COURSE OVERVIEW EE0452
HV Switching

Course Title
HV Switching

Course Date/Venue
Session 1: June 23-27, 2025/Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: June 30-July 04, 2025/Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
EE0452

Course Date/Venue
Five days/3.0CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes various practical sessions where participants will be engaged in HV/LV power switching and other working practices.

This course is designed to provide participants with a detailed and up-to-date overview of high voltage switching operations. It covers the legislation and standards of high voltage switching operations; the risk management and control as well as the proper approach to high voltage-safe systems of work, permit types and permit procedures; operating local high voltage and low voltage switchgear; developing high voltage switchgear program; controlling permit to work operations; performing switching to a switching program; coordinating and directing switching program; and working safely near live electrical apparatus.

During this interactive course, participants will learn the access procedures to work on or near electrical network infrastructure; the HV field switching operation and power system substation switching operation to a given schedule; developing high voltage switching schedule; coordinating power systems permit procedures; directing power system switching schedules; and solving the energy supply network equipment problems in a professional manner.

Course Objectives

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

- Get certified as a "*Certified Switchman*"
- Review the legislation and standards of high voltage switching operations
- Carryout risk management and control as well as the proper approach to high voltage-safe systems of work, permit types and permit procedures
- Operate local high voltage and low voltage switchgear and develop high voltage switchgear program
- Apply control permit to work operations, perform switching to a switching program as well as coordinate and direct switching program
- Work safely near live electrical apparatus
- Apply access procedures to work on or near electrical network infrastructure
- Perform HV field switching operation and power system substation switching operation to a given schedule
- Develop high voltage switching schedule and coordinate power systems permit procedures and direct power system switching schedules
- Solve energy supply network equipment problems in a professional manner

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 high voltage switching operations for electrical workers and engineers working with high and low voltage switchgear in industrial facilities and networks.

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.

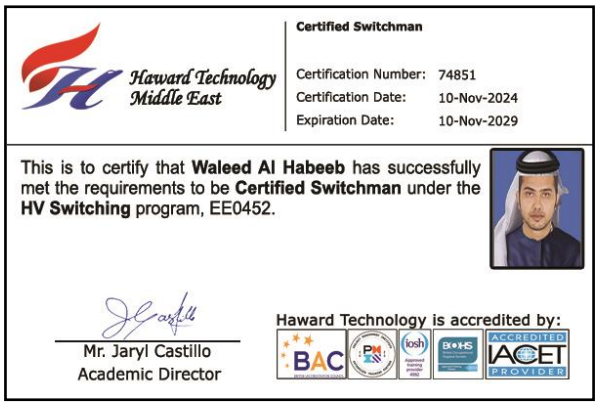
Course Certificate(s)

(1) Internationally recognized Competency Certificates and Plastic Wallet Cards will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Successful candidate will be certified as a "*Certified Switchman*". Certificates are valid for 5 years.

Recertification is FOC for a Lifetime.

Sample of Certificates

The following are samples of the certificates that will be awarded to course participants:-



(2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.

Haward Technology Middle East

Continuing Professional Development (HTME-CPD)

CEU Official Transcript of Records

TOR Issuance Date: 14-Nov-24

HTME No. 74851

Participant Name: Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
EE0452	HV Switching	Nov 10-14, 2024	30	3.0

Total No. of CEU's Earned as of TOR Issuance Date **3.0**

TRUE COPY

Jaryl Castillo
Academic Director

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

P.O. Box 26070, Abu Dhabi, United Arab Emirates | Tel.: +971 2 3091 714 | E-mail: info@haward.org | Website: www.haward.org

Certificate Accreditations

Haward's 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**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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.

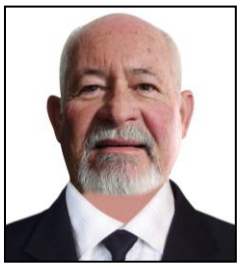
  Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation 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 Fee

