



**COURSE OVERVIEW HE1240**  
**On-Scene Incident Commander**  
**HAZMAT Level V (OSHA 29 CFR 1910.120 and NFPA 472)**

**Course Title**

On-Scene Incident Commander: HAZMAT Level V (OSHA 29 CFR 1910.120 and NFPA 472)

**Course Date/Venue**

Session 1: May 18-22, 2025/Al Khobar Meeting Room, Hilton Garden Inn, Al Khobar, KSA

Session 2: September 07-11, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE



**Course Reference**

HE1240

**Course Duration/Credits**

Five days/3.0 CEUs/30 PDHs



**Course Description**



***This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using one of our state-of-the-art simulators.***



This course is designed to provide participants with a detailed and up-to-date overview of HAZMAT level V on-scene incident commander in accordance with OSHA 29 CFR 1910.120 and NFPA 472. It covers the regulatory overview, incident command system, incident command facilities, incident system concepts and principles; the facility emergency response plan; training and equipping your HAZMAT team; the facility emergency response audit; the process hazard analysis, site identification, hazard qualification, consequence analysis and workplace hazard analysis; and the federal, state and local emergency response requirements including spill and release reporting under federal regulations.



During this interactive course, participants will learn the applicable laws and regulations; the DOT emergency response guidebook (ERG); the hazard recognition toxicology, placards and labelling; the respiratory protection and personal protection equipment (PPE); the HAZPOWER site control; the HAZPOWER site zones and HAZPOWER support zones; the decontamination, medical surveillance, site emergencies and the ability to recognize and identify hazardous materials; and the containment, confinement and control of hazardous materials releases.



## Course Objectives

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

- Get certified as a “*Certified HAZMAT Level V On-Scene Incident Commander*” in accordance with OSHA 29 CFR 1910.120 and NFPA 472
- Discuss the regulatory overview, incident command system, incident command facilities and incident command system concepts and principles
- Carryout facility emergency response plan as well as train and equip the hazmat team
- Apply facility emergency response audit and perform process hazard analysis, site identification, hazard qualification, consequences analysis and workplace hazard analysis
- Recognize federal, state and local emergency response requirements including spill and release reporting under federal regulations
- Identify applicable laws and regulations and review DOT emergency response guidebook (ERG)
- Determine hazard recognition, toxicology, placards and labelling
- Apply respiratory protection, personal protection equipment (PPE) and HAZWOPER site control
- Identify HAZWOPER site zones and HAZWOPER support zones
- Employ decontamination as well as medical surveillance covering medical examination, periodic medical monitoring, examination after injury and termination exam
- Illustrate site emergencies and the ability to recognize and identify hazardous materials
- Carryout containment, confinement and control of hazardous materials releases

## 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 on-scene incident commander for oil and gas operators, rig personnel, emergency management team members, field supervisors personnel, key personnel during an incident, first responders and HSE personnel



