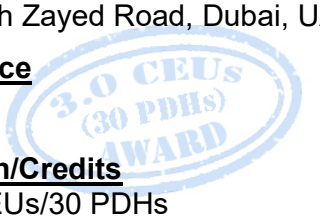
COURSE OVERVIEW OE0440
Marine Safety Systems & Equipment Maintenance

Course Title
Marine Safety Systems & Equipment Maintenance

Course Date/Venue
Session 1: January 13-17, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: August 10-14, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
OE0440



Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes real-life case studies and exercises 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 safety management of marine terminals & oil/gas tankers according to the international standards (IMO, ICS, OCIMF & IAPH). It covers the properties of petroleum; the other sources of electrostatic hazards; the general hazards for ship and terminal; the proper management of electrical equipment and fire-fighting; the safety management of marine terminals and oil/gas tankers; and the management of safety and emergencies according to the ISM code.

During this interactive course, participants will learn the hazards, shipboard operations and special ship types; the cargo transfer equipment and emergency preparedness plan; the process of emergency evacuation; the procedure of communication and mooring; the precautions on ship and terminal during cargo handling; the proper procedure on bunkering operations; and the safety management of marine terminals and oil/gas tankers by developing awareness on climatic conditions, personnel safety, guidelines for completing the ship safety checklist and emergency actions.

Course Objectives

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

- Apply and gain a comprehensive knowledge on safety management of marine terminals and oil/gas tankers according to the international standards
- Identify the properties of petroleum namely vapour pressure, flammability and density of hydrocarbon gases and discuss their hazards accordingly
- Discuss static electricity and identify the other sources of electrostatic hazards including its general precautions
- Determine the general hazards for ship and terminal and carryout proper management of electrical equipment and installation in dangerous areas
- Define fire-fighting including its methodology, types of fire and extinguishing agents
- Employ security as applied in the safety management of marine terminals and oil/gas tankers
- Identify the parts and functions of the shipboard system and explain in detail equipments commonly found in ships
- Explain the management of safety and emergencies according to the ISM code and determine the shipboard emergency management
- Recognize the hazards associated with enclosed spaces and recognize of the control and safeguards for enclosed spaces entry
- Develop in-depth knowledge with the shipboard operations including the process of tank cleaning, gas freeing, crude oil washing, ballast operations, etc.
- Employ correct procedure on carriage and storage of hazardous materials
- Recognize human element considerations for the safety management of marine terminal and oil/gas tankers
- Identify the special ship types including their features, functions and its importance
- Apply and gain knowledge system parts and aspects of terminal management, organization, operations, systems and equipment according to the international standards used
- Explain cargo transfer equipment including its parts and function and employ safety and fire protection on marine terminal and oil/gas tankers by complying with the guidelines and standards impost by IMO, ICS, OCIMF and IAPH
- Organize an emergency preparedness plan and identify the components and procedure in the proper implementation during emergencies
- Demonstrate the process of emergency evacuation by locating the evacuation and personnel escape routes and performing trainings and drills
- Apply the procedure of communication and mooring in the safety management of marine terminal and oil/gas tanker
- Determine the precautions on ship and terminal during cargo handling and carryout proper procedure on bunkering operations including the use of bunkering safety checklist
- Recognize the safety management of marine terminals and oil/gas tankers by developing awareness on climatic conditions, personnel safety, guidelines for completing the ship safety checklist and emergency actions

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 HSE standards settings of export facilities and marine terminals for terminal managers, marine operations managers, superintendents, supervisors, engineers and other technical staff, safety and environmental managers, tanker masters, marine logistics management, facility managers, spill management team members, transfer supervisors, marine shipping coordinators and dock maintenance planners.

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

US$ 8,000 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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: -

- 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.

- 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.

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:

Captain Mohamed Ghanem, MSc, BSc, is a **Senior Jack-up Barge Captain** with extensive experience in **Drilling Rigs**, **Jackup Barge Operations** and **MODU** within the **Oil & Gas** industry. His expertise widely covers in the areas of **Jack-up Barges**, **Rig Safety** Protocols, **Drilling Rigs & Jack-up Barges** Maintenance & Servicing, **Drilling Rig** Components, **Naval & Marine** Engineering, **Marine Planning & MODU Stability**, **Rig Move** Operation, UWILD, Stability Reports, Draft Surveys, **Rig Reactivation & Under Water Surveys**, Damage Survey & Cost Estimation, **Tanker Vetting** for Terminals, **Loading Master** Certification for Oil & Gas Terminals, **Marine Terminal** Operation, **Liquefied Gas Tankers & Jetty** Operation, Global Maritime Distress Safety System (**GMDSS**), **International Maritime Conventions & Codes**, International Ship and Port Facility Security Code (**ISPS**) **Code**, **Buoyage** System & International Code of Signals, **Oil & Gas Marine Terminals**, **Port Terminals** Crisis Management & Major Emergency Response, **Marine Hazards** Prevention & Control, Single Buoy Mooring System (**SBM**), **Emergency Response** Procedure, **Oil Spill** Management & Recovery, **Oil Spill** Prevention & Control, **Oil Spill** Combating Operations, **Oil & Gas Marine Terminals**, **Offshore Marine** Operation Management, **Vessel Hull & Machinery Survey**, Oil & Gas Fields Offshore Survey, **Oil & Gas Terminals** Loading & Discharging, **Terminal** Operations, **Seamanship**, **Shipping** Overview, **Marine Fire Fighting** Equipment, **Hull Damage** Control, **Vessel Rescue**, **Life Saving**, **Safety Process**, **Major Emergency** Management & Control, **Crisis** Management during **Oil Spill** and **Firefighting**. He is currently the **Jack Up Barge Captain & Marine Planner** wherein he oversee all the operations onboard the vessel including navigation, maintenance and compliance with local regulations.

