

COURSE OVERVIEW ME0642(AD4)
Lube Oil System, Design & Troubleshooting

Course Title

Lube Oil System, Design & Troubleshooting

Course Date/Venue

Session 1: February 23-27, 2025/Boardroom
1, Elite Byblos Hotel Al Barsha,
Sheikh Zayed Road, Dubai, UAE
Session 2: August 25-29, 2025/Fujairah
Meeting Room, Grand Millennium Al
Wahda Hotel, Abu Dhabi, UAE



Course Reference

ME0642(AD4)



Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

Course Description



This hands-on, 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.



The primary function of the Lube Oil system is to supply lubricating oil at the proper pressure and temperature to the main propulsion turbines and reduction gears. The lube oil not only lubricates the machinery, but it also cools and helps reduce rusting. Secondary functions include purifying oil that has become contaminated and transferring oil to or from the sump tank, gravity tank, storage tank, settling tank, sludge tank, or deck connections.



This course is designed to provide participants with required working knowledge for better design, selection and made on troubleshooting of lubrication problems they may experience in their plant equipment taking into consideration the codes, standards & manufacturers recommendations.

The course will discuss the lube oil system constitutes and functions, flushing and cleaning; the lube oil schematic (P&ID) for centrifugal and reciprocating compressor; the lube oil system operation including oil mist lubrications techniques; the lube oil characteristics and analysis forms; the troubleshooting of lube oil system; the codes & standards for lube oil; and the preventive maintenance for lube oil system.

Course Objectives

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

- Apply and gain an in-depth knowledge on lube oil system, design and troubleshooting
- Explain lube oil system constitutes and functions as well as flushing and cleaning
- Describe lube oil schematic (P&ID) for centrifugal and reciprocating compressor
- Illustrate lube oil system operation including oil mist lubrications techniques
- Discuss lube oil characteristics and analysis forms
- Troubleshoot lube oil system and discuss codes & standards for lube oil
- Employ preventive maintenance for lube oil system

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 lube oil system, design and troubleshooting for managers, mechanical engineers, lubrication technicians, machine operators and maintenance personnel.

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\$ 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)

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)

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.

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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. Karl Thanasis, PEng, MSc, MBA, BSc, is **Senior Mechanical & Maintenance Engineer** with over 30 years of extensive industrial experience within the **Power & Water Utilities** and other **Energy Sectors**. His wide expertise includes **District Cooling Plant, District Cooling Plant Operations, HVAC Basics, HVAC&R, KOTZA, Refrigeration, Modern HVAC & Refrigeration Systems Design, Utilization, Operation & Effective Maintenance, Control Valve & Actuators, Fire Safe Valves, Piping & Pipeline, Maintenance, Repair, Shutdown, Turnaround & Outages, Maintenance & Reliability Management, Mechanical Maintenance Planning, Scheduling & Work Control, Advanced Techniques in Maintenance Management, Predictive & Preventive Maintenance, Maintenance & Operation Cost Reduction Techniques, Reliability Centered Maintenance (RCM), Machinery Failure Analysis, Rotating Equipment Reliability Optimization & Continuous Improvement, Material Cataloguing, Mechanical & Rotating Equipment Troubleshooting & Maintenance, Root Cause Analysis & Reliability Improvement, Condition Monitoring, Root Cause Failure Analysis (RCFA), 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 Exchangers, Heat Transfer, Coolers, Power Plant Performance, Efficiency & Optimization, Storage Tank Design & Fabrication, Thermal Power Plant Management, Boiler & Steam System Management, Pump Operation & Maintenance, Chiller & Chiller Plant Design & Installation, Pressure Vessel, Safety Relief Valve Sizing & Selection, Valve Disassembling & Repair, Pressure Relief Devices (PSV), Hydraulic & Pneumatic Maintenance, Advanced Valve Technology, Pressure Vessel Design & Fabrication, Pumps, Turbo-Generator, Turbine Shaft Alignment, Lubrication, Mechanical Seals, Packing, Blowers, Bearing Installation, 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.**

Mr. Thanasis has acquired his thorough and practical experience as the **Project Manager, Plant Manager, Area Manager - Equipment Construction, Construction Superintendent, Project Engineer and Design Engineer**. His duties covered **Plant Preliminary Design, Plant Operation, Write-up of Capital Proposal, Investment Approval, Bid Evaluation, Technical Contract Write-up, Construction and Sub-contractor Follow up, Lab Analysis, Sludge Drying and Management of Sludge Odor and Removal**. He has worked in various companies worldwide in the **USA, Germany, England and Greece**.