**Exam Eligibility & Structure**

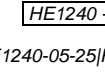
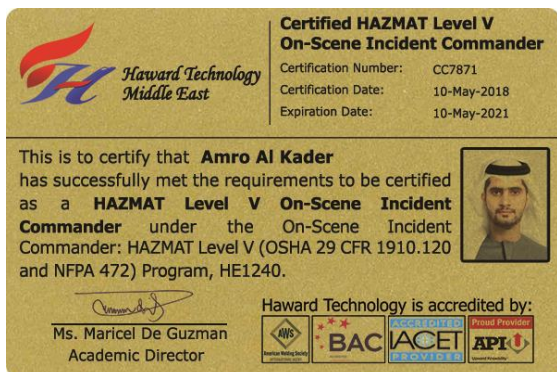
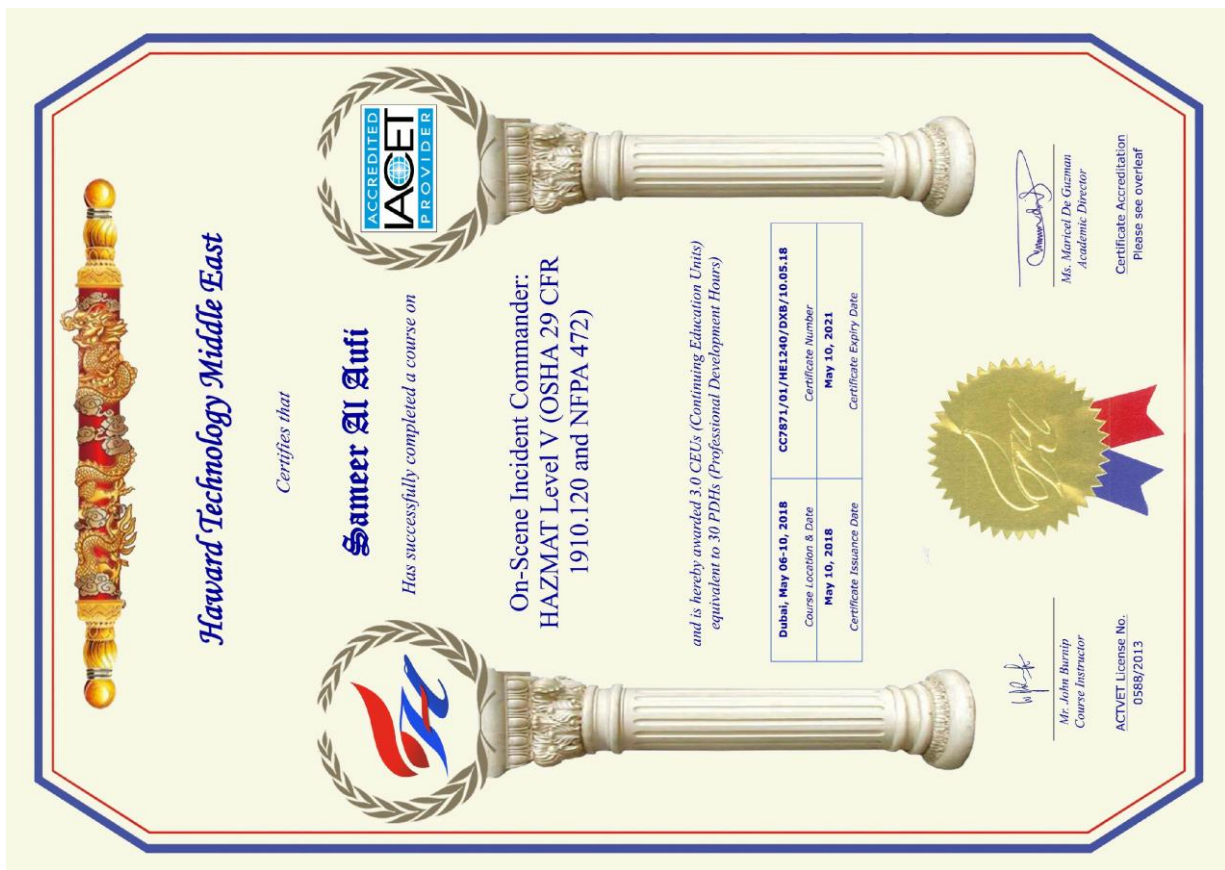
24 Hour HAZMAT first responder operations and initial 8 hour incident command

**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 HAZMAT Level V On-Scene Incident Commander”. Certificates are valid for 5 years.

**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 \* CEUs \* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \*

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**Haward Technology Middle East**

Continuing Professional Development (HTME-CPD)

CEUs

## CEU Official Transcript of Records

**TOR Issuance Date:** 10-May-18

**HTME No.** PAR11358

**Participant Name:** Sameer Al Aufi

| Program Ref.   | Program Title   | Program Date    | No. of Contact Hours | CEU's      |
|--|---|-----------------|----------------------|------------|
| HE1240   | On-Scene Incident Commander: HAZMAT Level V (OSHA 29 CFR 1910.120 and NFPA 472) | May 06-10, 2018 | 30                   | 3.0        |
| <b>Total No. of CEU's Earned as of TOR Issuance Date</b> |   |                 |                      | <b>3.0</b> |

