

COURSE OVERVIEW EE0628-4D

NFPA 70E: Standard for Electrical Safety in the Workplace

Course Title

NFPA 70E: Standard for Electrical Safety in the Workplace

Course Reference

EE0628-4D

Course Duration/Credits

Four days/2.4 CEUs/24 PDHs



Course Date/Venue

Session(s)	Date	Venue
1	January 22-25, 2024	Cheops Meeting Room, Radisson Blu Hotel, Istanbul Sisli, Turkey
2	March 04-07, 2024	Jubail Hall, Signature Al Khobar Hotel, Al Khobar, KSA
3	June 24-27, 2024	Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
4	September 30-October 03, 2024	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

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 electrical safety in the workplace in accordance with NFPA 70E standards. It covers the safety related work practices and procedures; the general requirements for electrical safety-related practices; establishing an electrically safe work condition; the work involving electrical hazards; and the safety-related and general maintenance requirements for various electrical equipment and facilities for substations, switchgears assemblies, switchboards, panel boards, motor control centres and disconnected switches.



During this interactive course, participants will learn the premises wiring; the controller equipment, fuses and circuit breakers; the rotating equipment, hazardous locations, batteries and battery rooms; the portable electric tools and equipment; the personal safety and protective equipment; the safety requirements for special equipment; and the safety related work practices for electrolytic cells, batteries and battery rooms, lasers, power electronic equipment research and development laboratories and capacitors.

Course Objectives

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

- Apply the latest electrical safety procedures and practices in the workplace in accordance with the international practice of NFPA 70E
- Carryout safety related work practices and procedures
- Identify the general requirements for electrical safety-related practices
- Establish an electrically safe work condition and recognize the work involving electrical hazards
- Recognise the safety-related and general maintenance requirements for various electrical equipments and facilities including substations, switchgears assemblies, switchboards, panelboards, motor control centers and disconnected switches
- Illustrate premises wiring and identify controller equipment, fuses and circuit breakers, rotating equipment, hazardous locations, batteries and battery rooms, portable electric tools and equipment
- Use personal safety and protective equipment as well as apply safety requirements for special equipment
- Employ safety-related work practices for electrolytic cells, batteries and battery room, lasers, power electronic equipment, research and development laboratories and capacitors

Who Should Attend

This course is designed for supervisors, engineers, inspectors, safety officers, construction workers and electrical maintenance and installation technicians that work on or around electrical equipment or installation which have voltage of 50 or more. This course is designed to meet the safety training requirements of OSHA 29 CFR 1910.332 and the National Electric Code.

Training Methodology

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

- 30% Lectures
- 20% Workshops & Work Presentations
- 30% Case Studies & Practical Exercises
- 20% Software, Simulators & Videos

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

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: -

- 
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 **2.4 CEUs** (Continuing Education Units) or **24 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.

- 
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.

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. Sydney Thoresson, PE, BSc, is a Senior Electrical & Instrumentation Engineer with over 40 years of extensive experience within the Power & Water Utilities and Other Energy Sectors. His specialization highly evolves in Electrical Safety, Power System Equipment, Electrical Drawing, Electrical Forecasting, Transmission Networks, Substation, Distribution Networks, Substation Automation Systems & Application, Electrical System, HV/LV Electrical Authorisation, Variable Frequency Drives (VFD), HV/LV Equipment, Circuit Breaker, Motor Controllers, Hazardous Area Classification, Intrinsic Safety, Electrical Power Systems Quality & Troubleshooting, Protection & Relay, Electric & Control System Commissioning, Liquid & Gas Flowmetering, Fault Analysis in Electrical Networks & Distribution Cables, Custody Measurement, Ultrasonic Flowmetering, Loss Control, Gas Measurement, Process Control Instrumentation, Compressor Control & Protection, Control Systems, Programmable Logic Controllers (PLC), SCADA, Distributed Control Systems (DCS) especially in Honeywell DCS, H&B DCS, Modicon, Siemens, Telemecanique, Wonderware and Adrioit. Moreover, he has vast experience in the field of Safety Instrumented Systems (SIS), Safety Integrity Level (SIL), Emergency Shutdown (ESD), Flowmetering & Custody Measurement, Multiphase Flowmetering, Measurement and Control, Mass Measuring System Batching (Philips), Arc Furnace Automation-Ferro Alloys, Walking Beam Furnace, Blast Furnace, Billet Casting Station, Cement Kiln Automation, Factory Automation and Quality Assurance Accreditation (ISO 9000 and Standard BS 5750).

