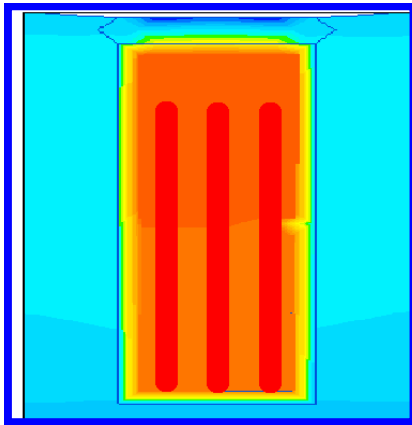
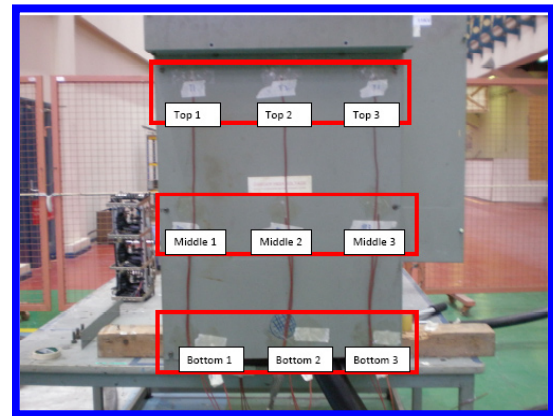


## Seeding Fund Project

### Development of an Intelligent Fault Detection System for High Voltage Circuit Breaker Compartment



Thermal Results



Arrangement of the Thermocouples

#### Project Overview

Abnormally high amount of heat generated from cable termination fault can cause fire in substations. Currently, TNB substations are not equipped with warning devices that can sense the potential risk of fire originating from cable terminations. Thus, development of an intelligent fault detection system for identifying failure of high voltage terminations is very much needed to provide the ultimate fire protection.

#### Deliverables

- Knowledge on the relationship between temperature pattern and potential risk of fire to the circuit breaker
- An intelligent system (prototype) that is able to detect cable terminations that are at risk of causing fire.

#### Benefits

- This new intelligent fault detection system will be able to identify faults at problematic high voltage cable terminations so as to prevent damage by fire,
- This new system will be able to give early stage alarm to the engineer and to assist in trouble shooting the cable before catastrophic failure. It will also facilitate the decision making processes related to the high voltage cable maintenance.
- This system has the potential to provide major cost savings to TNB in terms of protecting the distribution substations from being damaged by fire and thus reducing the outage time and repair costs.