



COURSE OVERVIEW ME0446(KJ1) Training & Certification of Rotating Equipment

Course Title

Training & Certification of Rotating Equipment

Course Date/Venue

December 08-12, 2024/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference

ME0446(KJ1)

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 our state-of-the-art simulators.



This course is designed to provide delegates with a detailed and up-to-date overview of rotating equipment. It covers the objective, principles, functional description and operating characteristics of rotating equipment; the dismantling and assembling process of rotating equipment in a professional manner; the vibration and monitoring measurement and system; the pump types and terminology; the application and main components of motors and pumps; the characteristics for pump and motor parts; and the pump maintenance including repair for preventive and overhauling.



During this interactive course, participants will learn the mechanical seal systems, bearing care and maintenance; the couplings, alignment, compressor types and elements; the thermodynamic cycle and flow diagram; the common suction; the discharge valve types; the high-pressure gas packing; the stuffing box packing; and the general hazards associated with rotating equipment.





Course Objectives

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

- Apply and gain a comprehensive knowledge on rotating equipment
- Discuss rotating equipment covering its objective, principles, functional description and operating characteristics
- Apply dismantling and assembling process of rotating equipment in a professional manner
- Carryout vibration and monitoring measurement and system
- Identify pump types and terminology as well as the application and main components of motors and pumps
- Determine the characteristics for pump and motor parts
- Employ pump maintenance including repair for preventive and overhauling
- Carryout mechanical seal systems, bearing care and maintenance
- Discuss couplings, alignment, compressor types and elements and illustrate thermodynamic cycle and flow diagram
- Identify common suction, discharge valve types, high pressure gas packing, stuffing box packing and general hazards associated with rotating equipment

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, sample video clips of the instructor’s actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.

Who Should Attend

This course provides an overview of all significant aspects and considerations of rotating equipment for mechanical engineers, rotating equipment engineers, supervisors and other technical staff. Further, the course is suitable to all other engineering disciplines who are dealing with rotating equipment such as process engineers, chemical engineers, electrical engineers, plant engineers, project engineers and instrumentation engineers.

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.

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. Certificates are valid for 5 years.

Recertification is FOC for a Lifetime.

Sample of Certificates

The following are samples of the certificates that will be awarded to course participants:-




Training & Certification of Rotating Equipment
 Certification Number: 8667-2014-9020-2555
 Certification Date: 14-Nov-2019
 Expiration Date: 14-Nov-2024

This is to certify that **Ali Al Hajri** has successfully met the requirements of the **Training & Certification of Rotating Equipment** Program, ME0446(KJ1).



Haward Technology is accredited by:



Ms. Maricel De Guzman
Academic Director



Training & Certification of Rotating Equipment Certification Program

This program is designed to assist companies in identifying professionals who have satisfied the minimum competencies specified in ME0446(KJ1). Haward Technology does not warrant or guarantee the performance of any professional certified under this program.

Haward Technology does not warrant or guarantee the performance of any professional certified under this program.

Haward Technology is accredited by:



8667-2014-9020-2555



- (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 *



Haward Technology Middle East
Continuing Professional Development (HTME-CPD)

CEUs
Page 1 of 1

CEU Official Transcript of Records

TOR Issuance Date: 14-Nov-19

HTME No. 8667-2014-9020-2555

Participant Name: Ali Al Hajri

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
ME0446(KJ1)	Training & Certification of Rotating Equipment	November 10-14, 2019	30	3.0

Total No. of CEU's Earned as of TOR Issuance Date **3.0**

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), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, 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.

- 

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.

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 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. Karl Thanasis (Athansios Karalis), PEng, MSc, MBA, BSc, is a **Senior Process & Mechanical Engineer** with **45 years** of extensive industrial experience within the **Oil & Gas, Refinery** and **Petrochemical** industries. His wide expertise includes **Control Valve Maintenance & Testing, Advanced Operational Skills, Operations & Maintenance for Gas Processing Plant, Oil & Gas Processing Facilities Operations, Applied Natural Gas Processing, Dehydration & Advanced Rotating Equipment, Gas Processing & Compression, Process Equipment Design**