During Mr. Thoresson's career life, he has gained his thorough and practical experience through various challenging positions such as a **Project Manager, Contracts Manager, Managing Director, Technical Director, Divisional Manager, Plant Automation Engineer, Senior Consulting Engineer, Senior Systems Engineer, Consulting Engineer, Service Engineer and Section Leader** from several international companies such as **Philips, FEDMIS, AEG, DAVY International, BOSCH Instrumentation and Control, Billiton, Endress/Hauser, Petronet, Iscor, Spornet, Eskom and Afrox.**

Mr. Thoresson is a **Registered Professional Engineering Technologist** and has a **National Higher Diploma (NHD) & a National Diploma in Radio Engineering** from the **Witwatersrand Technikon**. Further, he is a **Certified Instructor/Trainer, a Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)**, an active member of the **International Society of Automation (ISA)** and the **Society for Automation, Instrumentation, Measurement and Control (SAIMC)**.



Course Fee

Istanbul	US\$ 5,000 per Delegate + VAT . This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Al Khobar	US\$ 4,500 per Delegate + VAT . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Abu Dhabi	US\$ 4,500 per Delegate + VAT . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	US\$ 4,500 per Delegate + VAT . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course 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 & Coffee</i>
0800 - 0815	<i>Welcome & Introduction</i>
0815 - 0830	PRE-TEST
0830 - 0930	Introduction to NFPA 70E
0930- 1030	Safety Related Work Practices
1030 - 1045	<i>Break</i>
1045 - 1120	Definitions
1120 - 1215	Application of Safety-Related Work Practices & Procedures
1215 - 1230	<i>Break</i>
1230 - 1330	General Requirements for Electrical Safety -Related Work Practices
1330 - 1420	Establishing an Electrically Safe Work Condition
1420 - 1430	Recap
1430	<i>Lunch & End of Day One</i>

Day 2

0730 - 0830	Work Involving Electrical Hazards
0830 - 0930	Safety-Related Maintenance Requirements
0930 - 0945	<i>Break</i>
0945 - 1045	General Maintenance Requirements
1045 - 1130	Substations, Switchgear Assemblies, Switchboards, Panelboards, Motor Control Centers & Disconnect Switches
1130 - 1215	Premises Wiring
1215 - 1230	<i>Break</i>
1230 - 1330	Controller Equipment
1330 - 1420	Fuses & Circuit Breakers
1420 - 1430	Recap
1430	<i>Lunch & End of Day Two</i>





Day 3

0730 – 0830	Rotating Equipment
0830 – 0930	Hazardous (Classified) Locations
0930 – 0945	<i>Break</i>
0945 – 1045	Batteries & Battery Rooms
1045 – 1145	Portable Electronic Tools & Equipment
1145 – 1200	<i>Break</i>
1200 – 1300	Personal Safety & Protective Equipment
1300 – 1420	Safety Requirement for Special Equipment
1420 – 1430	Recap
1430	<i>Lunch & End of Day Three</i>

Day 4

0730 – 0830	Safety-Related Work Practices for Electrolytic Cells
0830 – 0930	Safety Requirements Related to Batteries & Battery Rooms
0930 – 0945	<i>Break</i>
0945 – 1045	Safety-Related Work Practices: Lasers
1045 – 1145	Safety-Related Work Practices: Power Electronic Equipment
1145 – 1200	<i>Break</i>
1200 – 1300	Safety-Related Work Requirements: Research & Development Laboratories
1300 – 1345	Safety-Related Requirements for Capacitors
1345 – 1400	Course Conclusion
1400 – 1415	POST-TEST
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>

