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**COURSE DESCRIPTION****INTCV477****Operation, maintenance and condition monitoring of switchyard equipments****The goal**

The goal of the course is to improve the ability of Personnel from Power Utilities, Power Generation, transmission companies & industries and Consultants responsible for engineering, commissioning, operation and Maintenance of substations to do the analysis of existing equipment's with contingency analysis and reliability.

**Learning objectives**

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

- Assess the condition of switchyard equipment's.
- Avoid age related failure.
- Minimize cost of consequential failure of peripheral equipment.
- Minimize unavailability of power due to forced shutdown.
- Optimize resources to plan and operate the electric systems reliably and with the maximum economic benefit.

**Participant profile**

Personnel from Power Utilities, Power Generation, transmission companies & industries and Consultants responsible for engineering, commissioning, operation and Maintenance of substations.

**Prerequisites**

Degree or diploma in engineering, basic knowledge of power system.

**Topics****Circuit Breakers (HV & MV)**

- Operation and construction.
- Interrupting principles.
- SF6 gas filling & handling.
- Manufacturing & testing.
- Inside the Breaker- Hands on practice, demo.
- Circuit breaker pole assembly.
- Circuit breaker operating mechanism assembly.
- Operation – Do's & don'ts.
- Maintenance & troubleshooting.

**Instrument Transformers**

- Operating principles & construction.
- Operation – Do's & Don'ts.
- Maintenance, troubleshooting & testing.
- Testing.

**Power Transformer**

- Introduction, basic about Transformers – Design aspects and insulation.
- Transformer accessories – breather, bushings, PRV, Buchholz, MOLG core & active part assembly, final assembly.
- Operation – Do's & don'ts, commissioning.
- Maintenance and diagnostics.
- Testing.
- Case studies.

**Condition Monitoring**

- Concept of condition monitoring.
- Degradation of insulation.
- Significance of loss angle measurement & insulation resistance measurement.
- Recovery voltage measurement.
- Sweep frequency response – fundamentals, concept, analysis & measurement.
- Interpretation of results.
- Leakage current monitoring.
- Infrared image.
- Contact resistance measurement & DCRM.
- Oil testing.
- Demonstration of various diagnosis tests.

**Course type**

This is an instructor led seminar with practical demonstration at experience center demo room, switchyard and guided tour to manufacturing facilities. The language of the course is English.

**Learning methods and tools**

Lectures, demonstrations, practical exercises. Laptop or tablet is required to have access to the e-documentation. Please bring your own device.

**Duration**

The duration of the course is six days.

**To Register:**

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Search: please enter course number INTCV477 into the search field. (Please check the language filter EN)

The latest version of the course portfolio, and course schedule can be found on our

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