COURSE OVERVIEW RE0230
Maintenance & Asset Management (AMP)

Course Title
Maintenance & Asset Management (AMP)

Course Date/Venue
August 25-29, 2024/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
RE0230

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

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.

When properly executed, Physical Asset Management can significantly impact an organization's bottom line by reducing maintenance costs, increasing the economic life of capital equipment, reducing company liability, increasing the reliability of systems and components, and reducing the number of systems and components.

This course will provide participants with the tools and methodologies to achieve maintenance excellence in their organization. The course has been designed to help managers care for their assets efficiently and effectively through sound and timely decision-making.

Further, the course will also discuss the ISO 55000 including its elements, structure and requirements for an asset management system; the benefits of adopting ISO 55000 and how it align with other management systems; the roadmap to achieve certification and subsequent business improvement; the various approaches including HAZOP and risk-based inspection; the total productive maintenance (TPM), people-centric maintenance and quality improvement; the methodologies covering asset management of projects, quantum leaps in process improvement and supplier partnering program (SPP); and the failure process and age versus reliability patterns.

During this interactive course, participants will learn to optimize human and asset performance by focusing on behavior and results; carryout balance scorecards, benchmarking and key performance indicators; identify the basic economics and the aspects of discounted cash flow used in capital equipment replacement analysis; apply present-value calculation and recognize the effects of inflation in the analysis; estimate the interest rate appropriate for discounting; calculate the equivalent annual cost (EAC) and minimize life cycle cost; recognize basic statistics and the problem with uncertainty; optimize maintenance and replacement decisions covering network system reliability and maintenance tasks; employ reliability centered maintenance (RCM); and optimize condition based maintenance decisions.

Course Objectives

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

- Apply a proper physical asset management system in accordance with the ISO 55000/55001 standards in order to achieve a maintenance excellence position
- Discuss ISO 55000 including its elements, structure and requirements for an asset management system
- Explain the benefits of adopting ISO 55000 and how it align with other management systems
- Illustrate roadmap to achieve certification and subsequent business improvement
- Manage risk and apply the various approaches including HAZOP and risk-based inspection
- Manage reliability through people, total productive maintenance (TPM), people-centric maintenance and quality improvement
- Optimize methodologies covering asset management of projects, quantum leaps in process improvement and supplier partnering program (SPP)
- Define failure and identify failure process and age versus reliability patterns
- Optimize RCM results through root cause failure analysis (RCFA) and life cycle decisions
- Optimize human and asset performance by focusing on behavior and results
- Carryout balance score cards, benchmarking and key performance indicators
- Discuss basic economics and the aspects of discounted cash flow used in capital equipment replacement analysis
- Apply present-value calculation and identify the effects of inflation in the analysis
- Estimate the interest rate appropriate for discounting, calculate the equivalent annual cost (EAC) and minimize life cycle cost
- Recognize basic statistics and the problem with uncertainty
- Optimize maintenance and replacement decisions covering network system reliability and maintenance tasks
- Employ reliability centered maintenance (RCM) and optimize condition based maintenance decisions

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 physical asset management for maintenance excellence for engineers, managers of plant operations, facility managers or maintenance professionals who are responsible for maintaining and managing the physical equipment assets of his plant as well as those who represent large facilities and plants from industries such as mining, oil and gas, pulp and paper, utilities, primary metals and heavy manufacturing. The course is a must for those incharge of implementing a physical asset management system in accordance with the ISO 55000/55001 standards.

