



# EE205: MV, HV & EHV Switchgear Testing & Commissioning



## Training Description:

Switchgears are very important for electrical power transmission and distribution especially in populated areas. This intensive course contains the different types of switchgear, switchgear construction and components, different types of circuit breakers and protection system, SF6 properties, recovery voltage and re-striking voltage, problems of circuit breakers, maintenance of circuit breakers and testing of circuit breakers.

## Training Objectives:

By the end of the training, participants will be able to:

- ✓ Understand the HV and LV switchgear construction and components
- ✓ Know how to make maintenance for the switchgear
- ✓ Learn how the switchgear can be tested according to standard specifications
- ✓ Understand the ratings of circuit breakers
- ✓ Identify the problems of the circuit breakers
- ✓ Learn the protection system

## Training Designed for:

This course is intended for Electrical Power Engineers and Advanced Operating Staff of substations, factories, electrical distribution networks and transmission.

## Training Program:

### FIVE DAYS:

- ❖ Pre-test
- ❖ Introduction
- ❖ Components of switchgear
- ❖ Arc phenomena and how to interrupt the arc
- ❖ Types of circuit breakers
- ❖ Oil circuit breakers
- ❖ Air circuit breakers
- ❖ Vacuum circuit breakers
- ❖ SF6 circuit breakers
- ❖ Re-striking voltage
- ❖ Recovery voltage
- ❖ Properties of SF6
- ❖ GIS
- ❖ Ratings of circuit breakers
- ❖ Problems of circuit breakers
- ❖ Loading of circuit breakers by capacitive or inductive loads
- ❖ Current transformers
- ❖ Voltage transformer
- ❖ Maintenance of circuit breakers
- ❖ Testing of circuit breakers according to IEC
- ❖ Protection system





- ❖ Course Conclusion
- ❖ Post-test and Evaluation

### Training Requirements:

“Hands-on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Please note that the above topics can be amended as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

### Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Software & General Discussions
- Pre and Post Test

### Training Certificate(s):

Internationally recognized certificate(s) will be issued to each participant who completed the course.

### Training Fees:

**As per the course location** - This rate includes participant’s manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

### Training Timings:

#### Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session

**For training registrations or in-house enquiries, please contact:**

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Training & Career Development Department

