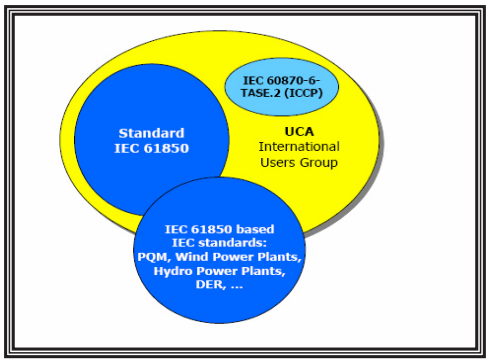
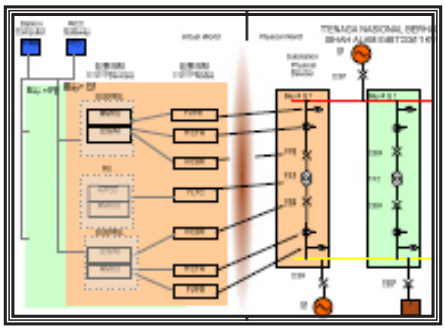
TNB RESEARCH

Seeding Fund Project

Modeling And Evaluation Of UCA Based Utility Communication Management For Power System Monitoring And Controls



Relation between standards and UCA International User Group



Modelling in IEC61850

Project Overview

Power utilities are among the largest users of telecommunication networks of all industries, in particular for real-time data communications. It is critical to develop technologies for management and operation of a large, flexible and independent telecommunication network solution to improve monitoring, control and diagnostic capabilities of the power system. Managing and operating a large and integrated communication network in power utility is very different from public switched telephone networks (such as Telekom Malaysia). This is because the reliability and security of telecommunication links in power utility are essential requirements; in addition many critical applications in power industry are real-time. Communication requirements in the power utility can mainly be classified into three categories:

- Power system protection and control,
- Power system monitoring and telecontrol,
- Office data and file communication

Deliverables

* A model of TNB substation implemented by using UCA2.0/IEC61850.
* A technique to enhance the data efficiency.
* Security technique of IEC61850.

Benefits

Better understanding of UCA2.0/IEC61850 TNB would benefit from

* World based standardization for G, T, & D in TNB
* Accessibility and integration of organization-wide information (control and corporate networks based on UCA2.0)
* Open system integration from multi vendors
* Multi-medium communication e.g. fiber optics, PLC, internet and radio.