COURSE OVERVIEW HE0581-3D
Certified Radiation Protection Officer (RPO)

(1) In-line with the Requirements of the Federal Authority for Nuclear Regulation (FANR)
(2) Accredited by the National Center for Radiation Protection (NCRP) - K.A.CARE

Course Title

Certified Radiation Protection Officer (RPO):
(1) In-line with the Requirements of the Federal Authority for Nuclear Regulation (FANR)
(2) Accredited by the National Center for Radiation Protection (NCRP) - K.A.CARE

Course Date/Venue

September 02-04, 2024/Online Virtual Training

Course Reference

HE0581-3D

1.2 CEUs (12 PDHs) AWARD

Course Duration/Credits

Three days/1.2 CEUs/12 PDHs

Course Description

This practical and highly-interactive course includes practical sessions and exercises where participants carryout surface contamination and dose rate measurements and surveys. Theory learnt in the class will be applied using our state-of-the-art equipment.

This course is designed to provide delegates with a detailed and up-to-date overview of radiation protection officer/qualified expert in accordance with the Federal Authority for Nuclear Regulations (FANR). It covers the fundamentals review; the quantities and measurements; the biological effects of ionizing radiation; the principles of radiation protection and the international framework; and the regulatory control.

Further, the course will also cover the assessment of external and internal exposures; the protection against occupational exposure; the medical exposures in diagnostic radiology, radiotherapy and nuclear medicine; the exposure of the public owing to practices; the intervention in situations of chronic and emergency exposure; and training the trainers.

The course includes a comprehensive e-book entitled "*An Introduction to Radiation Protection*", published by CRC Press, which will be given to the participants to help them appreciate the principles presented in the course.

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Course Objectives

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

- Get certified as a *"Certified Radiation Protection Officer"*
- Review the fundamentals of physics and mathematics used in radiation protection, interaction of radiation with matter and sources of radiation
- Identify the quantities and measurements as well as the biological effects of ionizing radiation
- Discuss the principles of radiation protection and the international framework covering the conceptual framework, role of international organizations in radiation protection and the development of safety culture
- Apply regulatory control including the legal framework for radiation protection and the safe use of radiation sources, regulatory system and assessment of the effectiveness of the regulatory programmes
- Assess external and internal exposures of radiation due to external sources of radiation and radionuclides and use proper protection against occupational exposure
- Explain medical exposures in diagnostic radiology, radiotherapy and nuclear medicine including the scope and responsibilities, justification of medical exposures, optimization of protection for medical exposures, quality assurance and accidental exposures in medical applications
- Describe exposure of the public owing to practices, intervention in situations of chronic and emergency exposure
- Assess the training needs, presenting how to be a lecturer and setting up a training course

Who Should Attend

This course provides an overview of all significant aspects and considerations of radiation protection for those who are willing to be a Radiation Protection Officer (RPO) such as safety officers, supervisors, engineers, inspectors, X-Ray technicians and other technical and medical staff.

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.

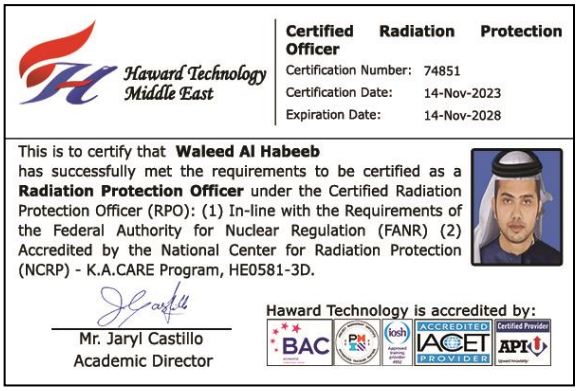
Course Certificate(s)

(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 Radiation Protection officer*". 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-23

HTME No. 74851

Participant Name: Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
HE0581-3D	Certified Radiation Protection Officer (RPO): *(1) In-line with the Requirements of the Federal Authority for Nuclear Regulation (FANR) (2) Accredited by the National Center for Radiation Protection (NCRP) - K.A.CARE*	November 12-14, 2023	18	1.8

Total No. of CEU's Earned as of TOR Issuance Date **1.8**

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

Certificates are accredited by the following international accreditation organizations:-

- **NCRP: National Center for Radiation Protection (K.A.CARE)**

Haward Technology's radiation course is accredited by the **National Center for Radiation Protection** (**NCRP**) – **K.A.CARE** (**King Abdullah City for Atomic & Renewable Energy**, **KSA**). The approval has been given after thorough review of the course content and instructor's qualifications in delivering this program.

