




Electrical Diagnostic Testing on Transformers & Breakers

 2 days

 English

 Cptr05en

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

Learn how to efficiently and effectively utilize the TESTRANO 600, CPC 100, CIBANO 500, and Primary Test Manager to test transformers and breakers via hands-on and theoretical sessions.

Objectives

- ▶ Introduce the key components of a power transformer (core, insulation, windings, bushings, tap changer) and circuit breaker (control circuits, coils, main contacts, insulation, bushings)
- ▶ Discuss the theory and application of many industry accepted, widely used electrical diagnostic tests
- ▶ Learn how to analyze the measurement results to properly assess the condition of these Assets
- ▶ 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

Power Transformers

- ▶ 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

Circuit Breakers

- ▶ Application of Electrical Diagnostics for Circuit Breakers
 - ▶ Standards (IEEE C37.09, NETA ATS/MTS)
- ▶ CIBANO 500 Hardware
- ▶ Primary Test Manager (PTM) Software
- ▶ Failure Modes and Troubleshooting

Solutions

TESTRANO 600
CPC 100
CP TD1/CP TD12
CIBANO 500
Primary Test Manager

Audience

Test technicians, maintenance engineers, engineering managers

Prerequisites

Basic knowledge of power transformers & circuit breakers