

R&D Fund Project

Measurement Of Footing Resistance Of Transmission Towers: Methods, Instruments And Practice



Ishak Che' Pee inspecting the tower and making TFR measurement preparations



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Project Overview

TNBT was uncertain of the measured values of footing resistance of transmission towers (TFR) obtained using the present measuring instrument. Cases of backflashovers on transmission lines that have low (measured) TFR have been reported. There have

also been incidents where the measuring instrument recorded inconsistent readings.

This project investigates the best practice for measuring the footing resistance of transmission towers with shield wires in TNB. The current measurement practice will be reviewed. Measuring instruments will be evaluated by means of field tests. The measuring instruments were also evaluated for their practicality (ease of use, handling and maintenance) and cost effectiveness. Measurement guideline that outlines the measurement technique, method, instrument and practice will be formulated.

Deliverables

- i) A literature review on measurement technique & method and the field tests and evaluation of measuring instruments
- ii) Guideline for measuring the footing resistance of transmission towers (TFR) with shield wires in TNB. The guideline outlines the following:
 - a) Measurement technique & method
 - b) Measuring instrument
 - c) Measurement procedures and work instructions

Benefits

- a) Assured accuracy of TFR values
- b) Enabled consistent and uniform practice throughout TNBT through the guideline
- c) Increased cost-effectiveness
- d) Increased personnel safety