**TRUE COPY**

Maricel De Guzman  
Academic Director

Haward Technology has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 1760 Old Meadow Road, Suite 500, McLean, VA 22102, USA. In obtaining this approval, Haward Technology has demonstrated that it complies with the ANSI/IACET 1-2013 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 1-2013 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 | Fax: +971 2 3091 716 | E-mail: info@haward.org | Website: www.haward.org

\* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \* CEUs \* Haward Technology \*



### 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 **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.

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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.

### Accommodation

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



**Course Instructor**

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. Roedolf Coetzer** is an **International Fire Fighting & Response Technical Adviser** with over **30 years** of extensive practical experience within the **Oil & Gas, Refinery, Power, Petroleum and Petrochemical** industries. His expertise includes **Incident Command, Incident Report & Investigation, Accident/Incident Investigation, Root Cause Analysis & Reporting, Fire Extinguishers, Firefighting, Fire Rescue, Fire Protection, Fire Prevention, Fire Investigation, Fire Behaviour, Fire Suppression Systems, Fire Safety, Fire Engineering Management, Fire Risk Assessment, Fire Awareness, Fire Detection & Alarm Systems, Hose Reels & Sprinkler Systems, Fire & Rescue Planning & Operation, Fire Equipment & Facilities Inspection, Fire Trucks Driving & Operation, Fire Aviation, Wild Land Firefighting/ICS, Fire & Emergency Services Start-up & Mobilization, Emergency Response, Emergency Control Centre Operations, Oil Spill Response, Emergency Management, Confined Space Safety, Fall Protection, First Aid & CPR, Self-Contained Breathing Apparatus (SCBA), Personal Protective Equipment (PPE), Gas Leaks & Gas Detectors Testing, Workplace Violence Prevention, HAZID, HAZMAT, HAZOP, HAZWOPER, Process Hazard Analysis (PHA), Process Safety Management (PSM), Safety Audit, Fleet Safety Management, Lockout & Tag-out (LOTO), Industrial Safety, Construction Safety, HSE Management, Risk Management, Risk Assessment & Mitigation, Job Hazard Analysis (JSA), Hazard Analysis & Control, Hazard Recognition, Hazard Identification, Root Cause Analysis & Problem Solving, Accident & Incident Investigation, Ergonomics, Project Management, Human Resource Development, Tactics & Strategies in Hostile Environments, Organizational Change, Quality Assurance, Safety Supervision & Leadership and Industrial Hygiene. He is also specialized on **NFPA Codes & Standards, OSHA Standards, ISO 9001, ISO 14001, OHSAS 18001** and **Lean Six Sigma**. He is currently the **General Manager** of **AGEC** and ranked as a **Distinguished Toastmaster (DTM)**.**

During his career life, Mr. Coetzer has gained his practical and field experience through his various significant positions and dedications as the **Fire Chief, Fire Engineer, HSE & Security Manager, Environmental Manager, Project Manager, Acting HSE Manager, Senior Fireman, Fireman, Fire Marshall, Assistant Chief Fire Officer (ACFO), Spill Response Team Leader, Senior Fire & Emergency Response Technical Advisor, Subject Matter Expert, Training Development Specialist, Learning & Development Officer, Senior Officer, Facility Management Senior Health & Safety Supervisor, Fire & Rescue Services Team Member, Junior Fireman, Operational Medical Orderly (Ops Medic)** and a **Fire Safety, Prevention & Safety Technology Technician** from various companies such as the **Southern African Emergency Services Institute, South African Fire Services, Al-Muhaidib Contracting Company, ACWA Power Health & Safety, HIWPT, Rabigh Arabian Water & Electricity Company (RAWEC), King Abdulaziz International Airport, SRT, Sizwe Consultants, Highveld Steel and Vanadium, Kriel City Council, Germiston City Council and South African Defence Force.**