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:-

- 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. Manuel Dalas, MSc, BSc, is a **Senior Mechanical & Maintenance Engineer** with over **25 years** of industrial experience in **Oil**, **Gas**, **Refinery**, **Petrochemical**, **Power** and **Nuclear** industries. His wide expertise includes **Root Cause Failure Analysis**, Rotating Equipment Maintenance & **Failure Analysis**, **Failure Analysis Methodologies** for Mechanical Engineers, **Reliability Centered Maintenance & Root Cause Failure Analysis**, **Machinery Failure Analysis**, Prevention & Troubleshooting, **Machinery** Failure Analysis, Machinery Root Cause Failure Analysis **(RCFA)**, **Machinery Diagnostics & Root Cause Failure** Analysis, **Water Well**, **Transfer & Network Systems** Operation, **Water Network Systems & Pumping** Stations, **Instrument**, **Control & Protection** Systems, Plumbing **Network Systems** & Building, **Water Distribution & Pump** Station, **Boiler** Operation & Water Treatment, **Pipe Stress Analysis** using **CAESAR II**, **CAESAR II** Application, **Piping Dynamic**, **Static & Other Special Analysis** using **CAESAR II**, **Expansion Joints** Design & Analysis, **Impact Load** Analysis, **Piping** Systems, **Piping Codes** Used in **CAESAR II**, **RFP Pipe** Maintenance & Repair, **Relief Valve** Analysis, Safety **Relief Valve**, **Tanks & Tank Farms**, **Seismic Loads**, **Tank Shell**, **Tank Failure**, **Vacuum Tanks**, **Tank Design & Engineering**, **Tank Contractions**, **Material Cataloguing**, **Maintenance Planning & Scheduling**, Reliability Centered Maintenance (**RCM**), **Reliability Maintenance**, **Condition Based Maintenance & Condition Monitoring**, **Asset & Risk** Management, **Vibration Condition Monitoring & Diagnostics** of Machines, **Vibration & Predictive** Maintenance, Reliability Improvement & Vibration Analysis for Rotating Machinery, Effective Maintenance **Shutdown & Turnaround** Management, **Engineering Codes & Standards**, **Rotating Equipment** Maintenance, **Mechanical** Troubleshooting, **Static Mechanical Equipment** Maintenance, **Plant Reliability & Maintenance** Strategies, **Pumps** Maintenance & Troubleshooting, **Fans**, **Blowers & Compressors**, **Process Control Valves**, Piping Systems & Process Equipment, **Gas Turbines & Compressors** Troubleshooting, Advanced **Valve** Technology, **Pressure Vessel** Design & Analysis, **Steam & Gas Turbine**, **High Pressure Boiler** Operation, **FRP Pipe** Maintenance & Repair, **Centrifugal & Positive Displacement Pump** Technology Troubleshooting & Maintenance, **Rotating Machinery** Best Practices, **PD Compressor & Gas Engine** Operation & Troubleshooting, **Hydraulic Tools & Fitting**, **Mass & Material BalanceTank Farm & Tank Termina**l Safety & Integrity Management, **Process Piping** Design, Construction & **Mechanical Integrity**, **Stack & Noise** Monitoring, **HVAC & Refrigeration** Systems, BPV Code, Section VIII, Division 2, **Facility Planning & Energy** Management, Hoist - Remote & Basic **Rigging & Slinging**, **Mobile Equipment** Operation & Inspection, **Heat Exchanger**, **Safety Relief Valve**, **PRV & POPRV/PORV**, **Bearing & Lubrication**, **Voith Coupling** Overhaul, **Pump & Valve** Technology, **Lubrication** Inspection, **Process Plant** Optimization, Rehabilitation, Revamping & Debottlenecking, Engineering Problem Solving and **Process Plant** Performance & Efficiency. Currently, he is the **Technical Consultant** of the **Association of Local Authorities of Greater Thessaloniki** where he is in charge of the mechanical engineering services for piping, pressure vessels fabrications and ironwork.

During his career life, Mr. Dalas has gained his practical and field experience through his various significant positions and dedication as the **Technical Manager**, **Project Engineer**, **Safety Engineer**, **Deputy Officer**, **Instructor**, **Construction Manager**, **Construction Engineer**, **Consultant Engineer**, **Water Network Systems Engineer**, **Maintenance Engineer** and **Mechanical Engineer** and **CAESAR II Application Consultant** for numerous multi-billion companies including the **Biological Recycling Unit** and the **Department of Supplies** of **Greece**, **Alpha Bank Group**, **EMKE S.A**, **ASTE LLC** and **Polytechnic College of Evosmos**.

Mr. Dalas has a **Master's** degree in **Energy System** from the **International Hellenic University, School of Science & Technology** and a **Bachelor's** degree in **Mechanical Engineering** from the **Mechanical Engineering Technical University of Greece** along with a **Diploma** in **Management & Production Engineering** from the **Technical University of Crete**. Further, he is a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**), a **Certified Project Manager Professional** (**PMI-PMP**), a **Certified Instructor/Trainer**, a **Certified Energy Auditor** for **Buildings**, **Heating & Climate Systems**, a **Member** of the **Hellenic Valuation Institute** and the **Association of Greek Valuers** and a **Licensed Expert Valuer Consultant** of the **Ministry of Development and Competitiveness**. He has further delivered numerous trainings, courses, seminars, conferences and workshops 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: ***Sunday, 25th of August 2024***

