COURSE OVERVIEW EE0313
Electrical Isolation Procedure Certification

Course Title
Electrical Isolation Procedure Certification

Course Date/Venue
Session 1: March 29-April 02, 2026/ Crowne Meeting Room, Crowne Plaza Al Khobar, KSA
Session 2: September 06-10, 2026/ Tamra Meeting Room, Al Bandar Rotana Creek, Dubai UAE

Course Reference
EE0313

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

Every year, people working on maintenance activities and construction sites suffer electric shock and burn injuries some of which, tragically, are fatal. Many of these accidents are a direct consequence of electricians not implementing safe isolation procedures. Experience shows that electricians are particularly at risk of death or serious injury from electric shock or burns if they fail to follow safe working procedures.

This course explains what needs to be done to make sure workers on site are not exposed to danger when working on or near live electrical systems and equipment. Its purpose is to provide practical guidance on the management of electrical safety, with particular emphasis on safe isolation procedures to be followed during construction and refurbishment projects, and during maintenance activities.

This course is designed to provide participants with a detailed and an up-to-date overview electrical isolation procedure. It covers the basic concepts and definitions related to electrical safety; the electrical risk and mechanical risk related to disconnected electrical plant; the risk related to live electrical work not isolated; and the site health and safety management including health and safety interaction, personal protective equipment, disaster and fire management.
By the end of the course, participants will be able to carryout electrical isolation management that includes procedure for proving electrically dead and lockout methods; recognize the electrical effect on the human body; identify the isolation of specialised electrical installations; and energising after electrical isolation that includes safety checks, completion of installation, testing, inspection, earthing and removal of lock out mechanisms.

Course Objectives

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

- Apply and gain a comprehensive knowledge in electrical isolation procedure
- Discuss the concepts related to electrical safety and recognize risk related to disconnected electrical plant including electrical and mechanical risk
- Identify risk related to live electrical work not isolated
- Recognize site health and safety management including health and safety interaction, personal protective equipment, disaster and fire management
- Determine electrical isolation management including procedure for proving electrically dead and physical means of isolation
- Explain the electrical effect on the human body
- Describe isolation of specialised electrical installations and discuss energise after electrical isolation including safety checks before energising and certifications

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 electrical isolation procedure for electrical engineers and other technical staff who are involved in maintenance and installation of electrical equipment and systems.

Accommodation

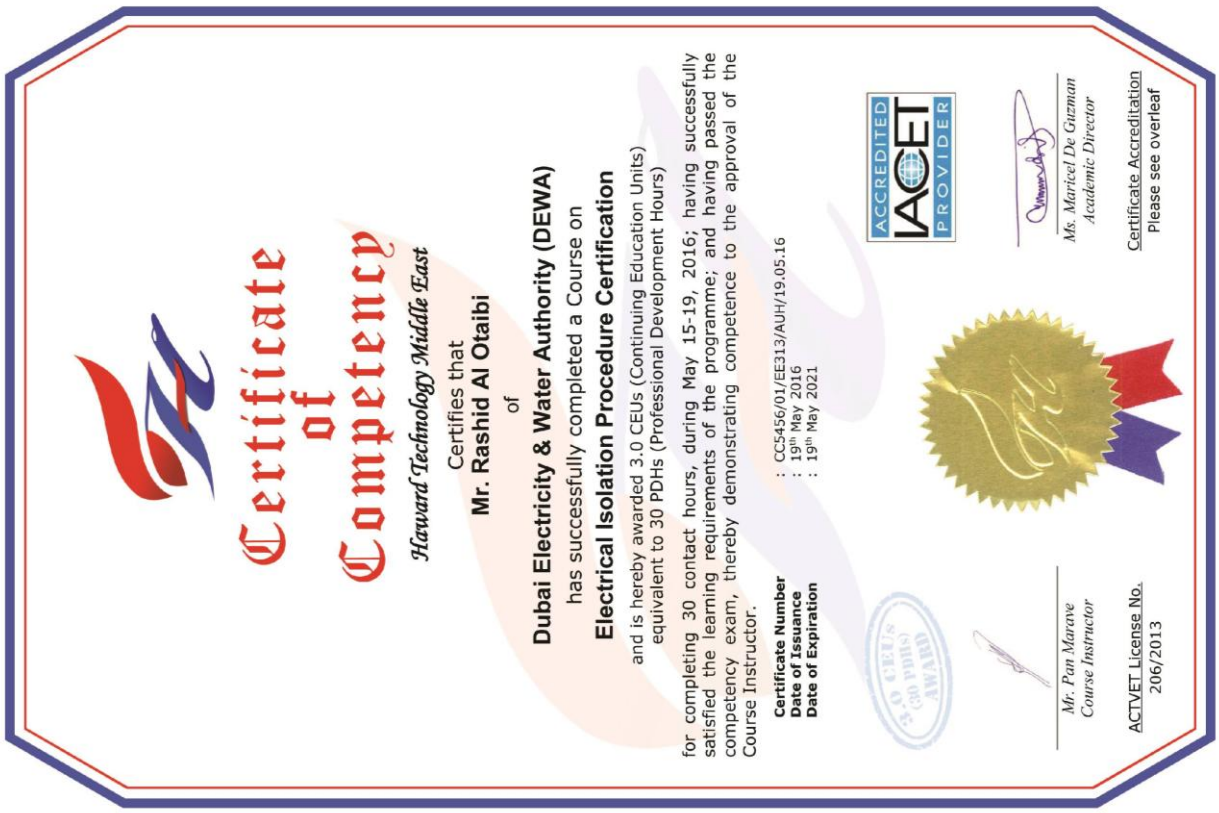
Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

