



COURSE OVERVIEW ME0367 Process Utilities & Axillary Support Systems Operation

Course Title

Process Utilities & Axillary Support Systems Operation

Course Date/Venue

Session 1: April 21-25, 2025/Boardroom 1,
Elite Byblos Hotel Al Barsha, Sheikh
Zayed Road, Dubai, UAE
Session 2: October 19-23, 2025/Fujairah
Meeting Room, Grand Millennium Al
Wahda Hotel, Abu Dhabi, UAE



Course Reference

ME0367



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.

Plant utilities or offsites are a vital service to the operation of process plants and oil/gas processing facilities. Unfortunately, they are all too often ignored until they cause problems. It's too late to start thinking about them when the plant/facility gets hit with a major derating or outage that could have been avoided.



This course is designed to provide an up-to-date overview of the various offsite and utility systems. It will cover the key selection considerations of the utility systems and how they are integrated into process plant or oil/gas facilities. Participants will develop a basic understanding of the wide variety of utility systems and components. The course will discuss how the offsite and utility system integrate with the process facilities and overall operation.



The course will cover the offsite and utility systems selection, costs and other managerial decisions pertinent to utility operations. Case studies and exercises will be used to demonstrate the application of key design and troubleshooting considerations.



During this highly interactive course, participants will be involved on hands-on practical sessions to select sites for high level utility systems. They will design various utility systems and learn the key elements affecting the operation, maintenance and troubleshooting such systems.

Course Objectives

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

- Design, operate, maintain and troubleshoot utility systems in process plants and oil/gas processing facilities
- List the various options in selecting utility systems
- Evaluate and select utility systems based on key criteria and technical considerations
- Implement the key site selection considerations for high level utility systems
- Troubleshoot utility systems and identify the common failure mechanisms
- Determine the various maintenance and management considerations for offsite and utility systems

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Howard 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 is intended for engineers and other technical staff responsible for the design, operation, maintenance or troubleshooting of utility systems in process plants and oil/gas facilities.

Course Fee

US\$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Howard 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.

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

Certificates are accredited by the following international accreditation organizations:

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British Accreditation Council (BAC)

Howard 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, Howard Technology meets all of the international higher education criteria and standards set by BAC.

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The International Accreditors for Continuing Education and Training (IACET - USA)

Howard 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, Howard 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, Howard Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Howard 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.

Howard 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 Howard Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Howard Technology. Howard 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. Saad Bedir, MSc, BSc, is a Senior Mechanical Engineer with over 30 years of extensive experience in the Power, Petrochemical, Oil & Gas and Cement industries. He is well-versed in the areas of Vehicle Mechanical Maintenance, Vehicle Chassis, Auto Mechanic and Auto Electrician for Heavy and Light Vehicles, Vehicle Inspection Technology and Tool Usage, Suspension and Steering Systems Inspection, Control Valves & Actuators, Pump Technology, Pumps Maintenance & Troubleshooting, Valve Maintenance, Plunger Valve, Maintenance & Reliability Best Practices, Maintenance & Reliability Management, Process Plant Operations, Process Plant Startup & Operating Procedure, Ethylene & Vinyl Chloride, Ethane Cracking Furnaces Operations, Boiler & Steam System Management, Waste Heat Recovery, Boiler Plant Safety, Boiler Controls, Steam Distribution Systems, Steam Traps, Pollution Control, Cracked Gas Compressor, Reboilers, Selection & Operation, Boiler Inspection & Maintenance, Introduction to Process Troubleshooting, Polyethylene Manufacturing & Process Troubleshooting, Heat & Power Consumption and Heat Transfer. His expertise also includes the implementation of Environmental Impact Assessment (EIA), OHSAS 18001, ISO 9001, ISO 14001, QHSE Management Planning, Air Quality Management, Health, Fire, Safety, Security & Environmental Codes of Practice, Legislations and Procedures. Crisis & Business Continuity Management Planning, Emergency Response & Procedures, Industrial Security Risk Assessment & Management, , Behavioural Safety, Incident & Accident Investigation, Integrated EHS Aspects, Risk Assessment & Hazard Identification, Environmental Audits, Hazardous & Non-Hazardous Waste Management, Confined Space Safety, SHEMS Principles, Process Safety, Basic & Advanced Construction Safety, Rig & Barge Inspection, , Safety & Occupational Health Awareness, Loss Control, Lifting & Slings, Marine Pollution Hazards & Control, Ground Contamination & Reclamation Processes, Waste Management & Recycling, HAZOP, HAZID, HSEIA, QRA, Hazardous Area Classification, Radiation Protection, Active and Positive Fire Fighting, Fire & Gas Detection Systems, Fire Fighting Systems, Fire Proofing, ESD, Escape Routes. Presently, he is the HSE Director for one of the largest and renowned companies in the Middle East, wherein he takes charge of all HSE and security operations of the company.

