.
- Southern Railway, Perambur, Chennai.
- South Eastern Railway, Kharagpur (W.B.)

3. Chief Workshop Manager,

- Central Railway, Bhusawal-425 201.
- Central Railway, Traction Motor Workshop, Nasik Road-01

4. Director/Joint Director, RDSO Inspection Cell,

- BEEL, Bhopal- 462 022
- C.L.W., Chittaranjan- 713 331 (W.B.)

5. Director, IRIEN, Nasik- 422 101.

6. Joint Director (Electrical), Indian Railway Centre for Advanced Maintenance Technology, (IRCAMTECH), Gwalior (MP)

(O.H.Pande)

for Director General/Elect.

Encl: Nil