COURSE OVERVIEW PE0424
Advanced and Modern Technology on Refinery Gas Treating, Amine System, Sulfur and Tail Gas

Course Title
Advanced and Modern Technology on Refinery Gas Treating, Amine System, Sulfur and Tail Gas

Course Reference
PE0424

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

Course Date/Venue

Session(s)	Date	Venue
1	January 28-February 01, 2024	Kizkulesi, Crown Plaza Istanbul Asia Hotels & Convention Center, Istanbul, Turkey
2	February 11-15, 2024	The Mouna Meeting Room, The H Dubai Hotel, Sheikh Zayed Rd - Trade Centre, Dubai, UAE
3	March 03-07, 2024	Oryx Meeting Room, Doubletree By Hilton Doha-Al Sadd, Doha, Qatar

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 advanced and modern technology on refinery gas treating, amine system, sulfur and tail gas. It covers the amine treating, amine plant operation and modern amine plant design and control; the key performance indicators, routine monitoring and plant simulation; the most common problems during foaming, corrosion, fires, HSS, meeting specifications, etc.; and the application of root cause analysis and prevention.

During this interactive course, participants will learn the amine treating turnup and turndown; turnaround planning, execution, startups and shutdowns; the sulphur recovery, claus plant and TGU operation; the modern claus plant and TGU design and control; the cause and effect; the pressure relief, burner management and SRU safeguarding; the most common incidents during plugging, corrosion, fires, emission increases, etc.; and the sulphur recovery turnup, turndown, turnaround planning, execution, startup and shutdown.

Course Objectives

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

- Apply and gain an in-depth knowledge on advanced and modern technology on refinery gas treating, amine system, sulfur and tail gas
- Carryout amine treating, optimize amine plant operation and illustrate modern amine plant design and control
- Determine key performance indicators, routine monitoring and plant simulation
- Identify the most common problems during foaming, corrosion, fires, HSS, meeting specifications, etc. and apply root cause analysis and prevention
- Recognize amine treating turnup (capacity increase) and turndown and employ turnaround planning and execution, startups and shutdowns
- Apply sulphur recovery and optimize claus plant and TGU operation as well as modern claus plant and TGU design and control
- Identify the cause and effect and discuss pressure relief, burner management and SRU safeguarding
- Recognize the most common incidents during plugging, corrosion, fires, emission increases, etc.
- Carryout suplhur recovery turnup, turndown, turnaround planning, execution, startup and shutdown

Who Should Attend

This course provides an overview of all significant aspects and considerations of advanced and modern technology on refinery gas treating, amine system, sulfur and tail gas for team leaders, managers, operations superintendent, unit supervisors, process engineers, operations engineers, control engineers, project engineers, environment engineers, design engineers and board operators.

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.

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: -

- 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.

- 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.

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 Chemical 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 **Process** Plant Start-up and Commissioning, **Process** Plant Troubleshooting, **Heat & Power Consumption**, **Heat Transfer**, **Clean Energy & Power Saving**, Fuel Handling System, **Oil Movement & Operation**, Oil Production, Gas Conditioning & Processing, Plastic Additives, Process Plant Performance & Efficiency, Plant Optimization and Process Operations. 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 & Slinging, 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 **Bachelor's** degree in **Chemistry** from the **Ain Shams University** and a **NEBOSH** certificate holder. Further, he is a **Certified Instructor/Trainer**, a **Certified Lead Auditor** for **OHSAS 18001**, **ISO 9001**, **ISO 14001** and a **member** of the **Egyptian Syndicate** & **Scientific Professions**. 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 Fee

Istanbul	**US$ 6,000** per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	**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.
Doha	**US$ 6,000** per Delegate. 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	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Amine Treating***
0930 – 0945	*Break*
0945 – 1100	***Optimize Amine Plant Operation***
1100 – 1230	***Modern Amine Plant Design & Control***
1230 – 1245	*Break*
1245 – 1420	***Key Performance Indicators, What a Engineers & Operators Should Be Routinely Monitoring***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0930	***Plant Simulation – What a Simulation Tells that Direct Measurements Can't***
0930 – 0945	*Break*
0945 – 1100	***Most Common Problems – Root Cause Analysis & Prevention – Foaming, Corrosion, Fires, HSS, Meeting Specifications, Etc.***
1100 – 1215	***Amine Treating Turnup (Capacity Increase) & Turndown***
1215 – 1230	*Break*
1230 – 1420	***Amine Treating Turnaround Planning & Execution***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Amine Treating Startups & Shutdowns***
0930 – 0945	*Break*
0945 – 1100	***Sulphur Recovery***

1100 – 1215	***Optimize Claus Plant & TGU Operation***
1215 – 1230	*Break*
1230 – 1420	***Modern Claus Plant & TGU Design & Control***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0930	***Key Performance Indicators – What Engineers & Operators Should be Monitoring***
0930 – 0945	*Break*
0945 – 1100	***SRU Safeguarding – Cause & Effects, Pressure Relief, Burner Management, Etc.***
1100 – 1215	***Most Common Incidents – Root Cause Analysis & Prevention – Plugging, Corrosion, Fires, Emission Increases, Etc.***
1215 – 1230	*Break*
1230 – 1420	***Most Common Incidents – Root Cause Analysis & Prevention – Plugging, Corrosion, Fires, Emission Increases, Etc. (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Sulphur Recovery Turnup (Capacity Increase) & Turndown***
0930 – 0945	*Break*
0945 – 1100	***Sulphur Recovery Turnup (Capacity Increase) & Turndown (cont'd)***
1100 – 1215	***Sulphur Recovery Turnaround Planning & Execution***
1215 – 1230	*Break*
1230 – 1400	***Sulphur Recovery Startups & Shutdown***
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

Kamel Ghanem, Tel: +971 2 30 91 714, Email: kamel@haward.org