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

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. Ken Steel is a **Senior Electrical & Instrumentation Engineer** with over **30 years** of extensive experience. His expertise widely covers **Electrical Motors Testing**, **Heat Tracing** & Insulation Installation & Testing, **HV Terminations**, **High & Low Voltages** on Overhead Cranes, **HV/MV Cable Splicing**, **Cable & Over Head Power Line**, **HV/MV Switchgear, HV Cable** Design, **Medium & High Voltage** Equipment, **High Voltage Circuit Breaker** Inspection & Repair, **High Voltage Power** System, **HV Equipment** Inspection & Maintenance, **HV Switchgear** Operation & Maintenance, Resin / **Heat Shrink & Cold Shrink** Joints, **HV/LV Equipment**, **LV & HV** Electrical System, **Cable** Splicing & Termination, **High Voltage** Electrical Safety, **LV**, **MV & HV Cable** Installations & Properties, **LV Substation**, **MV & LV Cable**, **UPS Systems**, **MV & LV** Direct on Line Motor Drives, **MV & LV** VSD Motor Drives, **MV & LV** Soft Starter Motor Drives, **LV Two Speed Motor Drives**, Underground **Transformer Oil Containment Tank**, **Electrical & Instrumentation Construction** Installation, 1500KW, 1000KW, 1752KW **Diesel Power Plant Installation**, **110KV Overhead Line**, **110KV Outdoor Switchgear**, 110KV/10KV 6500KVA **Transformer**, **Transformer Substation**, 1600KVA 10KV/0.4KV & 2 Off 1000KVA **Diesel Generators**, 1600KVA 10KV/0.4KV & 1650KVA **Diesel Generator**, **110KV/35KV/10KV Substation**, 110KV/10KV **Transformers**,110KV & 2 Off 6KV **Overhead Lines**, 34.5KV,13.8KV ,4.16KV & 480V **Switchgear**, 4.16KV & 480V MCC, **Transformers & Motor Drives** Substations, **Diesel Driven Generators**, **Overhead Cranes**, **Overhead Cranes & HVAC Units**, **AC & DC Drives**, **Data Logger**, **Electrical, Instrumentation & Mechanical** Installation Maintenance, Slab Mills, Pre Heat Ovens, Hydraulic Shears, Stamping Machine, Gearboxes, Rollers, Pumps, Valves, Electro Magnets & Pump House Operation, Boilers Construction And Commissioning, Valve Calibration & Testing, Level Gauges, Pressure & Flow Transmitters Installation & Calibration, Pressure & Leak Testing of Boilers, Leak Testing, SMP, Elect, I&C, F&G, HVAC & Utility Services, Nitrogen Leak Test Operations, Steam Blowing Activities, SMP, Elect, I&C, F&G, HVAC & Utility Services, PTW Issue (PA/AC), Installation & Mechanical Piping and Hydro Testing & Leak Testing of Lines Installation.

During Mr. Steel's career life, he has gained his practical experience through several significant positions and dedication as the **3GP PBF & Boilers SC Commission Support**, **SC Site Execution Superintendent**, **E&I Construction Superintendent**, **High Voltage Construction Supervisor**, **Control & Power Construction Supervisor**, **Electrical & Instrumentation Supervisor**, **Electrical Technician**, **Construction Support Electrical Engineer**, **E&I Engineer**, **Electrical/Instrumentation Site Supervisor**, **Q.A/Q.C Inspector**, **Electrical/ Instrumentation Technician**, **Maintenance Fitter Instrumentation Technician**, **Millwright**, **Apprentice Millwright** and **Senior Instructor/Lecturer** for Tengiz Chevron Oil Kazakhstan, Al Jubail Saudi Arabia, Escravos Delta state Nigeria, Lurgi S.A, SuD Chemie Sasol Catalysts, J C Groenewalds Construction (LTA), Tycon (Goodyear S.A.), Dragline Construction and Iscor Vanderbijlpark.

Mr. Steel has a **Diploma** in **Electronics Mechanic**. Further, he is a **Certified Instructor/Trainer** and delivered numerous trainings, courses, workshops, seminars and conferences internationally.

Accommodation

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

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	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0900	***Legislation & Standards***
0900 – 0915	***Risk Management & Control***
0915 - 0930	***Approach to High Voltage – Safe Systems of Work, Permit Types & Permit Procedures***
0930 – 0945	*Break*
0945 – 1030	***Operate Local HV Switchgear***
1030 – 1100	***Operate Local LV Switchgear***
1100 – 1230	***Develop HV Switchgear Program***
1230 – 1245	*Break*
1245 – 1330	***Control Permit to Work Operations***
1330 - 1420	***Perform Switching to a Switching Program***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0815	***Coordinate & Direct Switching Program***
0815 – 0845	***Working Safely near Live Electrical Apparatus***
0845 – 0930	***Apply Access Procedures to Work on or Near Electrical Network Infrastructure***
0930 – 0945	*Break*
0945 – 1015	***Perform HV Field Switching Operation to a Given Schedule***
1015 – 1145	***Perform Power System Substation Switching Operation to a Given Schedule***
1145 - 1230	***Develop High Voltage Switching Schedule***
1230 – 1245	*Break*
1245 – 1315	***Coordinate Power Systems Permit Procedures***
1315 – 1345	***Coordinate & Direct Power System Switching Schedules***
1345 - 1420	***Solve Problems in Energy Supply Network Equipment***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Practical Sessions*** *Switching Programs*
0930 – 0945	*Break*
0945 – 1100	***Practical Sessions (cont'd)*** *Isolation Certificates*
1100 – 1230	***Practical Sessions (cont'd)*** *Isolation Certificates (cont'd)*
1230 – 1245	*Break*
1245 – 1420	***Practical Sessions (cont'd)*** *Electrical Permit to Work*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