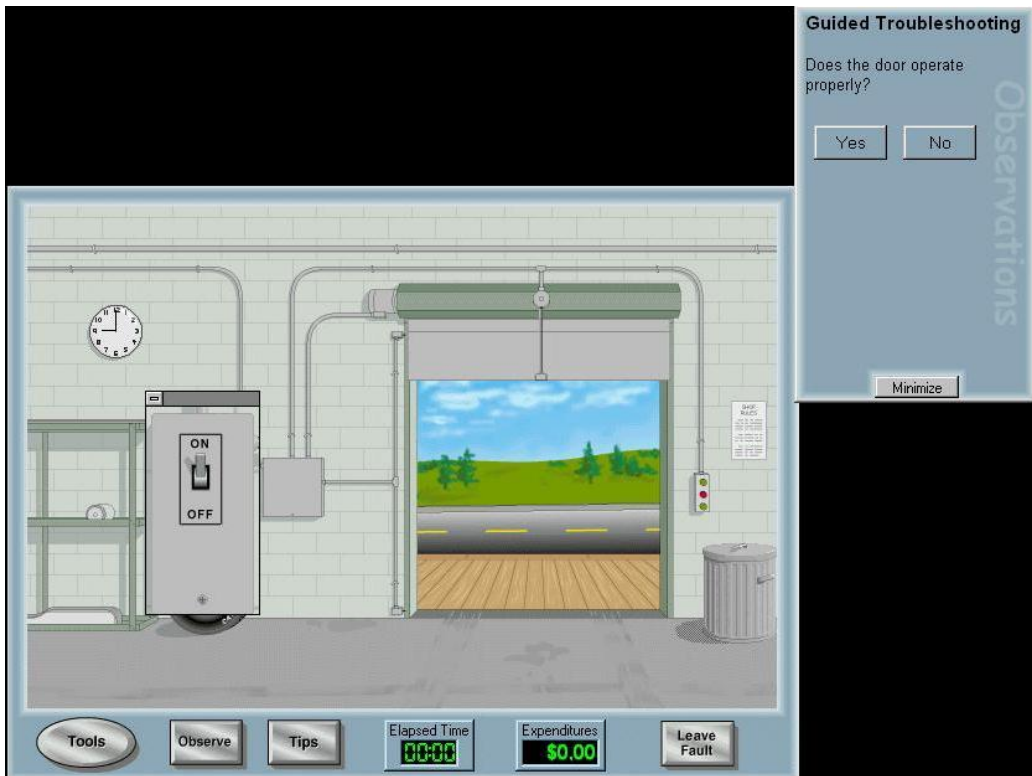




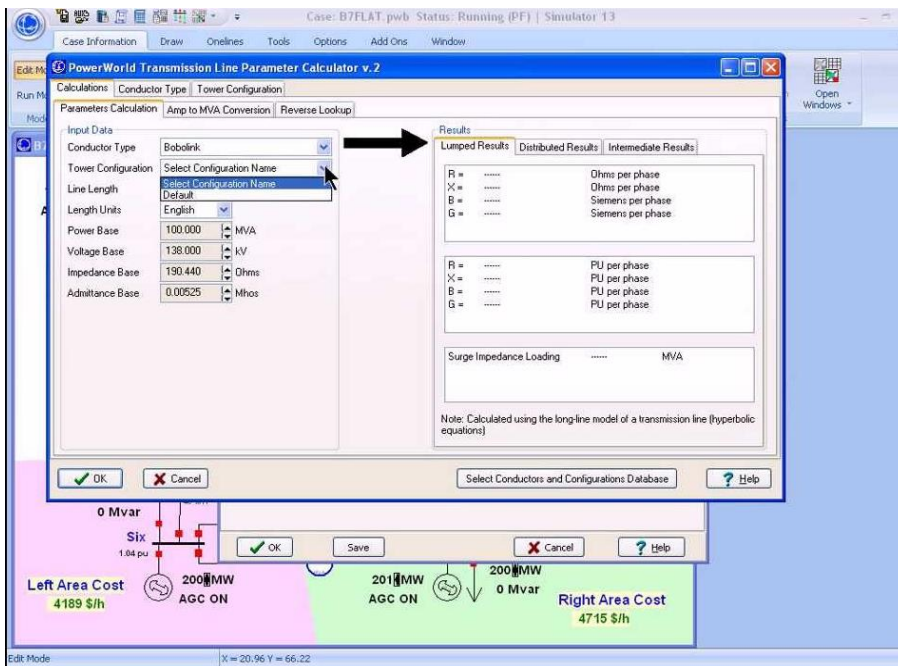
Simulators (Hands-on Practical Sessions)

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 “Simutech Troubleshooting Electrical Circuits V4.1”, “Power World”, “GE Multilin Relay 469” and “GE Multilin Relay 750”

The screenshot displays a simulation software interface. The top half shows a physical circuit board with components labeled: TB1 (terminal block), FU (fuse), PB1-PB6 (pushbuttons), R1 (relay), and L1-L2 (lights). The bottom half shows a schematic diagram titled "HOW THE CIRCUIT WORKS" with a text box explaining the latching mechanism: "When a pushbutton is pressed the light and relay connected to this pushbutton become energized. This seals the relay in, closing normally open (N/O) contacts and opening normally closed (N/C) contacts. The seal in contact allows the coil and light to remain energized when the pushbutton is released." The interface includes a control panel on the right with buttons for "Tools", "Circuit Operation", "Observe", "Tips", "Leave Fault", "Main Menu", "Narrations: On Off", and "Exit". A timer shows "Elapsed Time 00:00" and "Expenditures \$0.00".



Simutech Troubleshooting Electrical Circuits V4.1



Power World Simulator





GE Multilin Relay 469 Simulator



GE Multilin Relay 750 Simulator

Course Coordinator

Kamel Ghanem, Tel: +971 2 30 91 714, Email: kamel@haward.org