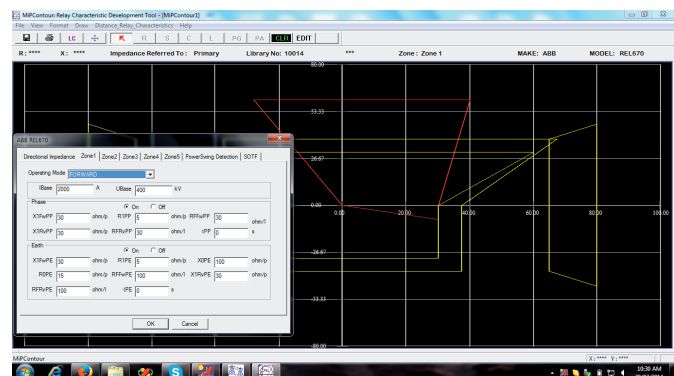
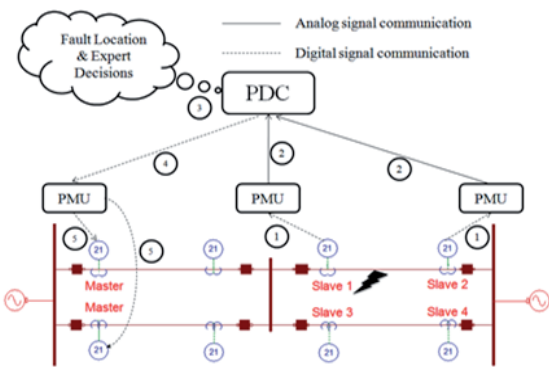


Technical Seminar on

Recent Trends in Power System Protection

June 8, 2017

Building 4, Conference Room, 2nd Floor
Faculty of Engineering, Chulalongkorn University



Organized by :

- IEEE Power & Energy Society - Thailand Chapter
- IEEE Thailand Section
- Thailand National Committee of CIGRE (TNC - CIGRE)
- Center of Excellence in Electrical Power Technology Faculty of Engineering, Chulalongkorn University

Supported by :



A One-Day Seminar on : Recent Trends in Power System Protection

Synopsis :

Protection of the electrical system is one of the important tasks in the power engineering field. Power system protection engineering field deals with precautionary measures to be taken to safeguard the power system during abnormal operating conditions. The practice of protection engineering involves conducting periodic fault studies followed by protective relay setting, checking and co-ordination studies. These studies are necessary to ensure that the wide variety of protective relays function correctly with proper discrimination to provide the requisite reliable, sensitive and selective isolation of faulty power system equipment. Frequently, there is also the need to conduct detailed *post mortem* analysis to investigate whether the relays and breakers responded correctly to certain system faults. These activities are highly data intensive. More often than not, it has been a tedious and time consuming task to acquire this data and maintain the same in a most updated and self-consistent version among the many users. Once this is achieved, the computer aided tools help the protection engineer to conduct the required studies to arrive at adequate settings and verify the settings through simulation.

In the recent past, it has been noted that most of the grid collapses have been attributed to protection system failure or mal functioning. The reports on the North American blackout (August 2003) and the more recent Indian grid collapse (July 2012) have all emphasized the need for "Protection Management System" in position rather than a mere "Protection setting calculation system". Relay setting calculations and refining the settings is a continuous exercise for an expanding plant. Adaptive relaying and special protection systems will help the system to get fully protected from extraneous reasons. It is emphasized that simulation studies should be carried out and appropriate protection systems be designed. Simulation environment will help in conducting the *post-mortem* analysis following a major disturbance.

The introduction of the PMU and wide area measurement applications have all the potential to give a new outlook into the way protection systems are designed. The deployment of the Remote Access Systems (RAS) and Automated Fault Analysis Systems (AFAS) will fasten the time required to be spent in the post-mortem analysis of a given disturbance. The technical talk is aimed at discussing the recent trends in the power system protection and the way forward.

Program Schedule:

08.30 - 09.00 Registration
09.00 - 09.15 Opening Ceremony
by IEEE PES

Session Chairman:

Dr. Channarong Banmongkol
*Department of Electrical Engineering,
Faculty of Engineering,
Chulalongkorn University*

Guest Speaker:

Dr. R. Nagaraja,
Chapter Representative,
IEEE PES R10 West Chapters &
Managing Director, PRDC

9.15 - 10.30 Morning Session (1)

- Trends in substation and interface level
- Trends in Testing
- WAMS and its application to protection

10.30 - 10.45 Coffee break

10.45 - 12.00 Morning Session (2)

- Protection setting calculation and database a management system
- Need for simulation engine
- Special protection system
- Protection simulation case studies

12.00 - 13.00 Lunch

13.00 - 16.00 Afternoon Session

- Design considerations for transmission line out of step protection
- Automated fault analysis system
- Tripping analysis case studies

14.30 - 14.45 Coffee break

16.00 - 16.30 Summary - Q&A

Resource Persons :

Session Chairman :

Dr. Channarong Banmongkol
*Department of Electrical Engineering, Faculty of Engineering,
Chulalongkorn University*

Guest Speakers :

Dr. R. Nagaraja
*Chair for IEEE PES, Bangalore Chapter
Managing Director of PDRC,
Power Research & Development Consultants Pvt. Ltd.*

Biography :



Dr. R. Nagaraja is the founder and Managing Director of Power Research & Development Consultants Pvt. Ltd., Bangalore, India. He has vast experience of 27 years in the field of power system simulation and consulting. His specialization includes Power System Analysis, Operations, Power Engineering Education and Power System Protection. He has conducted several power system studies and was a key contributor in the formulation of the wind energy grid code in India.

He is the architecture and chief mentor for the design and development of the MiPower – Power system analysis software package widely used by Electric utilities, Industries, Consultants and Educational Institutions for power system analysis and research purposes.

Dr. R. Nagaraja has worked in the smart grid sphere and has guided the development of tools as part of SCADA and EMS in power industry.

Dr. R. Nagaraja is Senior Member of IEEE and currently chapter representative for Power Engineering Society (PES) for R-10 west. He has contributed to IEEE by holding various positions and also as Chair for IEEE PES, Bangalore Chapter.

Registration Form :

Title :

First Name : Last Name :

Job Title :

Organization :

Address :

Phone : Fax : E-mail :

Registration fees : Free Seminar
Deadline for submission : June 7, 2017

Participation :
Maximum Attendees : 150 persons

Please kindly reserve your seat by sending fax or email to Ms. Apassara Jewtragool

Contact Person :

Ms. Apassara Jewtragool

Center of Excellence in Electrical Power Technology (CEPT)

Faculty of Engineering, Chulalongkorn University Phayathai Road, Pathumwan, Bangkok 10330 Thailand

Tel. 0 2218 6542-3 Fax. 0 2218 6544 E-mail: cuept.ieee@gmail.com Website: www.cept.eng.chula.ac.th

For further information, please contact :

Mr. Praditpong Suksirithawornkul

Secretary, IEEE Power & Energy Society, Thailand Chapter

E-mail : praditpong.suksirithawornkul@th.abb.com

Language :

The working language is Thai and English.

Date and Venue :

June 8, 2017, Building 4, Conference Room, 2nd Floor, Faculty of Engineering, Chulalongkorn University

Location: MAP of the VENUE

