



## COURSE OVERVIEW EE0456

### 11KV Breaker ABB Type VD4 Maintenance & Troubleshooting

#### Course Title

11KV Breaker ABB Type VD4 Maintenance & Troubleshooting

#### Course Date/Venue

Session 1: August 24-28, 2025/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai UAE

Session 2: December 15-19, 2025/Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE



#### Course Reference

EE0456

#### Course Duration/Credits

Five days/3.0 CEUs/30 PDHs



#### Course Description



***This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.***



This course is designed to provide participants with a detailed and up-to-date overview of 11KV Breaker ABB Type VD4 Maintenance and Troubleshooting. It covers the types, use, features, advantages and applications of ABB type VD4 11KV breaker; the working principle and components of ABB VD4 breaker and how the breaker operates under normal conditions; the safety precautions when working with an 11KV breaker; the right tools and equipment for maintenance; and the basic installation of breaker including lubrication, cleaning, adjustments and troubleshooting.



During this interactive course, participants will learn the spring charging motor and adjusting tripping devices for optimal performance; the procedure for replacement, maintaining and replacing vacuum interrupter and developing and executing preventive maintenance schedules; the proper troubleshooting, interpreting fault indications and resolving mechanical and electrical issues in the breaker; the quality check and procedures to ensure the breaker is in optional condition; documenting the maintenance and troubleshooting process; and the breaker maintenance and troubleshooting best practices.



### Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain a comprehensive knowledge on 11KV breaker ABB type VD4 maintenance and troubleshooting
- Discuss the types, use, features, advantages and applications of ABB type VD4 11KV breaker
- Recognize the working principle and components of ABB VD4 breaker and discuss how the breaker operates under normal conditions
- Apply safety precautions when working with an 11KV breaker and identify the right tools and equipment for maintenance
- Carryout basic installation of breaker including lubrication, cleaning, adjustments and troubleshooting
- Change spring charging motor and adjust tripping devices for optimal performance
- Apply procedure for replacement, maintain and replace vacuum interrupter and develop and execute preventive maintenance schedules
- Employ proper troubleshooting, interpret fault indications and resolve mechanical and electrical issues in the breaker
- Apply quality checks and procedures to ensure the breaker is in optional condition and document the maintenance and troubleshooting process
- Implement breaker maintenance and troubleshooting best practices

### Exclusive Smart Training Kit - H-STK®



*Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

### Who Should Attend

This course provides an overview of all significant aspects and considerations of 11KV breaker ABB type VD4 maintenance and troubleshooting for all managers, electrical engineers, operations personnels, supervisors, maintenance technicians, and safety personnel.

### Course Fee

**US\$ 5,500** per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

### Accommodation


Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

### **Course Certificate(s)**

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

### **Certificate Accreditations**

Certificates are accredited by the following international accreditation organizations: -

-  British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council for Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

-  The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.



### Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



**Mr. Herman Eksten, PE, PgDiP, is a Senior Electrical Engineer** with over **30 years** of extensive experience within the **Petrochemical, Oil & Gas** and **Power** industries specializing in **Electrical Safety, Certified HV Electrical Safety, Low Voltage Electrical Safety, Electrical Circuits: Series and Parallel Connection, Electrical Faults & Protective Devices, Risk Control Methods, LOTO – Breakers Operation in Electricity Substation, LOTO Principles and Procedures, Arc Flash Risk Assessment, Safety in Power Electronic Equipment & Lasers, Circuit Breakers & Switchgears, Switchgear Assets Management, Circuit Breakers Control Circuits, Substation Maintenance Techniques, High Voltage Operation, Electrical Protection, Overhead Lines & Substation, Power Supply, High Voltage Substation, Electrical Protection Design, Earthing & Lightning Protection Design, Underground Equipment, Distribution Network Maintenance & Construction, Transformers Operation & Maintenance, Electric Power System, Power Plant Management, Substation Commissioning & Troubleshooting, Cable Splicing & Termination, Electrical Installation & Maintenance, Power Generation Operation & Control, Switchgear Life Assessment, Structured Cabling, Electric Power System, Power System Stability, Power System Planning & Economics, Power Flow Analysis, Combined Cycle Power Plant, UPS & Battery System, Variable Speed Drives, and HV Motors & Transformers.** He is currently the **Lead Electrical Engineer** of **SNC-LAVALIN** wherein he is responsible for basic designs and successful implementation of electrical engineering to plant overhead lines and substations.