Mr. Coetzer is a **Certified IFSAC Firefighter I&II (NFPA 1001)**, a **Certified First Responder Awareness Level (NFPA 472)** and holds a Certificate in **Electrical & Electronics NQF Level 4**. Further, he is a **Certified Lean Six Sigma Yellow Belt & White Belt**, a **Certified IADC Rig Pass Safety Orientation Instructor** and a **Certified Instructor/Trainer**. Moreover, he is a recognized member of **The International Fire Service Accreditation Congress (IFSAC)**, the **National Fire Protection Association (NFPA)**, the **International Association of Drilling Contractors (IADC)** and **South African Fire Institute**. He has further delivered innumerable courses, trainings, workshops and conferences globally.

### 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 Fee

|           |   |
|-----------|---|
| Al Khobar | <b>US\$ 5,500</b> per Delegate + <b>VAT</b> . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day |
| Dubai     | <b>US\$ 5,500</b> per Delegate + <b>VAT</b> . 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 &amp; Coffee</i>   |
| 0800 - 0815 | <i>Welcome &amp; Introduction</i>  |
| 0815 - 0830 | <b>PRE-TEST</b>  |
| 0830 - 0900 | <b>Overview of Incident Command System</b><br><i>Incident Commander Responsibilities • Hazardous Materials Contingency Plan • Organization • Incident Command System • Incident Command System History • Incident Command System Organization Flowchart • Explanation of Roles &amp; with the ICS Organizations</i>  |
| 0900 - 0930 | <b>Incident Command Facilities</b><br><i>Incident Command Facilities &amp; Locations • Command Post • Staging Areas • Bases</i>  |
| 0930 - 0945 | <i>Break</i>   |
| 0945 - 1045 | <b>Incident Command System Concepts &amp; Principles</b><br><i>Common Terminology • Unity of Command • Designated Incident Facilities</i>  |
| 1045 - 1130 | <b>Facility Emergency Response Plan</b><br><i>Pre-emergency Planning • Personnel Roles &amp; communication • Recognition &amp; Prevention • Safe Distances &amp; Refuge • Site Security &amp; Control • Evacuation Route &amp; Procedures • Emergency Decontamination • Emergency Medical Treatment &amp; First Aid • Emergency Response Procedures &amp; Critique</i> |
| 1130 - 1230 | <b>Training &amp; Equipping Your HAZMAT Team</b><br><i>Training Requirements • HAZMAT Levels • Responsibilities • Medical Monitoring • Cost of Training • Protection Levels &amp; Equipment</i>  |



|             |   |
|-------------|---|
| 1230 - 1245 | Break   |
| 1245 - 1330 | <b>Facility Emergency Response Audit</b><br>Performing a Process Hazard Analysis • Site Identification • Hazard Qualification • Consequence Analysis • Performing a Workplace Hazard Analysis • Determining Location • Examine Container Condition • Determining the Physical State of Contents • Determine Dispersion Pathways • Exposure Indicators |
| 1330 - 1420 | <b>Federal, State &amp; Local Emergency Response Requirements</b><br>Site Zones Explained • Establishing the Hot Line • The Buddy System  |
| 1420 - 1430 | <b>Recap</b>  |
| 1430        | Lunch & End of Day One  |

