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1.0 SCOPE

This instruction stipulates the action to be taken by **DIVISIONS / HEAD QUARTERS** as applicable in case of a failure of 25kV solid core porcelain insulator. This instruction shall be applicable separately for each type of insulator.

2.0 GENERAL INSTRUCTION

Whenever there is a failure of 25kV solid core porcelain insulator, the following actions are to be taken by **DIVISIONS**.

- i) Check for the cause of the failure. If the failure is due to external reasons such as
 - a) Monkey / Vulture electrocution
 - b) Pantograph entanglement
 - c) Short circuit by Snake, Stray wire etc.
 - d) Tree falling
 - e) Stone throwing by miscreant
 - f) Brake Block hitting the mast
 - g) Bad weather (Thundering & Lightning)
 - h) Potential Difference at FP
 - i) Pollutant deposition
 - j) Contact wire / Catenary reason or
 - k) Any other external reason

then no investigation of failure is required. If the failure is due to material defect, then further analysis is required as given below:-

- ii) Check whether the insulator belongs to the batch and make which are to be replaced advised vide Instruction No. TI/IN/0005/Rev. 0. If so, then replacement of insulator is required as already advised.
- iii) Check whether the insulator belongs to the batch and make which are suspect for failure proneness as advised vide Instruction No. TI/IN/0006/Rev. 0. If so, action is to be taken as advised in the above Instruction.
- iv) If the make and batch of the failed insulator is not applicable to any of the categories (ii) & (iii) above, then the action to be taken by the following appropriate agency will be as under:

A) BY THE DIVISIONS:

- a) Check whether any insulator failure of the same make and batch due to material defect has been recorded within a period of previous one year from the date of current failure. If no failure due to material defect has been recorded, then no action is to be taken but they are to be kept under close watch till the next failure of same make and batch of the insulator due to material defect. **The failed insulator need not be sent to RDSO for investigation.**
- b) If the current failure is the second case due to material defect within a period of previous one year, then 5 insulators of the same batch and make are to be removed from the vicinity of the location of failures. They are to be sent to RDSO for conducting requisite test. Based on the test results, decision will be taken by RDSO to retain or replace the make and batch concerned and advice will be given to all concerned.

B) BY THE HEAD QUARTERS

- c) Check whether any insulator failure of the same make and batch due to material defect has been reported by any Division in the Railway within a period of previous one year from the date of current failure. If no failure due to material defect has been reported, then no action is to be taken.
- d) If the current failure is the second case due to material defect within a period of previous one year reported by any Division in the Railway, not necessarily from the same Division which reported the earlier failure, then the situation shall be considered serious. Any one Division where the failure occurred shall be instructed to remove 5 insulators of the same batch and make from the vicinity of the location of failures. They are to be sent to RDSO for conducting requisite test. Based on the test results, decision will be taken by RDSO to retain or replace the make and batch concerned and advice will be given to all concerned.

3.0 DEVIATION FROM THE INSTRUCTION

If any deviation is sought from the above procedure, complete details may be submitted to RDSO and specific exemption may be obtained on case to case basis.

- 4.0 This supersedes all the instructions issued earlier regarding the failure of insulators.
