

**Government of India**  
**Ministry of Railways**  
**Research Designs & Standards Organisation**  
**Manak Nagar, Lucknow – 226011**

**INSTRUCTION NO. TI/IN/0008 Rev. 0**

**INSTRUCTIONS FOR USE OF COPPER CROSS FEEDERS AT SWITCHING STATIONS.**

1. **Objective** : Use of copper cross feeder in place of aluminium cross feeder (spider) to improve the reliability of the system.

2. **Back Ground**: On 25 kV ac traction system, failures of 19/3.99 mm aluminum cross feeder due to industrial pollution, corrosion and bimetallic action etc. may take place thereby affecting the reliability of the system. Therefore, to avoid failures of cross feeders of aluminum conductor (Spider) and thereby to improve the reliability of the system only 37/2.25 mm, 150 mm<sup>2</sup> stranded copper conductor should be used as cross feeder. Aluminium conductor (Spider) wherever exists as cross feeder should be replaced with copper cross feeder.

3. The arrangement of copper cross feeders are indicated in the following drawings which should be followed:

- |                                     |   |
|-------------------------------------|---|
| i) ETI/OHE/G/05121 Sh. No.1 Rev C   | General arrangement of connection to OHE by copper cross feeder (150).  |
| ii) ETI/OHE/G/05122 Sh. No.1 Rev C  | General arrangement of connection at switching station on double track section by copper cross feeder (150).                |
| iii) ETI/OHE/G/05123 Sh. No.1 Rev C | General arrangement of connection at switching station on multiple track section by copper cross feeder (150).              |
| iv) ETI/OHE/G/05121 Sh. No.3        | General arrangement of connection to composite OHE by copper cross feeder .   |
| v) ETI/OHE/G/05122 Sh. No.3         | General arrangement of connection at switching station on double track section for composite OHE by copper cross feeder .   |
| vi) ETI/OHE/G/05123 Sh. No.3        | General arrangement of connection at switching station on multiple track section for composite OHE by copper cross feeder . |

4. It should be ensured that the cross feeders are without any joint (splicing) in between.

5. **Agency for implementation .**

Railways and RE Project units.

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Telegram : 'RAILMANAK', Lucknow  
Telephone : 451200 (PBX), 450567 (DID)  
Fax : 91-0522-450709, 458500  
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Government of India, Ministry of Railways  
Research Designs & Standards Organisation  
Manak Nagar, Lucknow – 226 011

No. TI/OHE/GA/01

Date: 28.09.2001

### Chief Electrical Engineer

S.N	Abbreviation	Complete Address
1	CEE/SER	S. E. Rly, Garden Reach, Kolkata-700 043.
2	CEE/ER	E.Rly, Fairlie Place, Kolkata-700 001.
3	CEE/NR	N.Rly, Baroda House, New Delhi - 110 001.
4	CEE/SR	S.Rly, Park Town, Madras- 600 003.
5	CEE/SCR	S.C.Rly, Railnilayam, Secunderabad
6	CEE/WR	W.Rly, Chuchgate, Mumbai 400 020
7	CEE/CR	C.Rly. Stn Bldg. Mumbai CST – 400 001.
8	CEE/CORE	Central Organisation, Railway Electrification, Allahabad – 211001.
9	CEE	Rly Coach Factory, Kapurthala (Puj)
10	CEE/SWR	South West Railway, DRM's Office, Bangalore.
11	CEE/WCR	West Central Railway , Jabalpur
12	CEE/East Coast Rly	East Coast Railway, Bhubaneshwar
13	CEE/ECR	East Central Railway, Hajipur
14	CEE/NCR	North Central Railway, Allahabad.211001

Sub: Instructions for use of copper cross feeders.

A copy of the instruction No. TI/IN/0008 Rev. 0 for use of copper cross feeders at switching stations is enclosed herewith for implementation.

The maintenance instructions nos. TI/MI/0009, 0020 and 0022 for the subject concerned are hereby withdrawn.

Encls. As above.

( A. Nigam )  
for Director General/TI.

Copy to: 1. Secretary RE, Railway Board Rail Bhavan, New Delhi.-110 001  
2. Secretary Electrical, Railway Board, Rail Bhavan, New Delhi –110 001  
3. Director, IREEN, Post Box No.33,Nasik Road- 422001

Encls. As above.

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13	CEE/ECR	East Central Railway, Hajipur
14	CEE/NCR	North Central Railway, Allahabad.211001

Sub: Maintenance Instructions for overhead equipment on turnouts/crossovers to avoid panto-entanglements.

A copy of SMI No. TI/MI/0028 Rev. - 2 for overhead equipment on turnouts / crossovers to avoid panto-entanglements is enclosed herewith for implementation.

The receipt of the letter may please be acknowledged .

Encls. As above.

( A. Nigam )  
for Director General/TI.

Copy to: 1. Secretary RE, Railway Board Rail Bhavan, New Delhi.-110 001  
2. Secretary Electrical, Railway Board, Rail Bhavan, New Delhi –110 001  
3. Director, IREEN, Post Box No.33,Nasik Road- 422001

Encls. As above.

( A. Nigam )  
for Director General/TI.