& Troubleshooting, Process Plant Optimization & Continuous Improvement, Production Process Optimization, Operations Planning Optimization, Process Equipment Design, Process Plant Performance & Efficiency, Process Integration & Optimization, Root Cause Analysis (RCA) Methods, Root Cause Analysis, Process Equipment & Piping System, Rotating Equipment Reliability Optimization & Continuous Improvement, Material Cataloguing, Mechanical & Rotating Equipment Troubleshooting & Maintenance, Rotating Equipment for Process Industry, Rotating Machinery Best Practices, Centrifugal Pumps Operation, Positive Displacement Pumps Repair, Pump Maintenance & Troubleshooting, Heat Exchanger Maintenance & Repair, Heat Exchanger Inspection & Troubleshooting, Fin-fan Coolers, Fundamentals of Engineering Drawings, Codes & Standards, P&ID Reading Interpretation & Developing, Boiler Design, Boiler Inspection & Maintenance, Boiler Operation & Control, Boiler Troubleshooting & Inspection, Boiler Instrumentation & Control, Steam Boiler Maintenance, Boiler & Steam Generation System, Boiler Failure Analysis & Prevention, Boiler Burner Management, Boiler Water Treatment Technology, Machinery Failure Analysis, Preventive & Predictive Maintenance, Condition Monitoring, Root Cause Analysis (RCA), Root Cause Failure Analysis (RCFA), Reliability Centred Maintenance (RCM), Risk Base Inspection (RBI), Metallurgical Failure Analysis, Corrosion Failure Analysis, Steam Generation, Steam Turbines, Power Generator Plants, Gas Turbines, Combined Cycle Plants, Boilers, Process Fired Heaters, Air Preheaters, Induced Draft Fans, All Heaters Piping Work, Refractory Casting, Heater Fabrication, Thermal & Fired Heater Design, Heat Transfer, Coolers, Pumps, Turbo-Generator, Turbine Shaft Alignment, Lubrication, Mechanical Seals, Packing, Blowers, Bearings, Couplings, Clutches and Gears. Further, he is also versed in **Wastewater Treatment Technology, Networking System, Water Network Design, Industrial Water Treatment in Refineries & Petrochemical Plants, Piping System, Water Movement, Water Filtering, Mud Pumping, Sludge Treatment and Drying, Aerobic Process of Water Treatment that includes Aeration, Sedimentation and Chlorination Tanks.** His strong background also includes **Design and Sizing** of all **Waste Water Treatment Plant Associated Equipment** such as **Sludge Pumps, Filters, Metering Pumps, Aerators and Sludge Decanters.**



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: Sunday, 8th of December 2024

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Introduction to Rotating Equipment
0930 – 0945	Break
0945 – 1100	Main Objective & Principles of Rotating Equipment
1100 – 1215	Functional Description & Operating Characteristics
1215 – 1230	Break
1230 – 1420	Dismantling & Assembling Process of Rotating Equipment
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Monday, 9th of December 2024

0730 – 0930	Vibration & Monitoring Measurement & System
0930 – 0945	Break
0945 – 1100	Pump Types & Terminology
1100 – 1215	Application & Main Components (Motors & Pumps)
1215 – 1230	Break
1230 – 1420	Operating Characteristics for Pump & Motor Part
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3: Tuesday, 10th of December 2024

0730 – 0930	Pump Maintenance Including Repair for Preventive & Overhaul
0930 – 0945	Break
0945 – 1100	Mechanical Seal Systems & Bearing Care & Maintenance
1100 – 1215	Couplings & Alignment
1215 – 1230	Break
1230 – 1420	Compressors Types
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Wednesday, 11th of December 2024

0730 – 0930	Compressor Elements Impeller • Splitter
0930 – 0945	Break
0945 – 1100	Compressor Elements (cont'd) Diffuser • Volute
1100 – 1215	Thermodynamic Cycle & Flow Diagram
1215 – 1230	Break
1230 – 1420	Common Suction/Discharge Valve Types
1420 – 1430	Recap
1430	Lunch & End of Day Four





Day 5: Thursday, 12th of December 2024

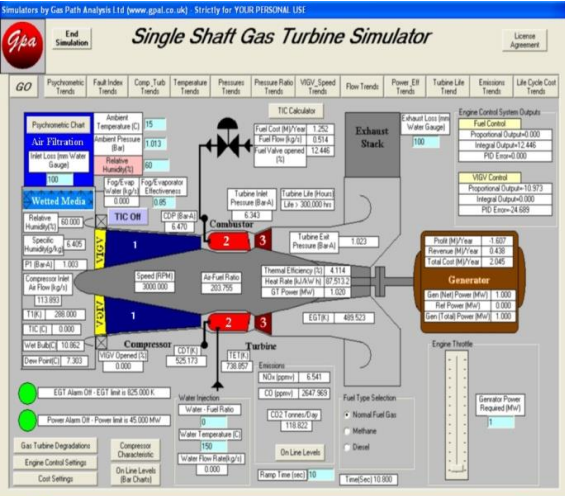
0730 – 0930	High Pressure Gas Packing/Stuffing Box Packing
0930 – 0945	<i>Break</i>
0945 – 1100	High Pressure Gas Packing/Stuffing Box Packing (cont'd)
1100 – 1215	General Hazards Associated with Rotating Equipment
1215 – 1230	<i>Break</i>
1230 – 1300	General Hazards Associated with Rotating Equipment (cont'd)
1300 – 1315	Course Conclusion
1315 – 1415	COMPETENCY EXAM
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>