**Day 2**

|             |   |
|-------------|---|
| 0730 - 0830 | <b>Spill &amp; Release Reporting Under Federal Regulations</b><br>Emergency Planning Requirements • Emergency Planning & Notification • Procedures for SARA Title III Compliance • Regional Response Team • National Response Team • DOT Notification Requirements • Leaking Containers |
| 0830 - 0930 | <b>Applicable Laws &amp; Regulations</b><br>EPA • Difference Between Laws & Regulations • Major EPA & OSHA Laws • Recordkeeping & Notifying OSHA • OSHA Plan States   |
| 0930 - 0945 | Break   |
| 0945 - 1045 | <b>Overview of DOT Emergency Response Guidebook (ERG)</b><br>Introduction • How to Read the ERG • List of DOT Tanks & Containers • Labelling  |
| 1045 - 1130 | <b>Hazard Recognition (Overview)</b><br>Injury Prevention • Boiling Point, Vapor Pressure, Vapor Density, pH, Flashpoint • Oxidizers • Lower/Upper Explosive Limits • Flammability • Fire Triangle • SDS  |
| 1130 - 1230 | <b>Hazard Recognition</b><br>NFPA Requirements • Job Hazard Analysis • Defining Risk • Chemical Hazard Identification Systems • NFPA 704 System • DOT Labels & Placards • Ionizing & Radiation • Chemical & Physical Hazards • Fires & Explosions • Combustibles • Shock Sensitive      |
| 1230 - 1245 | Break   |
| 1245 - 1330 | <b>Hazard Recognition (cont'd)</b><br>Oxygen Deficiency • Site & Equipment Hazards • Noise • Heat Stress • Heat Stroke • Cold Stress • Infectious Diseases (Bloodborne Pathogens, HIV, HBV) • Sanitation • Illumination • Lockout/Tagout  |
| 1330 - 1420 | <b>Toxicology</b><br>Chemical Classification • Toxicology • Routes of Exposure & Dose • Interaction with Other Chemicals • Dust, Fumes, Mists & Vapours • Toxicokinetic • Metabolism • Classes of Chemical Toxins   |
| 1420 - 1430 | <b>Recap</b>  |
| 1430        | Lunch & End of Day Two  |





**Day 3**

|             |   |
|-------------|---|
| 0730 - 0830 | <b>Toxicology (cont'd)</b><br>Dose to Organs • Dose & Response • Storage in the Body • Chronic Response • Toxic • Chemical Interaction • Dose/Response • OSHA Exposure Limits   |
| 0830 - 0930 | <b>Placards &amp; Labeling</b><br>NFPA Hazardous System Identification • DOT Placards   |
| 0930 - 0945 | Break   |
| 0945 - 1045 | <b>Respiratory Protection</b><br>Respirator Protection Program • Respirator Types • Selection of Respiratory Equipment • Air-purifying Respirators • Combination Canisters & Cartridges • Types of APR Face Pieces • Supplied Air Respirators (SAR)   |
| 1045 - 1130 | <b>Respiratory Protection (cont'd)</b><br>Self Contained Breathing Apparatus (SCBA) • Combination SCBA/SAR • Chemical Concentration • Protection Factors • Calculating Protection Factors • Respirator Fit Test (Quantitative & Qualitative)  |
| 1130 - 1230 | <b>Respiratory Protection (cont'd)</b><br>Respiratory Maintenance • Types of Respirator Canisters • How Respirators Work • Positive & Negative Pressure Fit Test • Respirator Limits • Cleaning, Maintenance & Storage  |
| 1230 - 1245 | Break   |
| 1245 - 1330 | <b>Personal Protection Equipment (PPE)</b><br>Clothing & Ensembles • Developing a PPE Program • Training • Program Review & Evaluation • Level A • Level B • Level C • Level D • Selecting the Level of Protection  |
| 1330 - 1420 | <b>Personal Protection Equipment (PPE) (cont'd)</b><br>Protective Clothing • Inspection & Maintenance of Protective Clothing • Selection of Chemical Protective Clothing • Permeation & Degradation • Work Mission Duration • Considerations for Working in PPE • Air Supply Consumption • Coolant Supply • Accessories |
| 1420 - 1430 | <b>Recap</b>  |
| 1430        | Lunch & End of Day Three  |

