

Transformer Condition Management - Level 2

ECSA Validation no: SAAMA2017497
for 4 (CPD) credits

Complete training for managing transformers in service by analysis of the transformer's oil



4 Day Course

The scope

This four-day course covers theory and practical solutions for the analysis and management of transformer insulating oils. Principles of Transformer Condition Management are expressed by defect detection, monitoring and diagnosis. Technological solutions are presented for adoption into effective reliability and asset management programmes.

Day 1

- Insulating fluids types
- Specifications and standards
- Advancements through research
- Oil classes
- Transformer design and materials
- Duval operational transformer triangles
- Transformer life management

Day 2

- Oil sampling methodology
- Transformer risk profiles (practical)
- Laboratory process
- Gas in oil interpretation
- Breakdown of oil molecules
- Gases produced from oil

Day 3

- Calculations and ratios (practical)
- Trending data
- Production rates
- Sample automation
- Artificial intelligence
- Quality assurance testing
- Moisture management and removal

Day 4

- Oxidation and sludge management
- Degree of polymerisation
- Polychlorinated biphenyls
- Safe handling and management
- Evaluation assessment



*NB: Each delegate must bring their own laptop with MS Excel installed

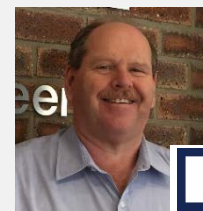
Who should attend?

- Maintenance technicians and engineers
- Reliability engineers
- Condition monitoring practitioners
- Maintenance and engineering managers

Course outcomes

- Understanding of transformer design and operation
- Understanding the chemistry of materials
- Interpretation of oil analysis
- Able to select indicators for condition assessments
- Making informed maintenance decisions based on trends and analysed results
- Extending transformer life by implementing condition-based maintenance
- Evaluating risk and reliability by structured evaluation techniques.

The facilitator



Tom H Dalton |
Transformer Reliability
Specialist at Martec



Tom holds a National Higher Diploma in Electrical Engineering and gained experience at Eskom specialising in oil analysis and management. He has worked on several working groups and committees concerned with transformers and insulating oils, written a number of specifications, and has co-authored two books on the subject. Tom has also developed an insulating oil management application to assess transformer condition.

Registration Form

Transformer Condition Management – Level 2

Send completed registration form with a copy of your company purchase order to
training@martec.co.za or fax it to +27 (0)86 502 0634

Training date		Course rate pp exl VAT	R14 500.00								
Venue	Pragma Group Building – Treur Close, Waterfall Park, Midrand										
Delegate details	Delegate 1			Delegate 2			Delegate 3				
Name											
Surname											
Job title											
ID number											
Email											
Mobile no											
Dietary requirement	Standard		Halal		Standard		Halal		Standard		Halal

Company and payment details											
Company name											
Billing address											
Telephone no						Fax no					
Purchase order no						VAT no					
Finance contact name and surname											
Tel no						Email					

Terms and conditions

A confirmation letter and tax invoice will be sent to the delegate on receipt of this application. Confirmation of the delegate's registration including a map to the venue and a list of accommodation options in the area will be sent on receipt of confirmation of payment.

All applicants must complete this registration form in full and indicate your menu option. Halal menus are charged in addition to the above rate. Incomplete application forms cannot be processed.

Full payment must be received prior to attending the course

On arrival delegates must present the confirmation of registration that will have been emailed to them.

The course presenters reserve the right to refuse admission where this confirmation and evidence of payment cannot be shown.

Cancellation and Non-attendance Policy

All notices of cancellation must be in writing. Cancellations received more than 10 working days prior to commencement of the course will be accepted subject to a 10% cancellation fee. Alternatively a substitute delegate will be accepted. Late cancellations (10 or less working days prior to commencement of the course) and non-attendance are liable for the full invoice amount.

Obligation to Pay

Even though the Company is liable for paying the course fee, the delegate retains ultimate responsibility for ensuring that the fee is paid.

Confirmation of Registration

If you have not received your confirmation of booking before the course, please contact us to make sure that you are registered. Martec reserves the right to cancel any advertised course due to insufficient enrolments or conditions beyond our control.

I hereby confirm that I am authorised to sign for and on behalf of the Applicant Company and accept the above Terms and Conditions

Name	Signature	Date