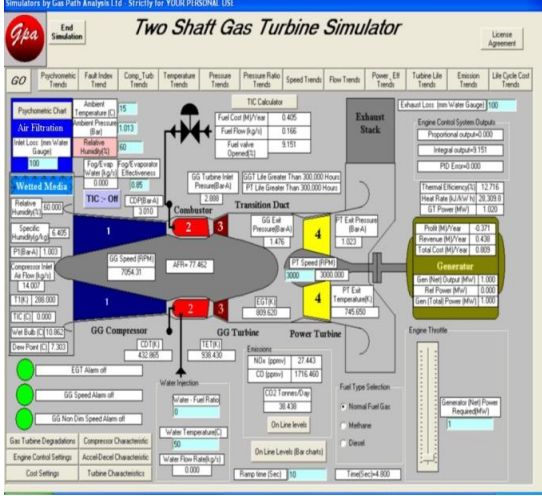


Simulator (Hands-on Practical Sessions)

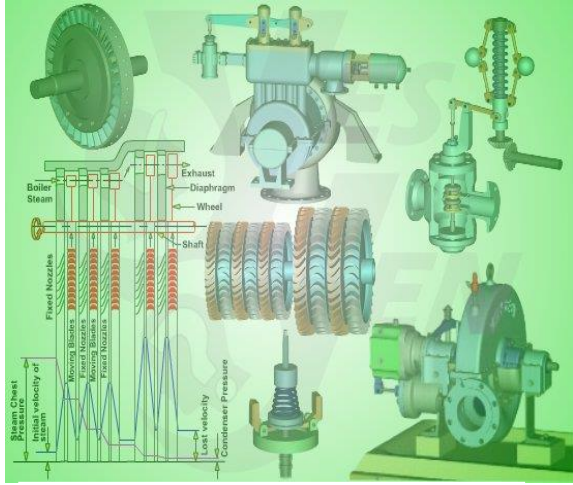
Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using our state-of-the-art “Single Shaft Gas Turbine Simulator” and “Two Shaft Gas Turbine Simulator”, “Steam Turbine & Governing System”, “Centrifugal Pumps and Troubleshooting Guide 3.0”, “SIM 3300 Centrifugal Compressor Simulator” and “CBT on Compressors” Simulators.



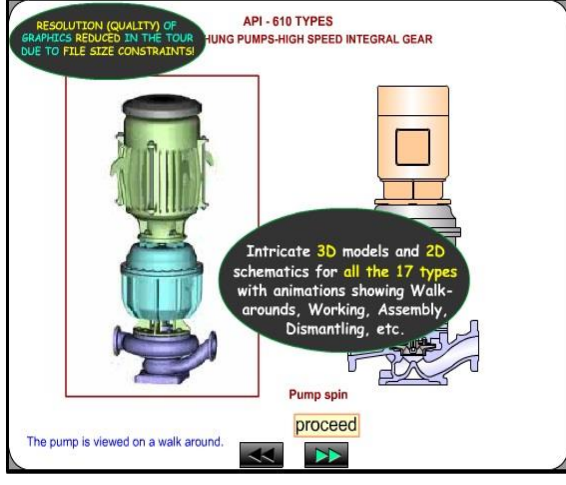
Single Shaft Gas Turbine Simulator



Two Shaft Gas Turbine Simulator

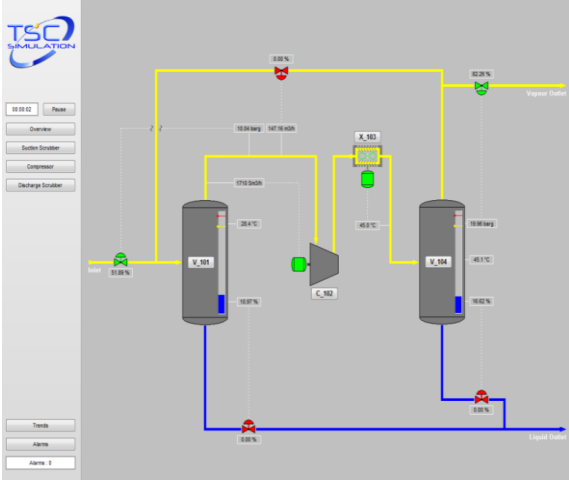


Steam Turbine & Governing System

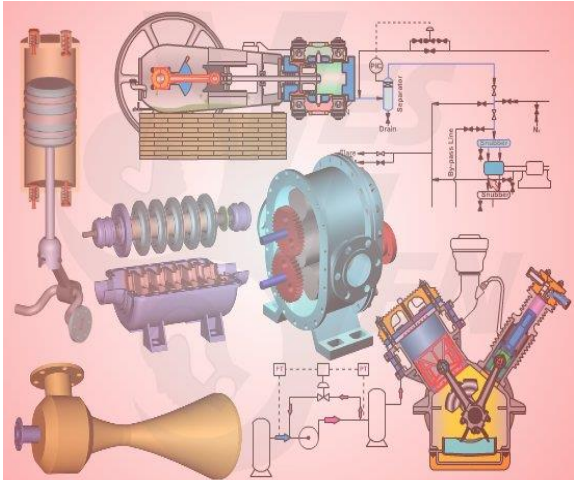


Centrifugal Pumps and Troubleshooting





SIM 3300 Centrifugal Compressor Simulator



CBT on Compressors

Course Coordinator

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org