During his life career, Captain Mohamed has gained his practical and field experience through his various significant positions and dedication as the **Barge Engineer & Marine Planner Onboard**, **Trainee Barge Engineer Onboard**, **Assistant Barge Master II Onboard**, **Assistant Barge Master Onboard**, **Design Engineer**, **Ship Yard Site Engineer/QC Engineer**, **Marine Draft Surveyor**, **Ship Repair Engineer**, **Vessel Repairing Engineer**, **Metal Cutting & Welding Planner**, **Marine Engineer Onboard**, **Technical Manager**, **Maintenance Mechanical Engineer** and **Reserve Marine Officer** from the Shelf Drilling Co, Marine & Engineering Consulting, ADMARINE III (X-GSF 103) at ADES, Oceandro Large Yacht Builder, International Inspection Company, Synchrony-Lift Works and B-Tech Company.

Captain Mohamed has **Bachelor's** degree in **Naval Architecture & Marine Engineering** and currently enrolled in **Master's** degree in **Naval Architecture & Marine Engineering**. Further, he is a **Certified Instructor/Trainer**, a **Certified Trainer**, **Assessor** & **Internal Verifier** by the **Institute of Leadership of Management (ILM)** and holds a certificate in **Marine III Engineer** and OIM & Mobile Offshore Drilling Unit (**MODU**). He is an **active member** of The International Transport Workers' Federation (**ITF**), UK and has delivered numerous courses, workshops, trainings and conferences worldwide.

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	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0900	***Basic Properties of Petroleum*** *Vapour Pressure ● Flammability ● Density of Hydrocarbon Gases*
0900 – 0945	***Hazards of Petroleum*** *Flammability ● Density ● Toxicity ● Gas Measurement ● Hydrocarbon Gas Evolution and Dispersion ● Pyrophoric Iron Sulphide ● The Hazards Associated with the Handling, Storage and Carriage of Residual Fuel Oils*
0945 – 1000	*Break*
1000 – 1130	***Static Electricity*** *Principles of Electrostatics ● General Precautions Against Electrostatic Hazards ● Other Sources of Electrostatic Hazards*
1130 – 1230	***General Hazards for Ship & Terminal*** *Control of Potential Ignition Sources ● Portable Electrical Equipment ● Management of Electrical Equipment and Installations in Dangerous Areas ● Use of Tools ● Equipment Made of Aluminium ● Cathodic Protection Anodes in Cargo Tanks ● Communications Equipment ● Spontaneous Combustion ● Auto-Ignition ● Asbestos*
1230 – 1245	*Break*
1245 – 1345	***Fire-Fighting*** *Types of Fire ● Extinguishing Agents*
1345 – 1420	***Security*** *Security Assessments ● Responsibilities Under the ISPS Code ● Security Plans*
1420 – 1430	***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*
1430	*Lunch & End of Day One*

Day 2

0730 – 0830	***Shipboard Systems*** *Fixed Inert Gas Systems ● Venting Systems ● Cargo and Ballast Systems ● Power and Propulsion Systems ● Vapour Emission Control (VEC) Systems ● Stern Loading and Discharging Arrangements*
0830 – 0945	***Ship's Equipment*** *Shipboard Fire-Fighting Equipment ● Gas Testing Equipment ● Lifting Equipment*
0945 – 1000	*Break*
1000 – 1100	***Management of Safety & Emergencies*** *The International Safety Management (ISM) Code ● Safety Management Systems ● Permit to Work Systems ● Hot Work ● Welding and Burning Equipment ● Other Hazardous Tasks ● Management of Contractors ● Repairs at a Facility Other Than a Shipyard ● Shipboard Emergency Management*