NCRP is the national regulatory authority in Saudi Arabia that develops, issues, and modifies the National Regulations in the areas of radiation safety. NCRP provides authorization and licensing to all radiation practices and radiation workers. It also conducts inspections related to radiation safety and security of radioactive sources.

- 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 **1.2 CEUs** (Continuing Education Units) or **12 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 requests

- 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. Tony Bunce, PgDip, BSc, RPA, CMIOSH, CRadP, NEBOSH, is an **Accredited Radiation Protection Adviser** (**RPA**), and a **Senior Environmental Consultant** with over **20 years.** He is a **NEBOSH Approved Instructor** and his expertise widely covers in **NEBOSH** Environmental Management, **NEBOSH** International General Certificate, **NEBOSH** Health & Safety, **NEBOSH** Health & Safety Leadership, **HAZOP & HAZAN** Analysis**,** Hazard Identification (**HAZID**), **ALARP** System, **Radiation Safety & Protection**, **Radioactive Waste Management**, **Radiation Protection Instrumentation**, **Nuclear & Radiological Safety**, **Nuclear Engineering**, **Safety Management System**, **Uranium & Plutonium Safe Handling**, **Contamination Control**, **Radiation Protection Design**, **Risk Assessment**, **Personal Protection Equipment**, **Dosimetry Review**, **Nuclear Weapon & Nuclear Reactor Accident Procedures**, **Personal Protective Equipment**, **Machinery & Work Equipment** and **Manual Handling**. Further, he is also well-versed in **ISO 14001:2004** (Environmental Management System), **AERMOD** Modeling, **Incident Reporting & Investigation**, Cause Tree Analysis (**CTA**), Fault Tree Analysis (**FTA**), **HSE** Emergency Planning, Crisis Management, **HSSE** Practices, Emergency Response Plans and Emergency Preparedness. He is currently the **Radiation Protection Advisor** of **IAEA** (**Austria**) wherein his in-charge of the design and commissioning of IAEA's new Nuclear Material Laboratory.

During Mr. Tony's career life, he held significant positions such as the **Radiation Protection Advisor**, **Radiation Protection Officer**, **Safety Adviser**, **Radiation Monitoring Specialist**, **Lead Safety Adviser** and **Health Physics Monitor** for international companies and agencies such as the International Atomic Energy Agency (**IAEA**), **Thorp Nuclear Processing Plant** and the **Nuclear Department of UK** just to name a few.

Mr. Bunce has a **Post Graduate Diploma** in **Radiation and Environmental Protection** from the **University of Surrey** and a **Bachelor'** degree in **Environmental Risk Management** from the **University of Wales Institute Cardiff** in **UK** respectively. Further, he is a **Certified Instructor/Trainer**, an **Approved Tutor** in **NEBOSH Environmental Management Certificate**, **NEBOSH Health & Safety Leadership Excellence**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**), an **Accredited Radiation Protection Adviser** (**RPA**) from the **RPA 2000 Board**, a **Qualified Radiological Protection Reviewer**, a Chartered Member of IOSH (**CMIOSH**), a Chartered Radiological Protection Practitioner (**CRadP**), **Certified Radiation Safety Practice** (**Stage 1**) from **City and Guilds** and **NEBOSH Diploma** holder. He has further delivered numerous trainings, conferences, workshops and seminars globally.

Course Fee

US$ 1,875 per Delegate + **VAT**.

Virtual Training (If Applicable)

If this course is delivered online as a Virtual Training, the following limitations will be applicable:-

Certificates	Only soft copy certificates will be issued to participants through Haward's Portal. This includes Wallet Card Certificates if applicable
Training Materials	Only soft copy Training Materials (PDF format) will be issued to participant through the Virtual Training Platform
Training Methodology	80% of the program will be theory and 20% will be practical sessions, exercises, case studies, simulators or videos
Training Program	The training will be for 4 hours per day starting at 0800 and ending at 1200
H-STK Smart Training Kit	Not Applicable
Hands-on Practical Workshops	Not Applicable
Site Visit	Not Applicable
Simulators	Only software simulators will be used in the virtual courses. Hardware simulators are not applicable and will not be used in Virtual Training

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: ***Monday, 02nd of September 2024***