**Day 4**

|             |  |
|-------------|--|
| 0730 - 0830 | <b>Personal Protection Equipment (PPE) (cont'd)</b><br>Special Considerations • Reasons to Upgrade/Downgrade PPE • PPE Inspection Program • Proper Storage • PPE Before Use Inspection • In-use Monitoring • Donning & Doffing • Clothing Reuse • Heat Stress & Monitoring |
| 0830 - 0930 | <b>Personal Protection Equipment (PPE) (cont'd)</b><br>Heat Rash • Heat Cramps • Heat Stroke • Hand Protection • General Requirements of the OSHA Standard • Eye & Face Protection • Selection of Eye & Face Protection • Head Protection • Foot Protection                |
| 0930 - 0945 | Break  |
| 0945 - 1030 | <b>HAZWOPER Site Control</b><br>Site Map • Site Preparation  |
| 1030 - 1115 | <b>HAZWOPER Site Zones</b><br>Site Zones Explained • Establishing the Hot Line • The Buddy System  |
| 1115 - 1200 | <b>HAZWOPER Support Zones</b><br>Site Security • Communication Systems   |





|             |   |
|-------------|---|
| 1200 - 1230 | <b>Decontamination</b><br>Decon Plan and Procedures • Standard Operating Procedures • Maximizing Worker Protection from Hazardous Wastes • Proper Dress Out Procedures • Levels of Contamination • Personal Decon Station • Extent of Decon Required • Types of Contamination • Amount of Contamination • Levels of Protection • Decon of Personnel and Equipment   |
| 1230 - 1245 | Break   |
| 1245 - 1420 | <b>Decontamination (cont'd)</b><br>Decon During Medical Emergencies • Physical Injury • Heat Stress • Protection for Decon Workers • Decon Procedures • Chemical and Physical Removal of Contamination • Persistent Contamination • What if Decon procedure has not worked? • Lab Testing Articles • Fundamentals that Affect Permeation of Protective Clothing • Substance and Tools for Effective Decontamination |
| 1420 - 1430 | <b>Recap</b>  |
| 1430        | Lunch & End of Day Four   |

**Day 5**

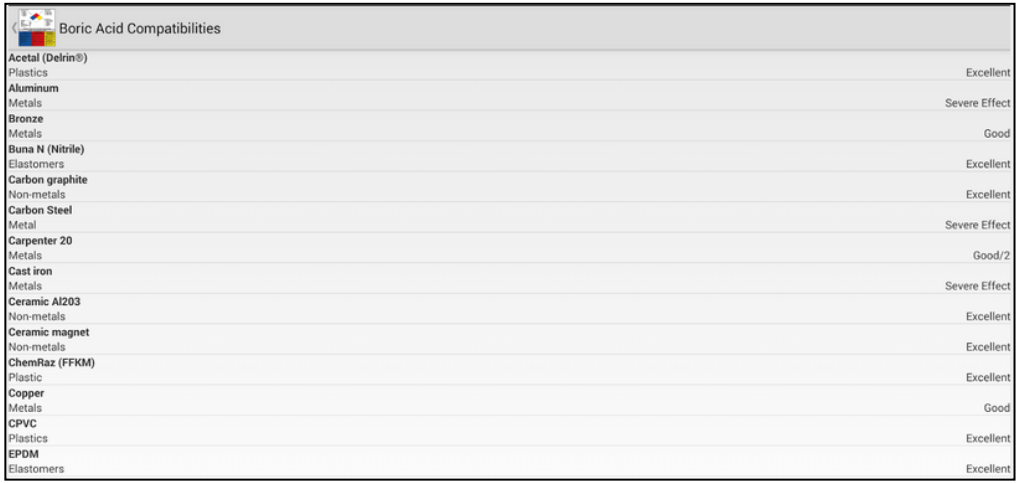
|             |  |
|-------------|--|
| 0730 - 0815 | <b>Medical Surveillance</b><br>Information for Medical Program • Develop a Site Specific Medical Program • Medical Examination • Periodic Medical Monitoring • Examination After Injury • Termination Exam   |
| 0815 - 0900 | <b>Site Emergencies</b><br>Planning and Personnel • Site Emergencies • How Teams Assist in Emergencies? • Roles of Personnel During Emergencies • Communications Safe Distances and Site Mapping • Sage Refuge   |
| 0900 - 0930 | <b>Site Emergencies (cont'd)</b><br>Public Evacuations • Evacuations and Emergency Decontamination • Personal Locator Systems • Evacuation Routes and Procedures • First Aid/Medical Treatment   |
| 0930 - 0945 | Break  |
| 0945 - 1015 | <b>The Ability to Recognize &amp; Identify Hazardous Materials</b><br>Hazardous Materials Clues • Occupancy/Location • Fixed Sites • Transportation Sources • Highway, Rail and Air • Marine • Pipelines • Tanks and Containers • Container Shape and Size • Types of DOT Highway Transportation Tanks, Tankers, Trailers and Containers   |
| 1015 - 1100 | <b>The Ability to Recognize &amp; Identify Hazardous Materials (cont'd)</b><br>Types of DOT Rail Transportation Tank Cars • Types of DOT Storage Containers • Marine • Pipelines • Tanks and Containers Markings and Colors • NFPA 704 System • HMIS Placards and Labels • UN NA Hazard Class System • DOT 9 Classes of Hazardous Materials • Shipping Papers and SDS  |
| 1100 - 1200 | <b>Containment, Confinement and Control of Hazardous Materials Releases</b><br>Standard Strategic Goals • Site Perimeters and Hazard Control Zones • Factors Affecting the Ability of Personnel to Perform a Rescue • Rescue Risks Associated with DOT 9 Hazard Classes • Operational Level Response Actions • Sizing Up a HAZMAT Incident • Release Control Methods • Confinement, Absorption and Adsorption • Damming, • Diking, Diversion and Retention |
| 1200 - 1215 | Break  |