Mr. Saad's vast professional experience in directing & managing process operations and health, safety and the environment aspects as per OSHA framework and guidelines can be traced back to his stint with a few international companies like **Saudi ARAMCO, CONOCO, Kuwait Oil Co. (KOC)**, etc, where he worked as the **Field Senior Process Consultant** handling major projects and activities related to the discipline. Through these, he gained much experience and knowledge in the implementation and maintenance of **internationally accepted principles** of process operations. Through this, he has also gained knowledge regarding international safety standards for the National Fire Protection Association (**NFPA**), the American Petroleum Institute (**API**), Safety of Life at Sea (**SOLAS**), and Safety for Mobile Offshore Drilling Unit (**MODU**).

Mr. Saad has a **Master and Bachelor** degrees in **Chemical Engineering**. Further, he is a **Certified Lead Auditor** for **OHSAS 18001, ISO 9001 and ISO 14001** and he holds **NEBOSH** certificate which includes health & safety measures. His passion for development and acquiring new skills and knowledge has taken him all over the Middle East to attend and share his expertise in numerous trainings and workshops.



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 – 0930	Process Cooling System Three Critical Points to Consider in the Operation of any Cooling System
0930 – 0945	Break
0945 – 1100	Process Cooling System (cont'd) Contact and Non-Contact Cleaning • Once-Through Cleaning
1100 – 1230	Process Cooling System (cont'd) Recirculating or Cooling Tower Systems • Closed Loop Recirculating Systems
1230 – 1245	Break
1245 – 1420	Process Heating System Once the Water is in the Boiler, how is it Maintained in the Best State to Keep the Boiler Operating Reliably and Efficiently During Steady-State Operation? • What can Happen During Start-Up, Shutdown and Transient Conditions? • What Happens when Contamination is Carried over with the Steam or Brought Back from the Process? • Monitoring the Operation • What is the Best Choice for Different Applications, E.G., Cogeneration, SAGD Recovery of Heavy Oils or Heating a Distillation Column
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 – 0930	Fresh & Potable Water System Basic Principles of MF and UF • Fouling of UF and MF Systems • Cleaning of MF and UF Systems • Basic Principles of Reverse Osmosis Technology • Design of Reverse Osmosis Systems • Overview RO and NF Membranes • Fouling in RO and NF Systems • Pretreatment for RO and NF Systems • Posttreatment for RO and NF Systems
0930 – 0945	Break
0945 – 1100	Process Refrigeration System Major Industrial Systems Including High and Low Heat Load Systems, Direct Contact with Process Fluids and Closed Loops for Critical Systems • The Condenser in Electrical Generation Systems, Including Cogeneration
1100 – 1230	Power Generation & Distribution System Three Critical Points to Consider in the Operation of any Boiler Plant • The Various Classes of Boilers and their Special Needs • The Boiler as a Concentrating Mechanism • Guidelines and Needs for Different Pressures
1230 – 1245	Break



1245 – 1420	Steam System How to Make it Suitable for Boiler Applications • How is the Choice of Equipment Related to the Overall Plant Design • Do the Attendees' Plants Have any Special Problems?
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

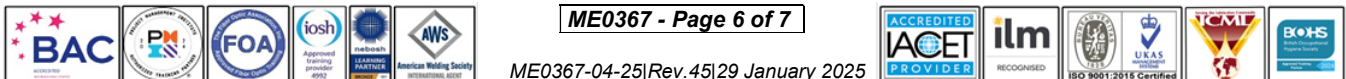
0730 – 0930	Process Drains-Open and Closed
0930 – 0945	Break
0945 – 1100	Instrument/Plant Air and Breathing Air
1100 – 1230	Fuel Systems Natural Gas • Diesel • Crude Oil • Aviation Fuels
1230 – 1245	Break
1245 – 1420	Inert Gas Systems
1420 – 1430	Recap Using this Course Overview, the Instructor(s) will 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 – 0930	Firewater
0930 – 0945	Break
0945 – 1100	Utilities Management Issues
1100 – 1230	Utilities Maintenance Considerations
1230 – 1245	Break
1245 – 1420	Performance Monitoring Can we Assess the Cleanliness of a Steam Condenser or HVAC Chiller Without Having to Shut Down and Open Them Up?
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5

0730 – 0930	Workshop on Monitoring Heat-Exchanger Cleanliness The Specific Topics will be Chosen to Match the Needs of those Attending
0930 – 0945	Break
0945 – 1100	Workshop on Monitoring Heat-Exchanger Cleanliness (cont'd) The Specific Topics will be Chosen to Match the Needs of those Attending (cont'd)
1100 – 1230	In-Service Cleaning Chemical and Mechanical Methods for Both Off-Line On-Line Cleaning
1230 – 1245	Break
1245 – 1345	In-Service Cleaning (cont'd) Chemical and Mechanical Methods for Both Off-Line On-Line Cleaning (cont'd)
1345 – 1400	Course Conclusion
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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