

TIC CONTINUING AND PROFESSIONAL DEVELOPMENT (CPD) COURSE UPDATE



Power Transformer Mineral and Ester Oils - Analysis & Management

HELD ON 11 - 12 FEBRUARY 2019

This course is part of a series being delivered at the Australasian Transformer Innovation Centre (TIC). Jayaram Baniya (EnergyQ), Tony Ngo (Powerlink Oil Laboratory) and Antony Giacomini (TJH2B) combined with two mineral and ester oil experts, Chian Yaw (Nynas) and Dr Russell Martin (M&I Materials) to deliver the two-day course. We believe this course fills a gap in the professional development of utility, mining and service staff.

The course was sectioned into areas of:

- The basic chemistry and classifications of naphthenic and paraffinic mineral oils, including gassing tendency and stray gassing.
- Standards and specifications of new and used oils.
- Total cost of ownership with case studies
- Implementation of life cycle maintenance of transformer oils by a leading distribution company, including management of wet transformers and estimation of remaining life including case studies.
- The basic chemical structure of natural and synthetic esters and how these differ from mineral oils. Cellulose paper preservation.
- Fire safety, insurance and environmental advantages of ester fluids.
- Moisture tolerance, oxidation stability and electrical differences of esters, and retro-filling considerations.
- Sampling and testing oils in the field and laboratory. Interpretation of oil analysis and what to do next. Detailed case studies. DGA methods and applicable standards.



Chian Yaw - Head of Technical Development & Market Support for Asia Pacific, Nynas Singapore, talks about the cost savings of choosing the right type of insulating oil.



Antony Giacomini - Sales & Marketing Manager, TJH2b Analytical Services Pty Ltd, discussing interpretation of oil test results.



Jayaram Baniya - Engineer, Substation Asset Lifecycle Engineering, Energy Queensland, highlighting benefits of life cycle oriented maintenance of transformer oils.



Dr Russell Martin Chief Scientist at M&I Materials, Manchester detailing the fire safety and environmental advantages of ester fluids.

Twenty five delegates attended this course, of which 80% came from transmission and distribution entities, mining and transformer manufacturer/service.

The majority of delegates said they would recommend this course to others.

100% of delegates rated the course either "Excellent" or "Good".

What delegates said:

- Very practical
- Excellent 2 day course, very well structured with highly informative presenters who greatly expanded my knowledge of all topics
- Broad level of content pitched at average user level. Without being an expert, I was able to pick up a lot.
- I would recommend to others....found it very informative.
- Information sharing was the best thing about this course.
- All information was directly relevant to industry issues.
- Excellent presentations that cover plenty of technical information. Networking platform is excellent.

**FOR DETAILS OF TIC COURSES
PLEASE VISIT OUR WEBSITE**

<http://www.itee.uq.edu.au/tic-cpd>
or contact Ray Holzheimer, Manager,
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Programme for 2019 CPD Courses

24-25 June 2019

Transformer Testing FAT, SAT Maintenance and Diagnostics

17-18 Oct 2019


Transformer Solid Insulation and Dielectric Design Aspects, Brisbane

21-22 Oct 2019

Transformer Solid Insulation and Dielectric Design Aspects, Sydney

24-25 Oct 2019

Transformer Solid Insulation and Dielectric Design Aspects, Melbourne

Future Courses to be planned - MV voltage stabilization including variable shunt reactors 

If you want to learn more about TIC and the benefits of becoming a member

visit: <http://www.itee.uq.edu.au/tic> or contact:
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MARKET OBSERVATIONS FOR Q4 2018: AEMO'S LATEST QED REPORT

AEMO's latest Quarterly Energy Dynamics Report covering Q4 2018 continues to illustrate the rapid pace of change occurring throughout the energy sector.


The report provides energy market participants, businesses, consumers, governments and other interested parties with information on the market dynamics, trends and outcomes during each quarter.

AEMO's analysis reveals that wholesale electricity prices in the National Electricity Market (NEM) remained at comparatively high levels for the year. The factors contributing to these prices included comparatively high gas prices, which resulted in gas-powered generators setting the price more often and at higher levels, as well as the structural shift of offers from black coal-fired generators to higher prices over a longer term between 2014 and 2018. These factors were somewhat offset by the addition of 800 megawatts (MW) of variable renewable energy during the quarter, bringing total installed renewable energy capacity for 2018 to 3,000 MW.

High wholesale electricity prices, together with reduced availability from the Longford gas facility and record liquefied natural gas (LNG) deliveries, contributed to the highest quarterly gas prices on record, up 43% from the same time last year.

The power of customer choice and impact of new technologies continues to affect energy usage patterns, with the NEM recording its lowest operational demand since 2002. The South Australian region most clearly demonstrates the impact of increasing rooftop solar uptake, setting a new all-time minimum demand record of 599 MW at 1300hrs on 21 October 2018.

These impacts are not limited to the NEM. Over on the west coast, the Wholesale Electricity Market (WEM) also recorded its lowest operational demand for 2018 at 1,199 MW, and one of the lowest of all time.

Contrary to the east coast, during the quarter, average wholesale electricity prices in both the Balancing Market and Short Term Electricity Market (STEM) decreased compared to Q3 2018 and Q4 2017. This was primarily due to lower average demand, higher mid-merit generator availability and participant bidding behaviour. 

Article courtesy of www.aemo.com.au