INDUSTRY & ACADEMIC EXPERTS

Dr. Thomas Smolka
Managing Director
Reinhausen Australia

Thomas is a specialist in grid planning, grid integration of dispersed generation units based on renewable energies. Thomas has been responsible for the business development of voltage regulation distribution transformers (VRDT).

Alan Brown
Snr. Service Engineer.
Reinhausen Australia

Alan joined Reinhausen Australia in 1999 and for the last 18 years has been an integral part of the service division, being MRI’s most experienced OLTC technical specialist.

Rob Milledge
Technology Manager and Application Engineer, South East Asia Region ABB Australia

Rob has had over 40 years experience in Power Transformer electrical and mechanical design, manufacturing, and test, for voltages to 550kV and ratings to 1,125MVA. Rob is the Chair of EL/8 Committee Standards Australia and a member of CIGRE committee – AP A2 Panel.

Anders Hakansson
Asia Pacific Sales and Marketing Manager
Transformer Insulation and Components ABB Singapore

Anders has worked in various positions with On-Load Tap-Changers and High Voltage bushings in ABB Sweden for more than 15 years. Since 2015, he is based in Singapore to support the customers in the region. Anders graduated from Lunds Institute of Technology with a master’s of science in Mechanical Engineering.

Dr. Wenyu Guo
OMICRON Australia

Wenyu Guo has been with OMICRON Australia as a Field Application Engineer since 2012. He is also the Asia-Pacific Regional Application Specialist power transformers testing.

Dr. Hui Ma
University of Queensland

Research Specialist in condition monitoring, diagnostics, HV Engineering & insulation and machine learning.

Dr. Dan Russell
Network Operations Standards Manager
Energy Queensland

Industry experience in power transformer & tap changer maintenance, testing & failure investigations.

Mike Elms
Principal Engineering Technician, Substations. Western Power

Mike Elms has been employed with Western Power / predecessors for 34 years. Mike has extensive network field experience, including maintenance/network response of transmission and distribution HV installations.

Ross Kempnich
Technical Operations Mgr. Essential Energy

Ross is the Technical Operations Manager for Essential Energy. He has worked for 36 years in this utility. He has “hands on” experience with tap changers. His is involved in the testing, maintenance, and condition assessment of HV Plant.

PRICING

TIC MEMBERS

PLATINUM

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Complimentary (Conditions Apply)

Additional Platinum Member Attendees …………… $1300 pp.

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REGISTER ONLINE AT:

http://www.itee.uq.edu.au/TIC-cpd

Registrations close 15/6/18
(Unless all places filled earlier)
Key Learning Outcomes:

- Understand the basic principles of tap changers, including oil, vacuum.
- Learn the basic arrangement of regulating windings, benefits and issues of oil and vacuum diverters. Tap changer considerations for renewables and grid integration.
- Understand tap changer designs and applications, differences between diverter and selector type, Loading capability, the effects on transformer windings.
- Become familiar with OLTC maintenance for oil and vacuum types. Steps to take for high diverter moisture content.
- Participate in a forum for OLTC fault investigation and supply restoration.
- Understand MR & ABB retrofit options where oil diverters are replaced by vacuum.
- Understand the benefits of dynamic resistance tests.
- Be informed of innovative condition assessment of tap-changers using acoustic measurements, signal processing techniques used and results from field trials, case study.
- Be exposed to how some utilities are implementing life cycle oriented maintenance of tap changers.
- Learn about high moisture issues in diverters, DGA assessment, life extension.
- Learn about OLTC failures due to silver sulphide formation.

COURSE OUTLINE-Tap Changers

DAY 1—27 June 2018

Tap Changer Principles— Basic switching principle of On-Load Tap-Changers, Design principles of oil type OLTCs, Vacuum switching technology in OLTCs, OLTCs and alternative insulation liquids.

Tap changer Design and Applications -
Basic arrangements of regulating windings, Examples of commonly used winding schemes, Vacuum vs Oil Diverter, benefits and issues. Tap changer considerations for the renewables.

Tap Changer Designs and Applications:
Practical differences between diverter type and selector type. Protective devices for tap changers.

Key standards/guidelines. How are tap changers tested in the factory and what site acceptance tests/inspections should be carried out? Loading capability of OLTC’s vs Transformer. The effects on transformer windings during operation of OLTC.

Maintenance of OLTCs -Manufacturers Recommendations
What are key items to consider? Steps to take for high moisture content in tap changer diverters. Extent of tap changer maintenance for oil and vacuum type tap changers.

Cost-benefit analysis / Case studies

Forum - OLTC fault finding and restoration.
What steps to take when an OLTC has failed? System emergency- Can your transformer be returned to service with a faulty OLTC (fixed-tap)?

What options must be considered for OLTC repairs?

DAY 2—28 June 2018

Retrofit Options for Tap Changers during Tx mid-life refurbishments
Technical options for MR/ABB OLTC’s, Justification and Benefits,
Project examples for replacing oil type diverter with vacuum diverters

Tap Changer Field Testing.
Case study —benefits of dynamic resistance measurements

Condition assessment of tap-changers using acoustic measurements.
Signal processing techniques used. Results from field trials. Case study

Implementing Life cycle Oriented Maintenance -Utility Experience
Life cycle management – Utility Companies perspective
Silver Sulphide Encounters, DGA assessment of OLTCs including high moisture, maintenance testing & anomalies, maintenance strategies—time based or condition based? OLTC Retrofit examples during mid-life refurb

Group sharing experiences/questions—
Participants share how their organisation is implementing tap changer life cycle management, what are key issues, case studies, questions. Time based maintenance or incident/risk based maintenance?

Who Should Attend?

- Procurement, Asset Strategists, maintenance managers and engineers.
- Generation, transmission and distribution personnel.
- Consultants, designers and operations staff in the renewables, manufacturing, mining, industrial and infrastructure organisations.

Course numbers are LIMITED.

Book NOW to secure a place.

Register via the link at:
http://www.itee.uq.edu.au/TIC-cpd