Tel No:+97126654546 | Fax No:+97126654182 | Email: aisha@cmc-me.com | www.cmc-me.com





HS239:
Radiation Safety – Safely Working with Radioactive Materials Training

Tel No:+97126654546 | Fax No:+97126654182 | Email: aisha@cmc-me.com | www.cmc-me.com

Training Description:

This intensive training course will provide you with all the necessary information and abilities to successfully understand both ionising and nonionising types of radiation materials and, how to effectively manage these radiation materials safely and with confidence to ensure personnel health and safety and/or to prevent potential environmental impacts.

Most business sector (industry, commercial and service) organisations use, store and dispose of radioactive materials within their normal day-to-day business activities, these business sectors include:

- Oil and gas industry (offshore and onshore facilities)
- Medical facilities (hospitals and clinics)
- Service industries (laboratories, etc.)
- Manufacturing companies
- Plus, many other business sectors

Personnel need to be fully informed, trained and monitored to ensure they are not exposed to radiation materials during their work activities and/or when using, storing or disposing of radioactive sources.

This course will develop your ability to critically assess exposure risks associated with the use, storage and disposal of radiation materials, at all stages of administrative, operational and laboratory activities.

The training course will discuss:

- The various types and harmful properties of ionising and nonionising radiation
- The importance and how to effectively carry out radiation exposure assessments
- Understanding key radiation safety management and protection principles
- The biological effects of radiation exposure to the human body

The entire course topics covered on this course is applicable for compliance with the regulation bodies' requirements.

Training Objectives:

The objectives of this training course are to ensure you gain detailed information and competency for safely managing radioactive sources and materials in the workplace. This training course has the following key objectives for radiation safety management:

- ✓ Ionising Radiation Fundamentals
- ✓ Key Concept of Radioactivity & Protection Principles (ALARA)
- ✓ Biological Effects of Ionising Radiation
- ✓ Radiation Measurement and Monitoring
- ✓ Working Procedure in Handling Irradiation Apparatus and Radioactive Materials
- ✓ Safety Working Procedure in Industrial Radiography, Norm/Tenorm and Gauging (Related to Oil & Gas Industry)
- ✓ Transportation of Radioactive Materials
- ✓ Management of Radioactive Waste
- ✓ FANR Regulations
- ✓ IAEA Safety Guideline & Standards
- ✓ Plan and Procedures for Radiological Emergency

Tel No:+97126654546 | Fax No:+97126654182 | Email: aisha@cmc-me.com | www.cmc-me.com

- ✓ Radiation Safety and Security
- ✓ Radiation Protection Regulation and Regulatory Requirements
- ✓ Radiation Protection Organisation and Programme
- ✓ Radiation control standards and procedures
- ✓ Radiation exposure assessments

By the end of the training, participants will be able to learn:

- ✓ How to carry out radiation exposure Survey & Assessments
- ✓ How to define the two types of radiation
- ✓ How to determine the Biological effects of radiation exposure on personnel
- ✓ How to develop and implement radiation control procedures
- ✓ How to transport, transfer and dispose of radiation materials
- ✓ Understanding Radiation Units & Fundamental of Measuring, Monitoring for Site, Facilities & individuals
- ✓ Putting ALARA in Practices
- ✓ Role of RPO & Employees
- ✓ Handling Radiation Emergency & Developing ERP
- ✓ Radiation Risk Management
- ✓ Understand the IAEA Standards and CoP
- ✓ Understand UAE – FANR Radiation Protection Legislations/ Regulations

Training Designed for:

This course is intended for a wide range of professionals but will greatly benefit to Radiation Protection Officers (RPO) and Supervisors (RPS), HazMat Manager/ Supervisor/ Officers, HSE Manager / Supervisor/ Officers, Any person want to be Certified RPO, Radiologist, Medical Physicist, Lecturer and Researcher, Radiographer , X-ray Operator and Nurse, Radiation Worker and Laboratory Personnel, Those who involve directly or indirectly in the use of ionising radiation, All workers occupationally exposed to radiation, Procurement and supply chain managers, Engineers and maintenance personnel, Other personnel involved in using, storing or disposing of radioactive materials, Those who want to learn about radiation safety.

Training Program:

DAY ONE:

- ❖ Fundamentals of Radiation Safety
  - What is radiation?
  - Types of radiation sources (ionising & nonionising)
  - Fundamental of Ionising Radiation
  - Type, Characteristics & Sources of Ionising Radiation
  - Understanding risk from radiation
  - Man-Made radiation materials
  - Application of Ionising Radiation
  - Case study & video of Chernobyl Nuclear Disaster

DAY TWO:

- ❖ Effects of Radiation on the Human Body
  - Units of radiation exposure and dose concentrations

Tel No:+97126654546 | Fax No:+97126654182 | Email: aisha@cmc-me.com | www.cmc-me.com

- Biological Effects of Ionising Radiation
- Principles of Radiation Protection (ALARA)
- Categorising radiation exposure effects
- Exposure to radiation (acute & delayed)
- Dose Limits of acceptable radiation exposure
- Case study & video of Fukushima Nuclear Disaster

DAY THREE:

❖ Radiation Exposure Risk Assessment

- Measurement Instrumentation (Dosimeter & Dose-meter)
- Radiation Safety & Security Controls (Internal & External)
- Key exposure assessment elements
- Determining potential radiation exposure pathways
- Identifying radiation exposure and short- and long-term effects
- Evaluating exposure durations and concentrations
- Estimating radioactive chemical and/or particulate impacts
- Case study: assessment of work task using radioactive material

DAY FOUR:

❖ Radiation Management & Control Procedures

- IAEA Standards and CoP
- UAE- FANR Radiation Protection Regulations
- Security of radioactive materials
- Radiation exposure monitoring and detection methods
- Radiation protection solutions (time, distance & shielding)
- Laboratory radiation safety processes
- Radiation precautions and safety procedures
- Classification of Working Areas
- Transport of Radioactive Materials (DOT, UN, IAEA, IATA)
- Exercise: developing radiation material storage & handling procedure

DAY FIVE:

❖ Radiation Management Principles

- Radiation Protection Management System Structure
- RPO Responsibilities
- Radiation Emergency Response Plan
- Waste disposal of radioactive materials
- Transport and transfer of radioactive materials
- Safe procurement and quarantine of radiation materials
- Review and discussion of visual wall map (as developed step-by-step during course)
- Multi-Choice Assessment of course subject and topics

❖ Course Conclusion

❖ POST-ASSESMENT and EVALUATION

Training Requirement:

"**Hands-on practical sessions, equipment** and **software** will be applied during the course if required and as per the client's request."

Please note that the above topics can be amended as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Methodology:

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

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

IAOSHE certificate(s) and wallet card(s) with 3 years validity will be issued to each participant who completed the course and passed the competency exam on the last day of the course.

Sample IAOSHE Wallet Card:



Sample IAOSHE Certificate:



Or CMCT Internationally recognized certificate(s) and wallet card(s) will be issued to each participant who successfully completed the course and passed the exam at the end of the course.

Training Fees:

As per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session

Tel No:+97126654546 | Fax No:+97126654182 | Email: aisha@cmc-me.com | www.cmc-me.com

For training registrations or in-house enquiries, please contact:

Aisha Relativo: aisha@cmc-me.com
Tel.: +971 2 665 3945 or +971 2 643 6653 | Mob.: +971 52 2954615
Training & Career Development Department