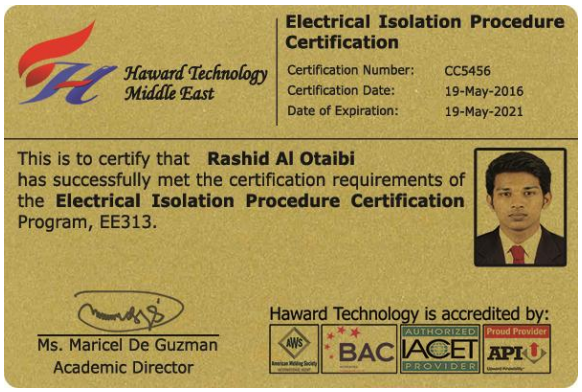
Course Certificate(s)

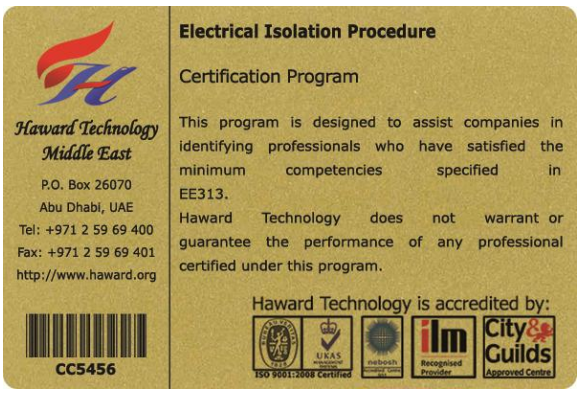
Internationally recognized Wall Competency Certificates and Plastic Wallet Card Certificates will be issued to participants who have successfully completed the course and passed the exam at the end of the course. Certificates are valid for 5 years.

Sample of Certificates

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







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 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:

Dr. Alaa Abdel Kerim, PhD, MSc, BSc, is a **Senior Electrical & Instrumentation Engineer** with over **35 years** of extensive experience in the **Power & Water Utilities** and Other **Energy Sectors**. He specializes in **Electrical Safety**, **HV Cable** Design, **Cable** Splicing & Termination, **Cable** Jointing Techniques, **High Voltage** Electrical Safety, **Electrical Drawing & Schematics**, **Electrical Power**, **Electrical Wiring**, Machines, **Transformers**, **Motors**, **Power Stations**, **Substation** Site Inspection, **HV/MV Cable Splicing**, **High Voltage Circuit Breaker** Inspection & Repair, **LV/MV/HV Circuit Breakers & Switchgear**, **Cable & Over Head Power Line**, **High Voltage Power System** Safe Operation, High Voltage Safety, **High Voltage Transformers**, **HV Switch Gear Maintenance**, **Power System Blackouts**, **High Voltage Electrical Safety**, **Protection Relays**, **Process Control** & **Instrumentation**, **Industrial UPS Systems**, Safe Operation of **High Voltage & Low Voltage Power Systems**, **Fundamentals of Electricity**, **Electrical Standards**, Practical **High Voltage Safety Operating Procedures**, Modern Power System **Protective Relaying**, **Electrical & Control System** Testing, **Design**, **Commissioning**, **Operation** and **Maintenance** of **Switchgears**, **Transformers**, **Substations**, **Medium & High Voltage Equipment** and **Circuit Breakers**, **Electrical Motors & Variable Speed Drives**, **Power System** Equipment, **Distribution Network** System, **Electric Distribution System Equipment**, Practical Troubleshooting of **Electrical Equipment & Control Circuits**, **Electrical & Control System** Testing & Commissioning, **LV/MV/HV Circuit Breakers** Inspection & Maintenance, Electrical **Power Substation** Maintenance, **Power Stations**, **Uninterruptible Power Systems** (**UPS**), **Battery Chargers** and **AC** & **DC Transmission**, **DCS**, **PLC**, **SCADA**, **Siemens SIMATIC S7** Maintenance & Configuration, **Siemens Simatic S7 PLC**, **Siemens WINCC, Siemens SIMATIC & WinCC**, **Siemens**, PLC Simatic **S7-400/S7-300/S7-200**, **HMI**, **Automation System**, **Process Control & Instrumentation**, **Hydrocarbon**, **Level & Flow Measurements**, **Analytical Instrumentation**, **Find Control Elements**, **Control Loop Operation**, **Data Acquisition & Transmission**, **Electronics Technology**, **Power Systems Control**, **Power Systems Security**, **Power Transmissions**, **Power Generation**, **Electrical Substations** and **MV/LV Electrical System**.