|             |  |
|-------------|--|
| 1215 - 1300 | <b>Containment, Confinement and Control of Hazardous Materials Releases (cont'd)</b><br><i>Ventilation and Vapor Dispersion • Dispersion and Dilution • Other Spill Control Tactics • Vapor Suppression • Using Foams • Types of Foams • Foam Methods • Typical Fire Control Tactics • Leak Control/Containment for Containers • Termination Phase</i> |
| 1300 - 1315 | <b>Course Conclusion</b>   |
| 1315 - 1415 | <b>COMPETENCY EXAM</b>   |
| 1415 - 1430 | <i>Presentation of Course Certificates</i>   |
| 1430        | <i>Lunch &amp; 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 one of our state-of-the-art simulators; “Chemical Compatibility 1.1 Simulator”, “Chemical Safety Database Simulator”, “CAMEO Chemicals Suite Simulator” or “ERG 2012 Simulator”.



| Boric Acid Compatibilities |               |
|----------------------------|---------------|
| <b>Acetal (Delrin®)</b>    |               |
| Plastics                   | Excellent     |
| <b>Aluminum</b>            |               |
| Metals                     | Severe Effect |
| <b>Bronze</b>              |               |
| Metals                     | Good          |
| <b>Buna N (Nitrile)</b>    |               |
| Elastomers                 | Excellent     |
| <b>Carbon graphite</b>     |               |
| Non-metals                 | Excellent     |
| <b>Carbon Steel</b>        |               |
| Metal                      | Severe Effect |
| <b>Carpenter 20</b>        |               |
| Metals                     | Good/2        |
| <b>Cast iron</b>           |               |
| Metals                     | Severe Effect |
| <b>Ceramic Al2O3</b>       |               |
| Non-metals                 | Excellent     |
| <b>Ceramic magnet</b>      |               |
| Non-metals                 | Excellent     |
| <b>ChemRaz (FFKM)</b>      |               |
| Plastic                    | Excellent     |
| <b>Copper</b>              |               |
| Metals                     | Good          |
| <b>CPVC</b>                |               |
| Plastics                   | Excellent     |
| <b>EPDM</b>                |               |
| Elastomers                 | Excellent     |

**Chemical Compatibility 1.1 Simulator**





**Chemical Safety Database Simulator**



**CAMEO Chemicals Suite Simulator**



**ERG 2012 Simulator**

**Course Coordinator**

Mari Nakintu, Tel: +971 2 30 91 714, Email: [mari1@haward.org](mailto:mari1@haward.org)