0800 – 0830	*Registration & Coffee*
0830 – 0845	*Welcome & Introduction*
0845 – 0900	***PRE-TEST***
0900 – 0930	***Introduction to ISO 55000*** *Provides an Overview of the ISO 55000 Suite of International Standards*
0930 – 0945	*Break*
0945 – 1100	***Overview of ISO 55001*** *Elements ● Structure ● Requirements for an Asset Management System*
1100 – 1230	***Benefits of Adopting ISO 55000*** *The Business Case for ISO 55000 International Standards*
1230 – 1245	*Break*
1245 – 1350	***Achieving Certification*** *Roadmap to Achieving Certification and Subsequent Business Improvement*
1350 – 1400	***Recap***
1400	*End of Day One*

Day 2: ***Monday, 26th of August 2024***

0800 – 0930	***Managing Risk*** *Risk and its Management – A Discussion of the Various Approaches Used, Including HAZOP and Risk-Based Inspection*
0930 – 0945	*Break*
0945 – 1100	***Managing Risk (cont'd)*** *Risk and its Management – A Discussion of the Various Approaches Used, Including HAZOP and Risk-Based Inspection (cont'd)*
1100 – 1230	***Managing Reliability through People*** *Total Productive Maintenance (TPM) – People-Centric Maintenance and Quality Improvement*
1230 – 1245	*Break*
1245 – 1350	***Managing Reliability through People (cont'd)*** *Total Productive Maintenance (TPM) – People-Centric Maintenance and Quality Improvement (cont'd)*
1350 – 1400	***Recap***
1400	*End of Day Two*

Day 3: ***Tuesday, 27th of August 2024***

0800 – 0930	***Optimizing Methodologies*** *Asset Management of Projects*
0930 – 0945	*Break*
0945 – 1100	***Optimizing Methodologies (cont'd)*** *Quantum Leaps in Process Improvement – The Ten Essential Requirements for DESIGN and RAM (Reliability, Availability & Maintainability) ● Supplier Partnering Programme (SPP)*
1100 – 1230	***Optimizing Methodologies (cont'd)*** *Definition of Failure ● The Failure Process ● Age versus Reliability Patterns*

1230 – 1245	*Break*
1245 – 1350	***Optimizing Methodologies (cont'd)*** *Root Cause Failure Analysis (RCFA): Optimizing RCM Results • Optimizing Life Cycle Decisions*
1350 – 1400	***Recap***
1400	*End of Day Three*

Day 4: ***Wednesday, 28th of August 2024***

0800 – 0930	***Optimizing Human & Asset Performance by Focusing on Behaviour & Results*** *Taking Stock of your Organization: Balanced Score Cards, Benchmarking and Key Performance Indicators*
0930 – 0945	*Break*
0945 – 1100	***Basic Economics*** *Aspects of Discounted Cash Flow used in Capital Equipment Replacement Analysis • Present-Value Calculations • The Effects of Inflation in the Analysis • Estimating the Interest Rate Appropriate for Discounting*
1100 – 1230	***Basic Economics (cont'd)*** *Calculating the Equivalent Annual Cost (EAC) • Minimizing Life Cycle Cost*
1230 – 1245	*Break*
1245 – 1350	***Basic Statistics*** *The Problem with Uncertainty • Dealing with Censored Data – Weibull Analysis, etc. • Where do you Place your Maintenance Efforts?*
1350 – 1400	***Recap***
1400	*End of Day Four*

Day 5: ***Thursday, 29th of August 2024***

0800 – 0900	***Optimizing Maintenance & Replacement Decisions*** *Network System Reliability • Maintenance Tasks*
0900 – 1000	***Reliability Centered Maintenance (RCM)*** *RCM – The Analytical Decision Logic • Is RCM the Right Tool for you? • What can RCM Achieve? • What does it take to Implement RCM? • Reasons for the Failure of RCM • Capability Driven RCM*
1000 – 1005	*Break*
1005 – 1100	***Group Exercise*** *An Opportunity to Apply the Theory of RCM to Practical Items of Plant*
1100 – 1130	***Optimizing Condition Based Maintenance Decisions*** *Optimizing Time Based Maintenance • Getting the Most Out of your Equipment Before Repair Time*
1130 – 1145	***Course Conclusion***
1145 – 1200	***POST-TEST***
1200	*End of Course*

Practical Sessions

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

Course Coordinator

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