Mr. Thanasis is a **Registered Professional Engineer** in the **USA and Greece** and has a **Master's and Bachelor's degree in Mechanical Engineering with Honours** from the **Purdue University and SIU in USA** respectively as well as an **MBA** from the **University of Phoenix in USA**. Further, he is a **Certified Internal Verifier/Trainer/Assessor** by the **Institute of Leadership & Management (ILM)** a **Certified Instructor/Trainer** and has delivered numerous trainings, courses, seminars, workshops 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 – 0845	Welcome & Introduction
0845 – 0900	PRE-TEST
0900 – 0930	Lube Oil System Constitutes and Functions
0930 – 0945	Break
0945 – 1100	Lube Oil System Constitutes and Functions (cont'd)
1100 – 1200	Lube Oil System Flushing and Cleaning
1200 – 1215	Break
1215 – 1420	Lube Oil System Flushing and Cleaning (cont'd)
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2

0730 – 0930	Lube Oil System Schematic (P&ID) for Centrifugal Compressor
0930 – 0945	Break
0945 – 1100	Lube Oil System Schematic (P&ID) for Centrifugal Compressor (cont'd)
1100 – 1200	Lube Oil System Schematic (P&ID) for Reciprocating Compressor (cont'd)
1200 – 1215	Break
1215 – 1420	Lube Oil System Schematic (P&ID) for Reciprocating Compressor (cont'd)
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3

0730 – 0930	Lube Oil System Operation
0930 – 0945	Break
0945 – 1100	Lube Oil System Operation (cont'd)
1100 – 1200	Oil Mist Lubrications Techniques
1200 – 1215	Break
1215 – 1420	Oil Mist Lubrications Techniques (cont'd)
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4

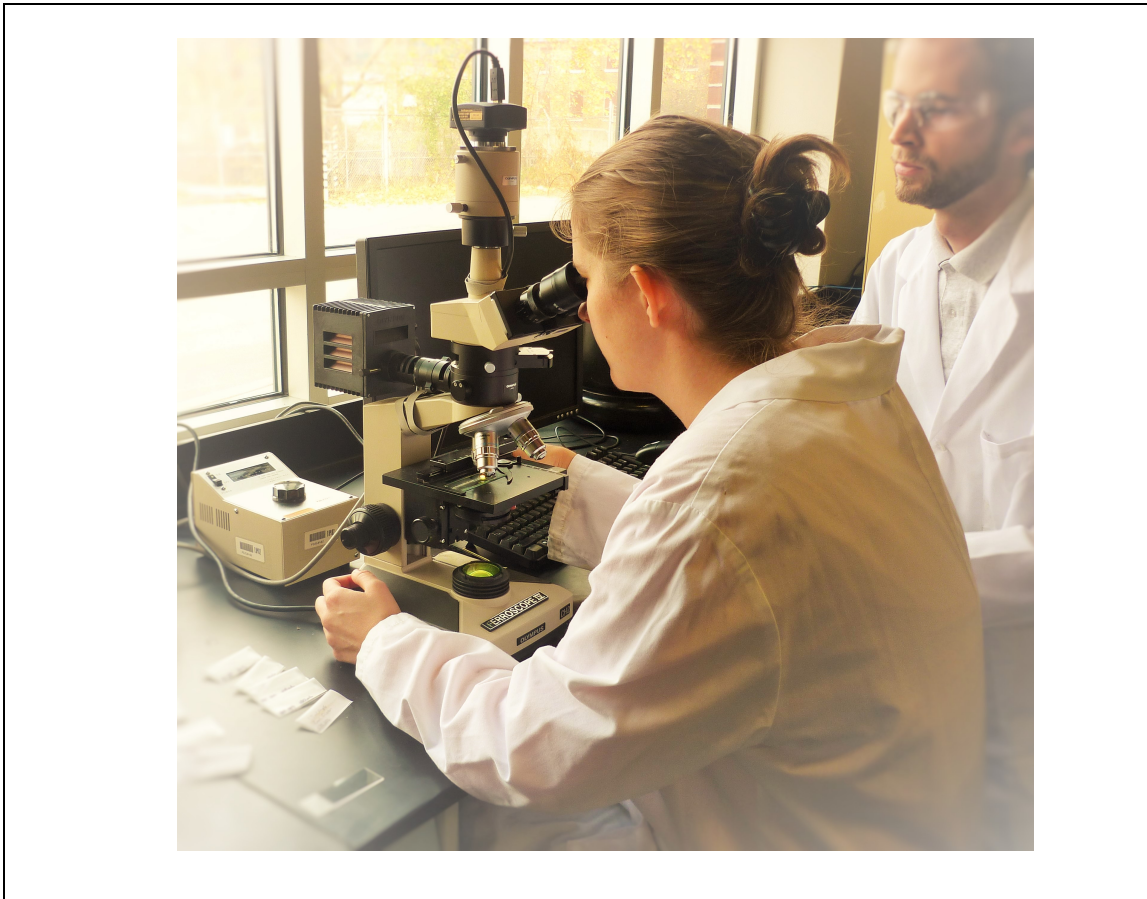
0730 – 0930	Lube Oil Characteristics
0930 – 0945	Break
0945 – 1100	Lube Oil Characteristics (cont'd)
1100 – 1200	Lube Oil Analysis Forms
1200 – 1215	Break
1215 – 1420	Lube Oil Analysis Forms (cont'd)
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5

0730 – 0900	Lube Oil System Troubleshooting
0930 – 0945	Break
0915 – 1000	Lube Oil System Troubleshooting (cont'd)
1115 – 1200	Codes & Standards for Lube Oil
1200 – 1215	Break
1230 – 1245	Preventive Maintenance for Lube Oil System
1245 – 1300	Course Conclusion
1300 – 1315	POST-TEST
1315 – 1330	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

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