COURSE OVERVIEW ME0367
Utilities System Operations

Course Title
Utilities System Operations

Course Date/Venue
Session 1: August 11-15, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: October 19-23, 2025/ Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, 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 "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 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® (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.

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: -

- 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:

Mr. Dimitry Rovas, CEng, MSc, PMI-PMP, SMRP-CMRP is a **Senior Mechanical & Maintenance Engineer** with extensive industrial experience in **Oil**, **Gas**, **Power** and **Utilities** industries. His expertise includes **Boiler** Inspection & Maintenance, **Boiler** Systems, **Boiler** instrumentation & Controls, **Boiler** Start-up & Shutdown, **Boiler** Operation & Steam System Management, **Boiler** Water Chemistry & Treatment, **Boiler** Efficiency & Waste Heat Recovery, **Boiler** Inspection & Testing, **Boiler** Maintenance, **Boiler** Troubleshooting & Safety, **Boiler** Emissions & Pollution Control, **Combustion** Analysis & Tuning Procedures, **Water Treatment** Technology, Heat Recovery Steam Generating (**HRSG**), **Impulse Tube** Installation & Inspection, **Parker Compression Fittings**, **Pipes & Fittings**, **PSV Inspection**, **Root Cause Failure Analysis**, **Tank** Design & Engineering, **Tank Shell**, **Tanks & Tank Farms**, **Vacuum Tanks**, **Gas Turbine** Operating & Maintenance, **Diesel Engine**, **Engine Cycles**, **Governors & Maintenance**, **Crankshafts** & Maintenance, **Lubrication** System Troubleshooting & Maintenance, **Engines/Drivers**, **Motor** Failure Analysis & Testing, **Motor** Predictive Maintenance, **Engine** Construction & Maintenance, **HP Fuel Pumps & Maintenance**, **Fired Equipment** Maintenance, Combustion **Techniques**, **Process Heaters**, Glass Reinforced Epoxy (**GRE**), Glass Reinforced Pipes (**GRP**), Glass Reinforced Vent (**GRV**), **Mechanical Pipe Fittings**, **Flange Joint Assembly**, Adhesive Bond Lamination, **Butt Jointing**, **Joint & Spool Production**, **Isometric Drawings**, **Flange Assembly** Method, **Fabrication & Jointing**, Jointing & Spool Fabrication, **CAESAR**, **Pipe Stress Analysis**, **Pipe Cuttings**, **Flange Bolt Tightening** Sequence, **Hydro Testing**, **Pump** Technology, Fundamentals of **Pumps**, **Pump** Selection & Installation, **Centrifugal Pumps & Troubleshooting**, **Reciprocating & Centrifugal Compressors**, **Screw Compressor**, **Compressor** Control & Protection, **Gas & Steam Turbines**, **Turbine** Operations, **Gas Turbine** Technology, **Valves**, **Process Control Valves**, **Bearings & Lubrication**, Advanced **Machinery Dynamics**, **Rubber Compounding**, **Elastomers**, **Thermoplastic**, **Industrial Rubber Products**, **Rubber** Manufacturing Systems, **Heat Transfer**, **Vulcanization Methods**, **Process Plant Shutdown & Turnaround**, **Professional Maintenance Planner**, Advanced **Maintenance Management**, **Maintenance Optimization & Best Practices**, **Maintenance Auditing & Benchmarking**, **Material Cataloguing**, **Reliability** Management, **Rotating Equipment**, **Energy Conservation**, **Energy Loss Management** in Electricity Distribution Systems, **Energy Saving**, **Thermal Power Plant** Management, **Thermal Power Plant** Operation & Maintenance, **Heat Transfer**, **Machine Design**, **Fluid Mechanics**, **Heating & Cooling Systems**, **Heat Insulation Systems**, **Heat Exchanger & Cooling Towers**, **Mechanical Erection**, **Heavy Rotating Equipment**, Material Unloading & Storage, Commissioning & Start-Up. He is currently the **Project Manager** wherein he is managing, directing and controlling all activities and functions associated with the domestic heating/cooling facilities projects.

During his life career, Mr. Rovas has gained his practical and field experience through his various significant positions and dedication as the **EPC Project Manager**, **Maintenance Manager**, **Mechanical Engineer**, **Field Engineer**, **Preventive Maintenance Engineer**, **Lead Rotating Equipment Commissioning Engineer**, **Construction Commissioning Engineer**, **Offshore Lead Maintenance Engineer**, **Researcher**, **Instructor/Trainer**, **Telecom Consultant** and **Consultant** from various companies such as the Mytilineos Aluminium Group, Podaras Engineering Studies, Metka and Diadikasia, S.A., **Hellenic Petroleum Oil Refinery** and COSMOTE.

Mr. Rovas has **Master's** degrees in **Energy Production & Management** and **Mechanical Engineering** from the **National Technical University of Athens** (**NTUA**), **Greece**. Further, he is a **Certified Instructor/Trainer**, a **Certified Maintenance and Reliability Professional** (**CMRP**) from the Society of Maintenance & Reliability Professionals (**SMRP**), **Certified Project Management Professional** (**PMI-PMP**), **Certified Six Sigma Black Belt**, **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**), **Certified Construction Projects Contractor**, **Certified Energy Auditor** and a **Chartered Engineer**. Moreover, he is an active member of **American Society for Quality**, Project Management Institute (**PMI**), **Body of Certified Energy Auditors** and **Technical Chamber of Greece**. He has further received various recognition and awards and delivered numerous trainings, seminars, courses, workshops and conferences internationally.

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 • Postreatment 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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