COURSE OVERVIEW NE0019-1D
Knowledge of Nuclear Industry

Course Title
Knowledge of Nuclear Industry

Course Date/Venue
Session 1: May 06, 2026/Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: September 24, 2026/Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Reference
NE0019-1D

Course Duration/Credits
One day/0.6 CEUs/06 PDHs

Course Description

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

This course is designed to provide participants with a detailed and up-to-date overview of Nuclear Industry. It covers the history of nuclear energy development, global nuclear energy landscape, types of nuclear facilities and peaceful versus military applications; the nuclear science fundamentals covering basic atomic structure, nuclear fission process, radiation and its effects and radiation protection principles; and the reactor types, main components of a nuclear power plant, reactor cooling systems and plant operation basics.

During this interactive course, participants will learn the nuclear fuel cycle covering front-end of the fuel cycle, in-reactor fuel management, back-end of the fuel cycle and waste management and decommissioning; the nuclear safety principles, major nuclear accidents and lessons learned, regulatory framework and nuclear security and safeguards; and the nuclear power plant project phases, stakeholders in the nuclear industry, economics of nuclear energy and future trends in nuclear energy.

Course Objectives

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

- Apply and gain a basic knowledge on nuclear industry
- Discuss the history of nuclear energy development, global nuclear energy landscape, types of nuclear facilities and peaceful versus military applications
- Explain nuclear science fundamentals covering basic atomic structure, nuclear fission process, radiation and its effects and radiation protection principles
- Identify reactor types, main components of a nuclear power plant, reactor cooling systems and plant operation basics
- Illustrate nuclear fuel cycle covering front-end of the fuel cycle, in-reactor fuel management, back-end of the fuel cycle and waste management and decommissioning
- Review nuclear safety principles, major nuclear accidents and lessons learned, regulatory framework and nuclear security and safeguards
- Recognize nuclear power plant project phases, stakeholders in the nuclear industry, economics of nuclear energy and future trends in nuclear energy

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 nuclear industry for new entrants to the nuclear sector, technical professionals, safety, compliance, and regulatory staff, project and risk managers, business and policy professionals and supporting disciplines.

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)

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

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 **0.6 CEUs** (Continuing Education Units) or **06 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. Ahmed Abozeid is a **Senior Electrical & Instrumentation Engineer** with over **30 years** of **Onshore** & **Offshore** experience within the **Oil** & **Gas**, **Refinery**, **Petrochemical**, **Power** and **Water** & **Utilities**. His wide expertise covers **Nuclear Industry**, **Nuclear Power Plant Technology**, **Nuclear Safety, Security & Regulation**, **Battery Chargers**, Advanced **Battery Energy** Storage Systems, Fundamentals of **Battery Technologies**, Hybrid **Renewable Energy Systems**, **Electrical Safety**, **HV Cable** Design, **Cable** Splicing & Termination, **Cable** Jointing Techniques, **High Voltage** Electrical Safety, **HV/MV Cable Splicing**, **High Voltage Circuit Breaker** Inspection & Repair, **Cable & Over Head Power Line**, **High Voltage Power System** Safe Operation, High Voltage Safety, **High Voltage Transformers**, Safe Operation of **High Voltage & Low Voltage Power Systems**, **Power System** Equipment, **Distribution Network** System, **Fire Fighting** System Instrumentations, **Fire Protection** System, **Fire & Gas Detection** & Alarm System, **Process Control Measurements**, **Control System Commissioning & Start-Up**, **Control System & Monitoring**, **Power Station Control System**, **Instrumentation Devices**, **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, **Substation** Site Inspection, 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**, **Motor** Speed Control, Power Electronic Converters, AC Converters Section, Electromagnetic Compatibility (**EMC**), **Motor** Failure Analysis & Testing, **Machinery** Fault Diagnosis, **Bearing** Failure Analysis **Process Control & Instrumentation**, **Process Control & Automation**, **PID Controller**, Distributed Control Systems (**DCS**), Programmable Logic Controllers (**PLC**), **ABB PLC & DCS** System, **Gas Analyzers**, **Simulation Testing**, **Load Flow**, **Short Circuit**, **Smart Grid**, **Vibration Sensors**, **Cable Installation & Commissioning**, **Calibration Commissioning** and **Site Filter Controller**. Further, he is also well-versed in Fundamentals of **Electricity**, **Electrical Standards**, **Electrical Drawing & Schematics**, **Electrical Power**, **PLC**, **Electrical Wiring**, Machines, **Transformers**, **Motors**, **Power Stations**, **Electro-Mechanical Systems**, **Automation & Control Systems**, **Voltage Distribution**, **Power Distribution**, **Filters**, **Automation System**, **Electrical Variable Speed Drives**, **Power** Systems, **Power Generation**, **Power Transformers**, **Diesel Generators**, **Power Stations**, **Uninterruptible Power Systems** (**UPS**), and **AC** & **DC Transmission**. He is currently the **Project Manager** wherein he manages, plans and implements projects across different lines of business.

Mr. Ahmed worked as the **Electrical Manager**, **Assistant General Technical Manager**, **Electronics & Instruments Head**, **Electrical Power & Machine Expert**, **Electrical Process Leader**, **Team Leader**, **Electrical Team Leader**, **Electronics & Instruments Maintenance Superintendent**, **Fire Systems Engineer**, **Engineering Supervisor**, **Technical Instructor** and **Instructor/Trainer** from various companies such as the Lafarge Nigeria, Egyptian Cement Company, ECC Training Center, Alrajhi Construction & Building Company and Ameria Cement Company, just to name a few.

Mr. Ahmed has a **Bachelor's** degree in **Electrical Engineering**. Further, he is a **Certified Instructor/Trainer** and has delivered numerous trainings, seminars, courses, workshops 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 Fee

US$ 1,750 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 workshop 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	***Introduction to the Nuclear Industry*** *History of Nuclear Energy Development • Global Nuclear Energy Landscape • Types of Nuclear Facilities • Peaceful versus Military Applications*
0900 – 0930	***Nuclear Science Fundamentals*** *Basic Atomic Structure • Nuclear Fission Process • Radiation and Its Effects • Radiation Protection Principles*
0930 – 0945	*Break*
0945 – 1130	***Nuclear Power Plant Technology*** *Reactor Types • Main Components of a Nuclear Power Plant • Reactor Cooling Systems • Plant Operation Basics*
1130 – 1215	***Nuclear Fuel Cycle*** *Front-End of the Fuel Cycle • In-Reactor Fuel Management • Back-End of the Fuel Cycle • Waste Management and Decommissioning*
1215 – 1230	*Break*
1230 – 1315	***Nuclear Safety, Security & Regulation*** *Nuclear Safety Principles • Major Nuclear Accidents and Lessons Learned • Regulatory Framework • Nuclear Security & Safeguards*
1315 – 1345	***Nuclear Project Lifecycle & Industry Economics*** *Nuclear Power Plant Project Phases • Stakeholders in the Nuclear Industry • Economics of Nuclear Energy • Future Trends in Nuclear Energy*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about t Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
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

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