During his career life, Dr. Alaa has been practically and academically involved in different **Power System** and **Instrumentation international companies** and **Universities** as a **Senior Professor** & **Consultant**, **Instrumentation Engineer** and **Electrical Engineer**. His recent practical applications experience includes the design, supply, installation, operation of full **DCS**, **SCADA**, **PLC**, **HMI Automation System** for **Sumid Line Petroleum**, **Siemens USA**, **AREVA USA** to name a few. His experience also includes electrical coordination, protection level adjustments and electrical testing.

Dr. Alaa has a **PhD** degree in **Electrical Engineering** from the **Technical University of Gdansk**, **Poland** and has **Master's** and **Bachelor's** degrees in **Electrical Machine & Power Engineering** from **Cairo University** and **Helwan University**, respectively. Further, he is a **Certified Instructor/Trainer** and delivered numerous trainings and workshops worldwide.

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	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction*** *The Need for Isolation Procedures ● Risk Involved in Incorrect Isolation ● Interaction of Isolation Procedures on Other Related Operations*
0930 – 0945	*Break*
0945 – 1100	***Basic Concepts & Definitions Related to Electrical Safety*** *Electrical Current ● Electrical Protection Against Shock ● Earthing ● Equipotential Bonding ● Earth Leakage Devices ● Isolating Supply ● Insulating Monitors ● Induction ● Capacitors ● Switchgear for Isolation ● Neutral Conductors*
1100 – 1230	***Risk Related to Disconnected Electrical Plant*** *Electrical Risk (Static Electricity ● Induction from Network Reticulation ● Capacitances Build Up and Discharge of Equipment and Reticulation ● Impact on Operational Activities due to Plant Isolation ● Shared Circuits that Cannot be Isolated)*
1230 – 1245	*Break*
1245 – 1420	***Risk Related to Disconnected Electrical Plant (cont'd)*** *Mechanical Risk (Pressurised Systems ● Instrumentation Reliability ● Pressure Relieving ● Safety Valves ● Mechanical Engineering Assistance ● Permit to Work–declare Safe by Others)*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

0730 – 0930	***Risk Related to Live Electrical Work Not Isolated*** *Unable to Isolated Plant–live Work ● Electrical Live Permit-to-Work ● Health and Safety Procedures ● Equipotential Electrical Work ● Automatic Start Up Plant–generators and other Source Of Energy*
0930 – 0945	*Break*
0945 – 1100	***Risk Related to Live Electrical Work Not Isolated (cont'd)*** *Equipotential Electrical Work ● Automatic Start Up Plant–generators and Other Source of Energy*
1100 – 1230	***Site Health and Safety Management*** *Health and Safety Interaction: Safe Systems of Work ● Methods Stamen on Procedures ● Risk Assessment ● Planning Procedures ● Written Authorisation ● Induction Training*
1230 – 1245	*Break*
1245 – 1420	***Site Health & Safety Management (cont'd)*** *Personal Protective Equipment: Equipment for Protection Against Thermal Burns ● Protection Against Electrocution ● Protection Against Arch Flash Burns*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Site Health & Safety Management (cont'd)*** *Disaster and Fire Management: Availability of Fire Fighting Equipment ● Interaction and Authority with Plant Disaster Management ● First Aid ● Evacuation during Isolation of Plant ● Interference of Isolated Circuits on Fire Evacuation and Control*
0930 - 0945	*Break*
0945 – 1100	***Site Health & Safety Management (cont'd)*** *Disaster and Fire Management (cont'd): First Aid ● Evacuation during Isolation of Plant ● Interference of Isolated Circuits on Fire Evacuation and Control)*
1100 – 1230	***Electrical Isolation Management*** *Procedure for Proving Electrically Dead: Electrical Schematic and other Diagrams-Reliability*
1230 – 1245	*Break*
1245 – 1420	***Electrical Isolation Management (cont'd)*** *Procedure for Proving Electrically Dead (cont'd): Testing Equipment ● Isolating Capability ● Training ● Competency of Staff*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

