Training to Accelerate Experience

Transformer Insulation Diagnostics – Field perspective

This course describes the most important methodologies used for transformer insulation diagnostics in the field. The topics include time and frequency domain methodologies described in the international literature including insulation resistance, Power Factor, newly developed features for improved Power Factor diagnostics and advanced diagnostics with Dielectric Frequency Response.

Course Outline:

Module 1 – Introduction

- Transformer Insulation
- Fundamentals of Insulation Diagnostics
- Standardization

Module 2 – Time Domain Dielectric Response

- Insulation Resistance
- Polarization Index

Module 3 –Frequency Domain Dielectric Response

- Line frequency power factor
  - Capacitance & Power Factor measurement
  - Factors influencing results of Power Factor test
  - Temperature Correction
  - Voltage dependence of Power Factor
- Power Factor on HV and EHV bushings
  - Diagnostics of C1 & C2
- Narrow band frequency response
  - Importance in the analysis
  - Application on HV and EHV bushings
  - Correct Interpretation of results

Module 4 –Dielectric Frequency Response

- Theory
- Effect of moisture on oil-paper insulation
- DFR on Power and Distribution Transformers
- Quantitative analysis of moisture concentration
- Overall condition assessment
- Temperature effect on the dielectric response

Module 5 Special Applications of DFR

- Factory and Field dry-out

Who Should Attend?

- Engineers and Field personnel responsible for the planning and execution of testing practices in the field
- Asset managers, operation managers responsible for condition assessment of critical components in the electrical system
- Industry experts looking at new technological tendencies in the field testing arena
- Consultants who are looking for more advanced and efficient tools to assist and support their customers

Key Benefits:

Upon completion of this course, attendees will be able to:

- Identify the requirements to performs an efficient and safe test procedure in the field
- Understand the challenges encountered in the field for transformer field assessment
- Properly analyze the test data from the field
- Make proper use of advanced features in power factor technology
- Apply sound technical decisions related to transformer insulation diagnostics

Duration and Price:

1/2 Day 4hours

- $X+GST

Register now:

On-line: www.
E-mail:

If you have any questions regarding Short Courses please contact: Inna.Kremza@voith.com

Diego Robalino currently works for Megger as Principal Engineer, where he specializes in the diagnosis of complex electrical testing procedures. While doing research in power system optimization with a focus on aging equipment at Tennessee Technological University, Robalino received his electrical engineering PhD from that institution. Robalino has over 20 years of involvement in the electrical engineering profession with management responsibilities in the power systems, oil and gas, and research arenas. He is a Senior Member of the IEEE, member of the IEEE transformers main committee and a certified Project Management Professional with the PMI. An active member of DEIS and Vice-Chair of EIC 2019. Author and coauthor of numerous technical papers published and presented at major national and international conferences.