

# **Condition Monitoring Techniques for Distribution Switchgear** & Transformer

**Course Code: ENO63** 

#### **COURSE OBJECTIVES**

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

- Understand fundamentals of partial discharge
- Perform partial discharge detection using condition monitoring diagnostic tools and instrument
- Apply condition monitoring techniques for distribution electrical assets

#### **MAIN CONTENTS**

- History and development of condition monitoring
- Overview of partial discharge (PD) theory
- Common causes of PD and its effects
- PD phenomenon before breakdown
- Breakdown mechanism of insulation
- Benefits of condition monitoring
- Basic condition monitoring diagnostic tools and instruments
- Use acoustic and transient earth voltage (TEV) methods to detect PD
- Review distribution switchgear cases on busbar, circuit breaker and cable termination compartments
- Review distribution transformer cases on cable termination and dissolved gas analysis (DGA)
- Case studies on diagnostic experience and root cause analysis
- Practical hands-on using acoustic and TEV instruments

## **METHODOLOGY**

Lecture and practical sessions.

Practical: Hands-on session using CM diagnostic tools to perform assessment

#### TARGET AUDIENCE

Technical staff who are involved in maintenance of distribution electrical assets

#### COURSE DETAILS

Duration : 14 hours

Mode of Delivery : Face-to-face

**Certification** : SIPG Certificate of Completion

PDU by PE Board : Pending
Additional Requirement/s : Not applicable

#### **COURSE FEES**

Full Course Fee : \$\$1,400 (before GST)

For Singapore Citizens/PR/LTVP+\* : Not applicable
For Singapore Citizens
[40 years old and above] : Not applicable



#### **ADDITIONAL REMARKS**

- Trainee must attain at least 75% attendance rate and pass the assessment to receive Certificate of Completion and funding grant (if applicable).
- Subsidy of up to 70% is applicable for Singapore Citizens, Permanent Residents or Long-Term Visitor Pass Plus (LTVP+) Holders, subject to funding agency's approval.
- Enhanced subsidy of up to 90% is applicable for Singapore Citizens aged 40 years and above, subject to funding agency's approval. Note that GST payable will be computed from fee after 70% funding.
- Professional Development Unit (PDU) is applicable for Professional Engineers registered under the Professional Engineers (PE) Board only.
- All published fees are subject to prevailing GST.

### **CONTACT US**

For more information, please contact SIPG at +65 6916 7930 or email <a href="mailto:training-institute@spgroup.com.sg">training-institute@spgroup.com.sg</a>.

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