0730 – 0930	***Electrical Isolation Management (cont'd)*** *Physical Means of Isolation: Main Switch-disconnector ● Single and Multiphase Risks ● Individual Circuits Isolation Protected by Circuit Breakers ● Individual Circuits Isolation Protected by Fuses ● Lock Out Methods*
0930 – 0945	*Break*
0945 – 1100	***Electrical Isolation Management (cont'd)*** *Physical Means of Isolation (cont'd): Administrative Procedures ● Signs and Notices ● Pictograms ● Correct Point of Isolation ● Electrical TT System Phases Safety*
1100 – 1230	***Electrical Effect on the Human Body*** *The Human Body Neurological System ● Cardiac Interaction ● Cardiac Arrest ● Heartatrial Fibrillation - Cardiac Arrhythmia ● Human Skin and Internal Resistance ● Electric Thermal Burns ● Electrical Arch Flash Burns ● Electrical Shock Effect ● Energy and Time Exposure to Electrical Current*
1230 – 1245	*Break*
1245 – 1420	***Electrical Effect on the Human Body (cont'd)*** *Electric Thermal Burns ● Electrical Arch Flash Burns ● Electrical Shock Effect ● Energy and Time Exposure to Electrical Current*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

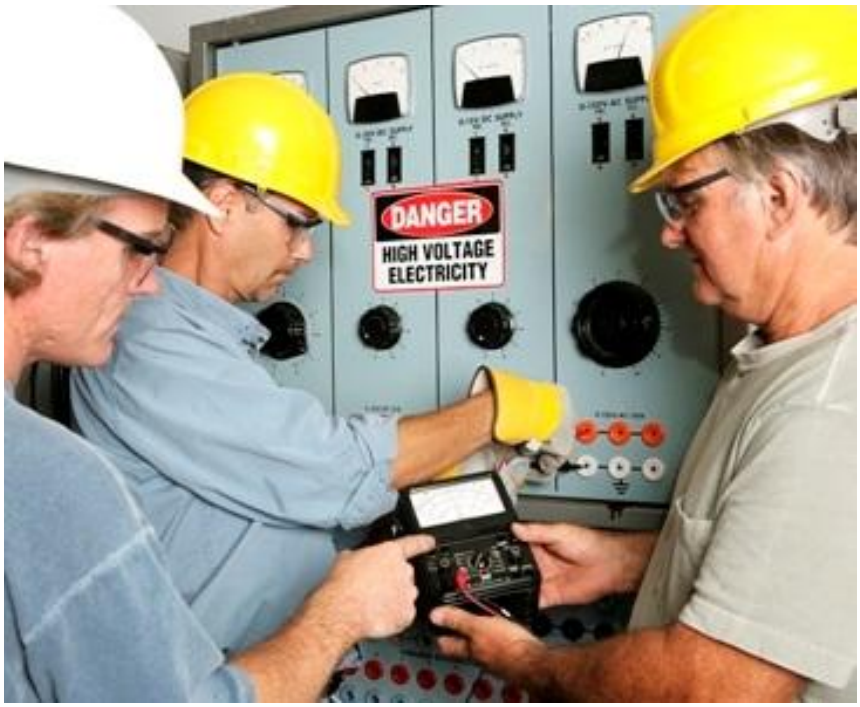
Day 5

0730 – 0930	***Isolation of Specialised Electrical Installations*** *Petrochemical Environments ● Explosive Gas Build Up In Non-Electrical Parts ● Ventilation ● Indirect Plant Effect on Work Environment ● Isolation While the Work Is In Progress ● Effect on Intrinsically Safe Circuits*
0930 – 0945	*Break*
0945 – 1100	***Energise After Electrical Isolation*** *Safety Checks Before Energising: Pre Checks ● Completion of Installation ● Testing ● Visual Inspections ● Earthing ● Downstream Effect on other Plant, Equipment and Operations ● Removal of Lock Out Mechanisms ● Communication and Authorisation to Energise ● Warning Signs ● Security and Access Control ● Authorise Staff and Contractors on Site ● Other Trade Activities*
1100 – 1230	***Energise After Electrical Isolation (cont'd)*** *Safety Checks Before Energising (cont'd): Removal of Lock Out Mechanisms ● Communication and Authorisation to Energise ● Warning Signs ● Security and Access Control ● Authorise Staff and Contractors on Site ● Other Trade Activities*
1230 – 1245	*Break*
1245 – 1300	***Energise After Electrical Isolation (cont'd)*** *Certifications of Normal Circuits ● Certification of Explosive Protective Circuits*

1300 – 1315	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1315 – 1415	***COMPETENCY EXAM***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org