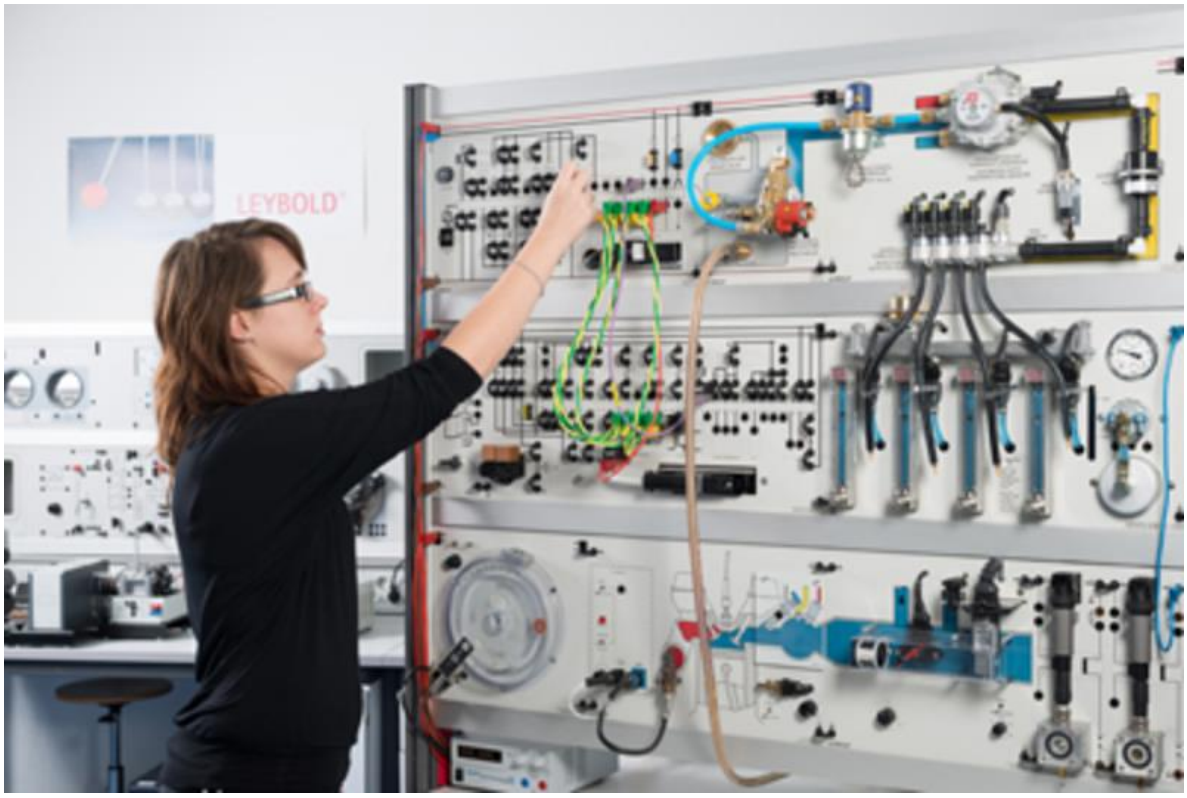
0730 – 0930	***Practical Sessions (cont'd)*** *Danger Notices & Pre-Cautions*
0930 – 0945	*Break*
0945 – 1100	***Practical Sessions (cont'd)*** *Sanction for Test*
1100 – 1230	***Practical Sessions (cont'd)*** *Sanction for Test (cont'd)*
1230 – 1245	*Break*
1245 – 1420	***Practical Sessions (cont'd)*** *Log-Out & Tag-Out*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Practical Sessions (cont'd)*** *Safe Key Systems*
0930 – 0945	*Break*
0945 – 1100	***Practical Sessions (cont'd)*** *Electrical Safety Systems- Interlocks-Earthing-Isolation & Access Control*
1100 – 1200	***Practical Sessions (cont'd)*** *Electrical Safety Systems- Interlocks-Earthing-Isolation & Access Control (cont'd)*
1200 – 1215	*Break*
1215 – 1245	***Practical Sessions (cont'd)*** *Fault Reports*
1245 – 1300	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1300 – 1400	***COMPETENCY EXAM***
1400 – 1415	*Evaluation of Competency Exam*
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes the following practical sessions using Haward's HV Switchgears:-



(1) Switching Programs
(2) Isolation Certificates
(3) Electrical Permit to Work
(4) Danger Notices & Pre-Cautions
(5) Sanction for Test
(6) Lock-Out & Tag-Out
(7) Safe Key Systems
(8) Electrical Safety Systems-Interlocks-Earthing-Isolation & Access Control
(9) Fault Reports

Course Coordinator

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