0800 – 0805	*Registration, Coffee, Welcome & Introduction*
0805 – 0815	***PRE-TEST***
0815 – 0855	***Review of Fundamentals*** *Introduction ● Basic Physics & Mathematics Used in Radiation Protection ● Interaction of Radiation with Matter ● Sources of Radiation*
0855 – 0900	*Break*
0900 – 1000	***Quantities & Measurements*** *Quantities & Units ● Dosimetric Calculations & Measurements ● Principles of Radiation Detection & Measurement*
1000 – 1100	***Biological Effects of Ionizing Radiation*** *Effects of Radiation at the Molecular & the Cellular Level ● Deterministic Effects ● Stochastic Somatic Effects ● Stochastic Hereditary Effects ● Effects on the Embryo & Foetus ● Epidemiological Studies & Issues ● The Concept of Radiation Detriment*
1100 – 1105	*Break*
1105 – 1155	***Principles of Radiation Protection & the International Framework*** *Conceptual Framework ● The Role of International Organizations in Radiation Protection ● The Development of Safety Culture*
1155 – 1200	***Recap***
1200	*End of Day One*

Day 2:	Tuesday, 03rd of September 2024
0800 – 0855	***Regulatory Control*** *Legal Framework for Radiation Protection & the Safe Use of Radiation Sources ● Regulatory System ● Assessment of the Effectiveness of the Regulatory Programmes*
0855 – 0900	*Break*
0900 – 1000	***Assessment of External & Internal Exposures*** *Assessment of Occupational Exposure Due to Intakes of Radionuclides ● Assessment of Occupational Exposure Due to External Sources of Radiation*
1000 – 1100	***Protection Against Occupational Exposure*** *Organization & Management ● Methods of Protection & the Safe Use of Radiation Sources; Optimization ● Individual & Workplace Monitoring ● Health Surveillance ● Potential Exposures ● Protection Against Occupational Exposure in Industrial Radiography ● Protection Against Occupational Exposure in Industrial Irradiators & Accelerators*
1100 – 1105	*Break*
1105 – 1155	***Protection Against Occupational Exposure (cont'd)*** *Protection Against Occupational Exposure in the Use of Nuclear Gauges ● Protection Against Occupational Exposure in the Use of Tracers ● Protection Against Occupational Exposure in Well Logging Devices ● Protection Against Occupational Exposure in Diagnostic Radiology ● Protection Against Occupational Exposure in Nuclear Medicine ● Protection Against Occupational Exposure in Radiotherapy*
1155 – 1200	***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*
1200	*End of Day Two*

Day 3:	Wednesday, 04th of September 2024
0800 – 0855	***Medical Exposures in Diagnostic Radiology, Radiotherapy & Nuclear Medicine*** *Scope & Responsibilities ● Justification of Medical Exposures ● Optimization of Protection for Medical Exposures ● Quality Assurance ● Accidental Exposures in Medical Applications*
0855 – 0900	*Break*
0900 – 0945	***Exposure of the Public Owing to Practices*** *Sources of Exposure of the Public ● Responsibilities & Organization ● Safe Transport of Radioactive Material ● Safety of Radioactive Waste ● Environmental Dose Assessment ● Source & Environmental Monitoring ● Consumer Products ● Dose Assessment ● Monitoring of Public Exposures*
0945 – 1025	***Intervention in Situations of Chronic & Emergency Exposure*** *General Principles & Types of Events ● Basic Concepts for Emergency Response ● Basic Concepts for Emergency Preparedness for a Nuclear Accident or Radiological Emergency ● Developing a National Capability for Response to a Nuclear Accident or Radiological Emergency ● Overview of Assessment & Response in a Radiological Emergency ● Monitoring in a Nuclear Accident or Radiological Emergency ● Medical Management of Radiation Injuries ● Communication with the Public ● International Cooperation*
1025 – 1030	*Break*

1030 – 1055	***Training the Trainers*** *Training Needs ● Being a Lecturer ● Setting Up a Training Course*
1055 – 1100	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1100 – 1200	***COMPETENCY EXAM***
1200	*End of Course*

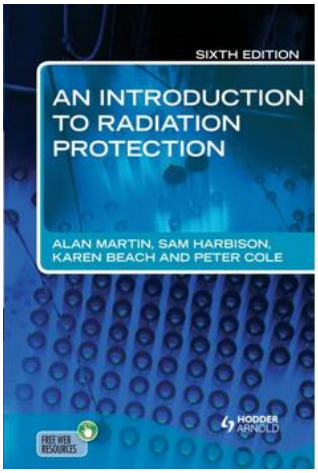
Instruments (Hands-on Practical Sessions)

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 instrument "RadEye B20-ER" model.

Thermo Scientific RadEye B20-ER Model

Book(s)

As part of the course kit, the following e-book will be given to all participants:



Title : An Introduction to Radiation Protection
ISBN : 978-1444146073
Author : Alan Martin, Sam Harbison, Karen Beach, Peter Cole
Publisher : CRC Press

Course Coordinator

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