During his career life, Mr. Eksten held various positions such as the **Lead Electrical Engineer, Operations Manager, Project Engineer, Technical Specialist, Customer Executive, District Manager, Electrical Protection Specialist, High-Voltage Operator** and **Apprentice Electrician** for **FOX Consulting, UHDE (ThyssenKrupp Engineering), TWP Projects/Consulting (EPMC-Mining), ISKHUS Power, Rural Maintenance (PTY) Energia de Mocambique Lda., Vigeo (PTY) Ltd** and **ESKOM**.

Mr. Eksten is a **Registered Professional Engineering Technologist** and has a Postgraduate Diploma in Management Development Programme and a National Higher Diploma (NHD) in Electrical Power Engineering. Further, he is a **Certified Instructor/Trainer**, a Senior member of the South African Institute Electrical Engineers (**SAIEE**) and holds a Certificate of Registration Membership Scheme from the Engineering Council of South Africa (**ESCA**). He has further delivered numerous trainings, courses, seminars, workshops and conferences internationally.

### Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

### Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

#### **Day 1**

0730 – 0800	<i>Registration &amp; Coffee</i>
0800 – 0815	<i>Welcome &amp; Introduction</i>
0815 – 0830	<b>PRE-TEST</b>
0830 – 0900	<b>Introduction to 11KV Breaker: Definition, Types &amp; Use Cases</b>
0900 – 0930	<b>Overview of ABB Type VD4 11KV Breaker: Features, Advantages &amp; Applications</b>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Working Principle of ABB VD4 Breaker: Detailed Description of the Mechanism</b>
1100 – 1215	<b>Components of ABB VD4 Breaker: Study of each Part &amp; Its Function</b>
1215 – 1230	<i>Break</i>
1230 – 1300	<b>Understanding the Operating Mechanism: Overview of How the Breaker Operates Under Normal Conditions</b>
1300 – 1420	<b>Safety Precautions: Detailed Safety Instructions When Working with an 11KV Breaker</b>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day One</i>

#### **Day 2**

0730 – 0830	<b>Tools &amp; Equipment: Identifying the Right Tools for Maintenance</b>
0830 – 0930	<b>Inspection of Breaker: Visual &amp; Manual Inspection Procedures</b>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Lubrication: Procedure &amp; Best Practices</b>
1100 – 1215	<b>Cleaning of Breaker Components: How &amp; When to Clean</b>
1215 – 1230	<i>Break</i>
1230 – 1320	<b>Adjustment of Contacts: How to Adjust the Contact Pressure &amp; Gap</b>
1320 – 1420	<b>Basic Troubleshooting: Identifying &amp; Resolving Simple Issues</b>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day Two</i>



### Day 3

0730 – 0830	<b>Changing of Spring Charging Motor:</b> Step-by-Step Procedures
0830 – 0930	<b>Adjustment of Tripping Devices:</b> How to Fine-Tune the Tripping Devices for Optimal Performance
0930 – 0945	Break
0945 – 1100	<b>Replacement of Main Contacts:</b> Procedure for Replacement
1100 – 1215	<b>Vacuum Interrupter:</b> Understanding, Maintenance & Replacement
1215 – 1230	Break
1230 – 1400	<b>Testing of Breaker:</b> Different Types of Tests After Maintenance & their Procedures
1400 – 1420	<b>Preventive Maintenance:</b> How to Develop & Execute Preventive Maintenance Schedules
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Three

### Day 4

0730 – 0830	<b>Troubleshooting:</b> Detailed Guide on Problem Identification & Resolution
0830 – 0930	<b>Case Study:</b> Studying Past Breakdowns & the Actions Taken to Resolve Them
0930 – 0945	Break
0945 – 1100	<b>Interpreting Fault Indications:</b> How to Read & Understand Fault Indications
1100 – 1215	<b>Resolving Mechanical Issues:</b> Procedures for Resolving Mechanical Issues in the Breaker
1215 – 1230	Break
1230 – 1400	<b>Resolving Electrical Issues:</b> Procedures for Resolving Electrical Issues in the Breaker
1400 – 1420	<b>Emergency Measures:</b> What to Do in Emergency Situations
1420 – 1430	<b>Recap</b>
1430	Lunch & End of Day Four

