COURSE OVERVIEW RE0933
Planning & Scheduling Shutdowns & Turnarounds

Course Title
Planning & Scheduling Shutdowns & Turnarounds

Course Date/Venue
February 17-21, 2025/The Kooh I Noor Meeting Room, The H Hotel, Sheikh Zayed Road

Course Reference
RE0933

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

Course Description

This practical and highly-interactive course includes practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

Planning and scheduling is almost 90% of the total turnaround project. The remaining 10% is the execution process to keep the project on course. This is the reason why this course is so important. Poor prior planning often leads to cost overruns, delayed startups, production losses and profits. You can eliminate this by applying the principles taught in this up-to-date course.

Apart from saving your time and money for the next shutdown, this course will also discuss the more subtle art of manpower management in order to lay the foundations for a smoother sailing turnaround process, giving you an immediate return on investment when you return to the workplace.

Take advantage of the opportunity and bring shutdown schedules/programs from your plant to discuss during the workshop. At the end of the course, you will walk away equipped with the tools and confidence to plan, lead and execute turnarounds that are on-time, on-budget, and quality assured.

Effective Leadership: Attending this course will provide you a new and deeper understanding of how to effectively plan, manage, and lead large maintenance jobs such as power plant outages, refinery refits and in situations where a multi shift operation has extensive deferred maintenance to be performed in a short period.

Current Practices: The day-to-day planning processes that contribute more to shutdown planning will be defined, by maintaining an accurate backlog of work that can be delayed until Shutdown, Turnaround & Outage (STO) and then having accurate job plans available during the pre-shutdown period.

Useful Tools: This course includes specific checklists, procedures, strategies and important outside resources that will improve your current shutdown planning and execution. The course also includes examples to demonstrate the major points.

Importance of Logistics: We will also look at logistics and the supply chain that supports a shutdown and how the onsite storeroom operation and procurement staff can improve control of parts and materials.

Course Objectives

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

- Apply systematic techniques in planning and scheduling shutdowns and turnarounds
- Master world class plant shutdown strategies and industry best practices
- Optimize all phases of plant STO from long-range planning, pre-development, detailed development, final development, pre-execution, execution to post-execution
- Improve day-to-day planning and scheduling as a key first step
- Maintain safety, quality, efficiency and cost effectiveness of the turnaround procedure with improved manpower planning
- Increase profitability and productivity of both in-house and contractor staff
- Prevent production loss, unexpected delays and cost overruns
- Ensure safe and quality work execution
- Achieve plant STO excellence through checklists, procedures, strategies, e-books and other workshop takeaways

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 planning and scheduling shutdown and turnarounds for those involved in the planning and execution of plant shutdowns and turnarounds such as managers, department heads, supervisors, coordinators and engineers from the maintenance, engineering, projects, planning, plant, reliability, outage, asset integrity, health and safety departments.

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: -

- 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:

Day 1: February 17, 2025

Mr. Dimitry Rovas, CEng, MSc, PMI-PMP, SMRP-CMRP, is a **Senior Maintenance Engineer** with extensive industrial experience in **Oil**, **Gas**, **Power** and **Utilities** industries. His expertise includes **Process Plant** Shutdown & Turnaround, **Maintenance** Optimization & Best Practices, **Maintenance** Auditing & Benchmarking, **Reliability** Management, **Reliability Centered Maintenance** Principles & Application, **Machinery Lubrication**, **Maintenance Planning & Scheduling**, **Coupling & Shaft Alignment** Techniques, **Maintenance** Management & Cost Control, **Preventive & Predictive Maintenance**, **Effective Reliability** Maintenance & Superior Maintenance Strategies, **Integrity & Asset** Management, Reliability, Availability & Maintainability (**RAM**), Total Plant Reliability Centered Maintenance, **Turnaround & Outages**, **Process Plant** Shutdown, Turnaround & Troubleshooting, **Shutdown & Turnaround** Management, **Integrity & Asset** Management, **Maintenance Management** Best Practices, **Material Cataloguing**, **Maintenance** Planning & Scheduling, Effective **Reliability Maintenance**, **Maintenance Contracting & Outsourcing**, **Maintenance Inventory**, **Materials** Management, **Mechanical & Rotating Equipment** Troubleshooting & Maintenance, **Rotating Equipment Reliability** Optimization, Computerized Maintenance Management System (**CMMS**), **Material Cataloguing & Specifications**, **Rotating Equipment** Maintenance & Troubleshooting, **Pump** Technology, **Pump** Selection & Installation, **Reciprocating & Centrifugal Compressors**, **Gas & Steam Turbines**, **Turbine** Operations, **Valves**, **Bearings & Lubrication**, Rubber Compounding, Elastomers, Thermoplastic, Industrial Rubber Products, Rubber Manufacturing Systems, **Heat Transfer**, **Vulcanization Methods**, **Energy Conservation**, **Energy Loss** Management, **Energy Saving**, **Thermal Power Plant** Management, **Cogeneration Power Plant** Installation & Commissioning, **Auxiliary Steam Boilers** Troubleshooting, **Piping Racks** (Steel Structure, Valves, Pipe Supports) Commissioning, **Firefighting** Systems, **Steel & Welded Tanks**, Aluminium Logistics Facilities (Cranes, Laydown Areas, Port Facilities, etc), Equipment Heavy Lifting, Long Term Storage of Equipment, **Heat Transfer**, **Fluid Mechanics**, **Heating & Cooling** Systems, **Heat Insulation** Systems, **Heat Exchanger & Cooling Towers**, **Mechanical Erection** and **Heavy Rotating Equipment**. 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 is a **Chartered Engineer** of the **Technical Chamber** of **Greece**. Further, he has **Master** degrees in **Mechanical Engineering** and **Energy Production & Management** from the **National Technical University of Athens**. Moreover, he is a **Certified Instructor/Trainer**, a **Certified Maintenance and Reliability Professional** (**CMRP**) from the Society of Maintenance & Reliability Professionals (**SMRP**), a **Certified Project Management Professional** (**PMP**), a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**) and a **Certified Six Sigma Black Belt**. He is an active member of Project Management Institute (**PMI**), Technical Chamber of Greece and Body of Certified Energy Auditors and has further delivered numerous trainings, seminars, courses, workshops and conferences internationally.

