

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

**MAINTENANCE INSTRUCTION No. TI/MI/0001 Rev.0**

**No. TI/OHE/SE/M/8**

**Dt. 23/10/1982**

The Chief Electrical Engineer  
South Eastern Railway,  
Garden Reach,  
Calcutta- 700 043.

Sub: Failure of 25 kV pedestal insulator at Loc. 314/31 on 24/07/1982.

Ref: Your letter No. CEE/D/101/ ADA, dated 18/09/1982.

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From the details of failures of the insulators sent vide your letter mentioned above, it would appear that no investigations have been carried out by South Eastern Railway themselves. You are requested to investigate the failures in detail and advise results to RDSO.

From the photographs and the sketch sent with your letter it appears that this insulator had developed a crack in the first or second shed due to torsion which may have been applied on the insulator by misalignment of the isolator. The crack in the porcelain shed would have reduced the distance of puncture path between the two metallic ends. The insulator may have punctured during the stormy weather on 24/07/1982 possibly due to a lightening surge.

It may be recalled that 4 failures of these type of insulators had been reported to RDSO vide letter No. CKP. T.D.107, dated 26/12/79. Were these failures also of same type or of different type?

The tension strength of these insulators is only 100 kgm and there is a possibility of development of crack if the contacts of the isolators are not aligned. South Eastern Railway may please conduct a cyclic check of all the isolators provided with this type of insulator to examine if there are any cracks. Besides, these insulators should be kept clean to preclude any possibility of flash over/puncture.

It is also advised that in future only solid core support insulators should be used with 25 kV, 66 kV and 132 kV isolators and bus bars.

Da: Nil

Sd. (K.K Agarwal)  
for Director General /TI.

**Copy to the Chief Electrical Engineer:**

1. Central Railway, Bombay V.T.-400 001.
2. Eastern Railway, faillie Place, Calcutta- 700 001.
3. Northern Railway, Baroda House, New Delhi- 110 001.
4. Southern Railway, Park Town, Madras – 600 003.
5. South Central Railway, Secunderabad-500 371.
6. South Eastern Railway, garden Reach, Calcutta – 700 043.
7. Western Railway, Churchgate, Bombay –400 020.

DA: Nil

Sd. (K.K Agarwal)  
for Director General /TI.

Copy to the Secretary (Electrical), railway Board, Rail Bhavan , New Delhi. In the initial stages of electrification, cap and pin type pedestal insulators to RI No. 6050 (BICC Drawing No. K 70755-99) were used. The torsion strength of these insulators is less and these insulators may develop cracks if isolator contacts are not aligned which in turn may cause flashover/puncture of the insulator. Railways having these insulators may please conduct an immediate cyclic check to examine if there are any cracks.

DA: Nil

Sd. (K.K Agarwal)  
for Director General /TI.