Electrical Diagnostic Testing of Power Transformers

2 days | **English** | **# Cptr05en**

Transformers are the largest, most expensive, and highly critical components of most utility substations. To ensure a long, useful service life, it is critical that a power transformer and its ancillary components are tested regularly for incipient fault modes.

The training participants will learn how to perform and assess many of the conventional electrical diagnostic tests recommended for power transformers. The training focuses on the diagnostic testing that can, and should, be performed during regular maintenance intervals, to ensure that the transformer is in good condition, and can continue its in-service duty with minimal risk.

Objectives

- Introduce the key components of a power transformer (core, insulation, windings, bushings, tap changer)
- Discuss the theory and application of many industry accepted, widely used electrical diagnostic tests
- Learn how to analyse the measurement results to properly assess the condition of a power transformer
- Learn to safely and efficiently operate the software and test equipment to obtain the correct measurements
- Discuss the most common mistakes that users make in the field

Content

- Overall Power Factor
- Bushing Power Factor (C1, C2, and Energized Collar)
- Surge Arrester Watt Losses
- Exciting Current
- Turns-Ratio (TTR)
- Leakage Reactance (Short-Circuit Impedance)
- DC Winding Resistance
- Core Demagnetization
- Sweep Frequency Response Analysis (SFRA)

Solutions

TESTRANO 600
CPC 100, CP SB1
FRANEO
CP TD1
Primary Test Manager (PTM)

Audience

Test technicians, maintenance engineers, engineering managers

Prerequisites

Basic knowledge of power transformers