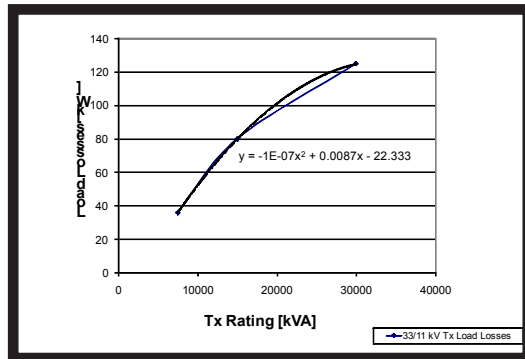
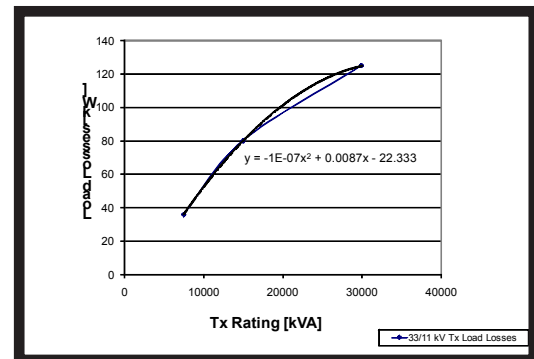


R&D Fund Project

Analysis and Development of Improved Methodologies for Technical Losses Estimation in TNB Distribution System (Phase 1)



33/11kV Transformer Load Losses vs Transformer Rating (kVA)



Extrapolation of Peak Power Loss for Continuous Variation of Feeder Length for 11 kV Feeders with Load Concentration at Feeder End

Project Overview

There is a high value proposition for reducing losses since a 1% reduction may generate savings of between RM100 to RM150 million. Before any concrete mitigation effort is taken to reduce technical or non-technical losses in distribution system, there is a need to first establish the technical loss level of the distribution system. In this project, peak power loss functions of medium voltage feeders of different characteristics (variation in feeder length, peak demand, and load distribution profile) are first established through network simulation using PSS-Adept software. Subsequently, technical losses for each medium voltage feeder are estimated based on user input peak demand, load factor, and feeder length.

Deliverables

- a) A final project report which consists of the following:
- * Sample systems to represent TNB Distribution network system
 - * Established peak power loss functions for individual key system components

Benefits

- a) Based on the simulations in this R&D project, an improved and simplified methodology is developed to estimate technical loss levels more accurately
- b) Knowing the existing technical loss level of the system and its components will give better understanding to TNB of its own system.
- c) New projects have been initiated and proposed.