1100 – 1230	***Enclosed Spaces*** *Definition and General Caution ● Hazards of Enclosed Spaces ● Atmosphere Tests Prior to Entry ● Control of Entry into Enclosed Spaces ● Safeguards for Enclosed Space Entry ● Emergency Procedures ● Entry into Enclosed Spaces with Atmospheres Known or Suspected to be Unsafe for Entry ● Respiratory Protective Equipment ● Work in Enclosed Spaces ● Pumproom Entry Precautions ● Pumproom Operational Precautions*
1230 – 1245	*Break*
1245 – 1420	***Shipboard Operations*** *Cargo Operations ● Stability, Stress, Trim and Sloshing ConsiderationsTank Cleaning ● Gas Freeing ● Crude Oil Washing ● Ballast Operations ● Cargo Leakage into Double Hull Tanks ● Cargo Measurement, Ullaging, Dipping and Sampling ● Transfers Between Vessels*
1420 – 1430	***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*
1430	*Lunch & End of Day Two*

Day 3

0730 – 0830	***Carriage & Storage of Hazardous Materials*** *Liquefied Gases ● Ship's Stores ● Cargo and Bunker Samples ● Other Materials ● Packaged Cargoes*
0830 – 0945	***Human Element Considerations*** *Manning Levels ● Training and Experience ● Hours of Rest ● Drug and Alcohol Policy ● Drug Trafficking ● Employment Practices*
0945 – 1000	*Break*
1030 – 1130	***Special Ship Types*** *Combination Carriers ● LPG Carriers Carrying Petroleum Products*
1130 – 1230	***Terminal Management & Organization*** *Compliance ● Hazard Identification and Risk Management ● Operating Manual ● Terminal Information and Port Regulations ● Supervision and Control ● Ship and Berth Compatibility ● Documentation*
1230 – 1245	*Break*
1245 – 1420	***Terminal Operations*** *Pre-Arrival Communications ● Mooring ● Limiting Conditions for Operations ● Ship/Shore Access ● Double Banking ● Over the Tide Cargo Operations ● Operations Where the Ship is not Always Afloat ● Generation of Pressure Surges in Pipelines ● Assessment of Pressure Surges ● Reduction of Pressure Surge Hazard ● Pipeline Flow Control as a Static Precaution*
1420 – 1430	***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*
1430	*Lunch & End of Day Three*

Day 4

0730 – 0845	***Terminal Systems & Equipment*** *Electrical Equipment ● Fendering ● Lifting Equipment ● Lighting ● Ship/Shore Electrical Isolation ● Earthing and Bonding Practice in the Terminal*
0845 – 0945	***Cargo Transfer Equipment*** *Metal Cargo Arms ● Cargo Hoses ● Vapour Emission Control Systems*

0945 – 1000	*Break*
1000 – 1230	***Safety & Fire Protection*** *Safety ● Marine Terminal Fire Protection ● Alarm and Signalling Systems ● Detection and Alarm Systems at Terminals Handling Crude Oil and Petroleum Products ● Fire-Fighting Equipment ● Water-Borne Fire-Fighting Equipment ● Protective Clothing ● Access for Fire-Fighting Services*
1230 – 1245	*Break*
1245 – 1315	***Emergency Preparedness*** *Terminal Emergency Planning – Plan Components and Procedures ● Definition and Hierarchy of Emergencies ● Terminal Emergency Plan ● Emergency Removal of tanker from Berth*
1315 – 1420	***Emergency Evacuation*** *Evacuation and Personnel Escape Routes ● Survival Craft ● Training and Drills*
1420 – 1430	***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*
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Communications*** *Procedures and Precautions ● Pre-Arrival Exchange of Information ● Pre-Berthing Exchange of Information ● Pre-Transfer Exchange of Information ● Agreed Loading Plan ● Agreed Discharge Plan ● Agreement to Carry Out Repairs*
0830 – 0945	***Mooring*** *Personnel Safety ● Security of Moorings ● Preparations for Arrival ● Mooring at Jetty Berths ● Berthing at Buoy Moorings*
0945 – 1000	*Break*
1000 – 1100	***Precautions on Ship & Terminal During Cargo Handling*** *External Openings in Superstructures ● Central Air Conditioning and Ventilation Systems ● Openings in Cargo Tanks ● Inspection of Ship's Cargo Tanks Before Loading ● Segregated Ballast Tank Lids ● Ship and Shore Cargo Connections ● Accidental Oil Spillage and Leakage ● Fire-Fighting Equipment ● Proximity to Other Vessels Notices ● Manning Requirements ● Control of Naked Flames and Other Potential Ignition Sources ● Control of Vehicles and Other Equipment ● Helicopter Operations*
1100 – 1230	***Bunkering Operations*** *Bunkering Procedures ● The Bunkering Operation ● The Bunkering Safety Check-List*
1230 – 1245	*Break*
1245 – 1345	***Safety Management*** *Climatic Conditions ● Personnel Safety ● The Ship/Shore Safety Check-List ● Guidelines for Completing the Ship/Shore Safety Check-List ● Emergency Actions*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course 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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