### Day 5

0730 – 0830	<b>Quality Checks:</b> Procedures to Ensure the Breaker is in Optimal Condition
0830 – 0930	<b>Documentation:</b> How to Document the Maintenance & Troubleshooting Process
0930 – 0945	Break
0945 – 1100	<b>Maintenance Best Practices:</b> Recap of the Best Practices in Breaker Maintenance
1100 – 1215	<b>Troubleshooting Best Practices:</b> Recap of the Best Practices in Breaker Troubleshooting
1215 – 1230	Break
1230 – 1345	<b>Open Forum:</b> Discussion, Q&A, Sharing Experiences
1345 – 1400	<b>Course Conclusion</b>
1400 – 1415	<b>POST-TEST</b>
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course



### **Simulator (Hands-on Practical Sessions)**

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using our state-of-the-art simulators “GE Multilin Relay 469” , “GE Multilin Relay 750” and “Switchgear Simulator”.

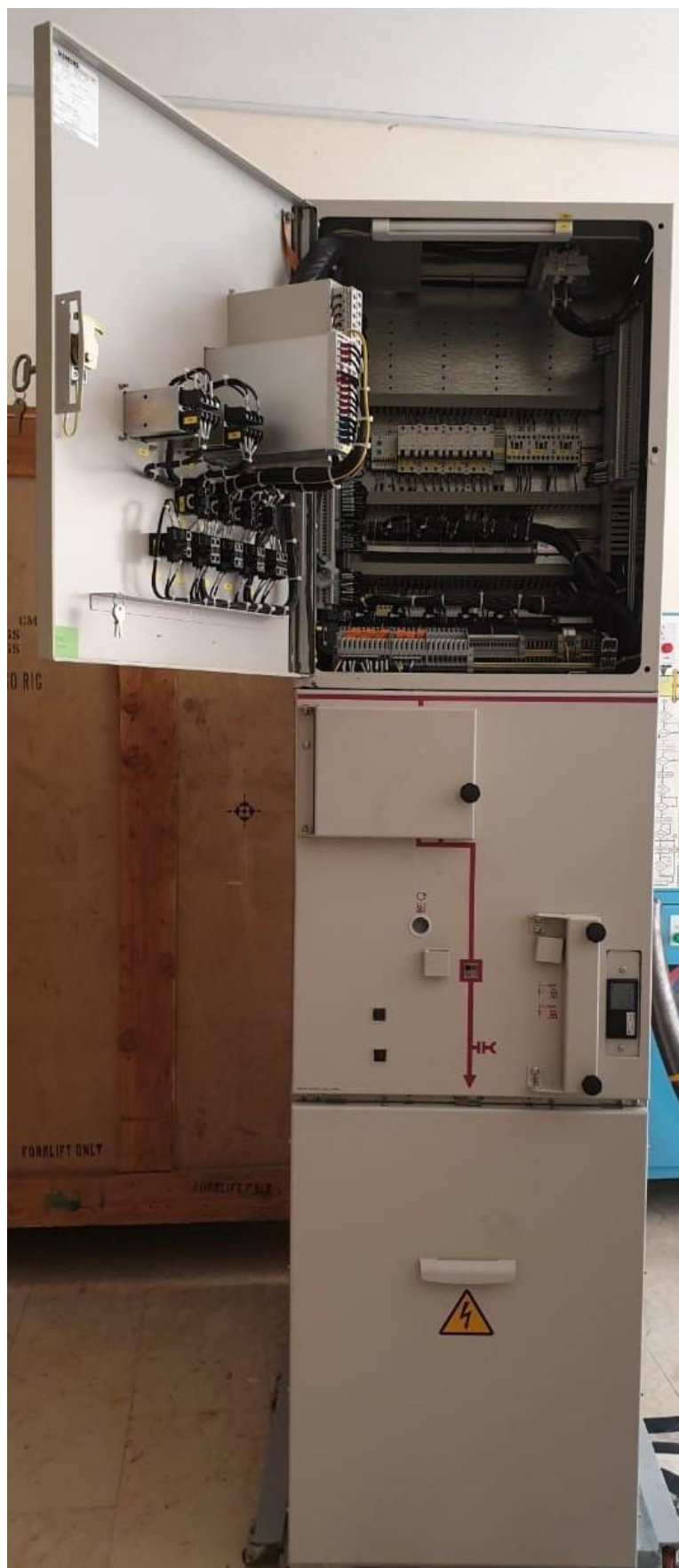


**GE Multilin Relay 469 Simulator**

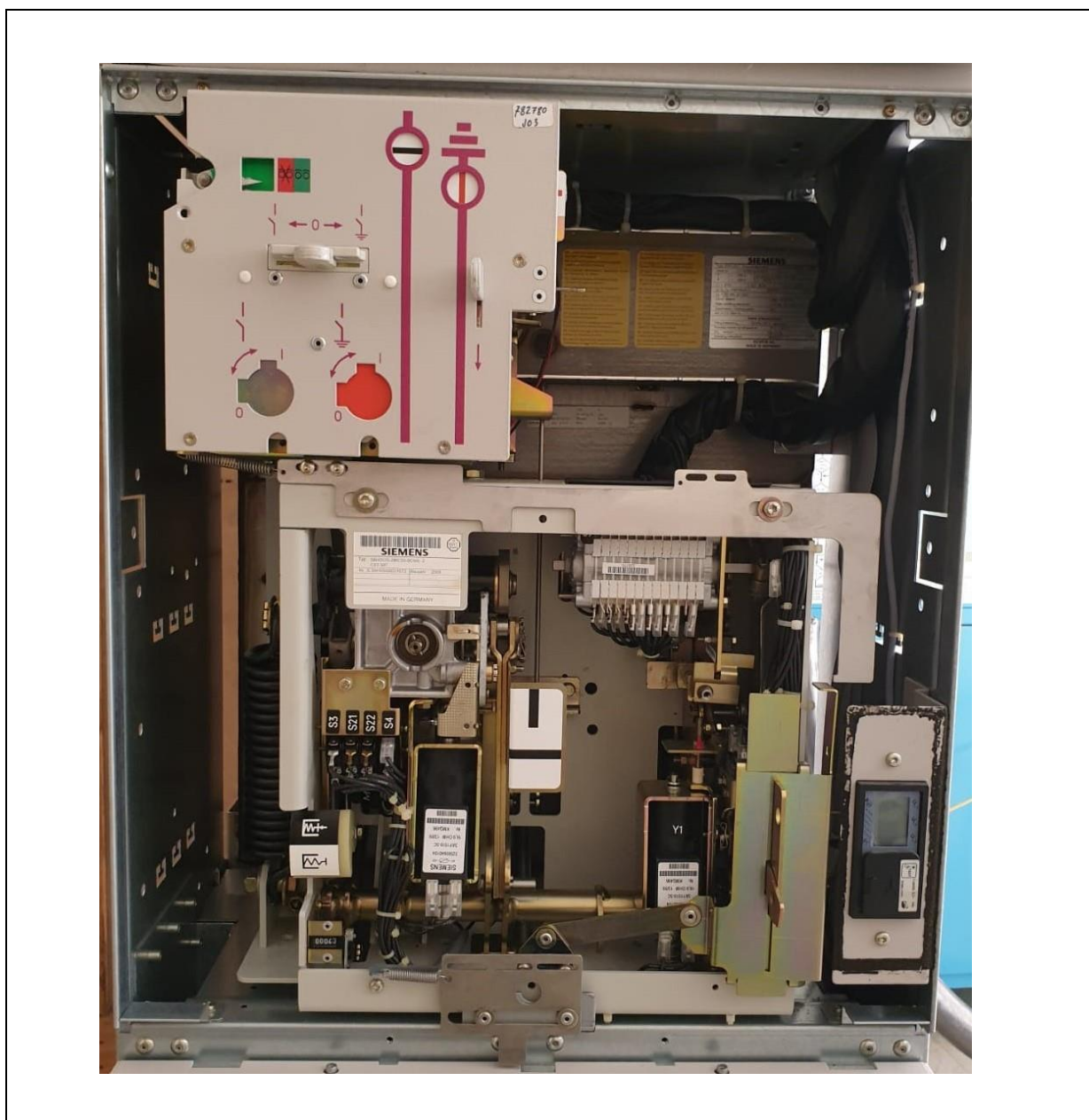


**GE Multilin Relay 750 Simulator**









### **Course Coordinator**

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