Day 2-5: February 18-21, 2025

Mr. Kyle Bester is a **Senior Mechanical & Maintenance Engineer** with extensive years of practical experience within the **Oil & Gas**, **Power & Water Utilities** and other **Energy** sectors. His expertise widely covers in the areas of **Reliability & Asset Management** Technology Best Practices, Condition Monitoring System of **Rotary Machines**, **Data Analysis** Techniques, **Maintenance Planning & Scheduling**, **Maintenance Shutdown & Turnaround**, **Maintenance Audit** Best Practices, **Maintenance & Reliability** Management, Reliability, Availability & Maintainability (**RAM**), **Root Cause** Analysis, **Reliability-Centered Maintenance** (**RCM**), **Machinery Vibration** Monitoring, **Vibration** Measurement, **Machinery Failure** Analysis, **Vibration & Predictive** Maintenance, **Machinery Diagnostics & Root Cause** Failure Analysis, **Alignment & Leveling**, **Laser Alignment**, **Coupling & Shaft Alignment** Techniques, **Alignment** Techniques, **Mechanical Shaft Alignment & Vibrational** Analysis, **Laser & Dial-Indicator** Techniques, **Mitsubishi & Honeywell HVAC Building Management Systems** (**BMS**), **HVAC & Refrigeration** Systems, **HVAC** System Monitoring, Preventive Maintenance Scheduling, **HVAC** Units Fault Detection, **Energy** Efficiency Optimization, **Mitsubishi HVAC** Operations, **Load** Balancing Techniques, **Steam Boilers & Oil Combustion**, **Utility Boilers**, **Commercial HVAC Controls & DDC**, **Air Conditioning & Refrigeration**, Modern Heating, Ventilation, Air-Conditioning (**HVAC**) **& Refrigeration** Systems, **Gas Turbine** Maintenance & Troubleshooting, **Safety Relief Valve** Sizing & Testing, **PRV & POPRV/PORV**, **Bearing & Bearing** Failure Analysis, **Pumps & Valves** Maintenance, Coupling, Gear Boxes, Bearings & Lubrication, Mechanical Seals, **Pressure Vessel** Design & Analysis, **Steam & Gas Turbine**, **High Pressure Boiler** Operation, **Compressors** Operation & Maintenance, **Tank** Design, Construction, Inspection & Maintenance, **Tank & Tank Farms**, **Hydraulic** Modelling, Advanced Surface Storage Facilities & **Pipeline** Networks, **Process Design & Engineering**, **Piping Control Loops & Heat Exchangers** and Safe **Process Units Start-Up/Shutdown.** Further, he is also well-versed in **Water Treatment & Reverse Osmosis** Units, **Water Resources** Management & Policies, **Water** Network Systems & Pumping Stations, **Waste Water Effluent** Treating Facilities, Best Practice in **Sewage & Industrial Waste Water** Treatment & Environmental Protection, **Oil Refinery & Petrochemical Industry Wastewater** Treatment & Operation, **Water Network** Optimization Strategy, **Water Network** Operation & Maintenance and **Chlorination** System.

During his career life, Mr. Bester has gained his practical and field experience through his various significant positions and dedication as the **Project Manager**, **Asset Manager**, **Water Engineer**, **Maintenance Engineer**, **Mechanical Engineer**, **Process Engineer**, **Supervisor**, **Team Leader**, **Analyst**, **Utility Field Supervisor**, **HVAC & Building Controls Supervisor**, **Field HVAC Technician**, **Process Technician**, **Landscape Designer** and **Senior Instructor/Trainer** for various international companies, infrastructures, water and wastewater treatment plants from New Zealand, UK, Samoa, Zimbabwe and South Africa, just to name a few.

Mr. Bester holds a **Diploma** in **Wastewater Treatment** and a **National Certificate** in **Wastewater & Water Treatment**. Further, he is a **Certified Instructor/Trainer**, an **Approved Chemical Handler** and has delivered numerous courses, trainings, conferences, seminars 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: ***Monday, 17th of February 2025***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction*** *Defining Top Five Areas for Improvement with STO ● Setting up Teams to Define Plan of Action*
0930 – 0945	*Break*
0945 – 1100	***Overall Craft Effectiveness (OCE) & Productivity of STO People Resources*** *Manpower Management: Key to Execution and Cost Compliance ● In-House Staff ● Contractor Staff ● Savings Via Greater STO Manpower Resource Productivity*
1100 – 1200	***Case Study #1*** *Define Value of Manpower Improvements*
1200 – 1215	*Break*
1215 – 1420	***Differences Between Projects & Turnarounds/STO 5 Key Phases of an STO*** *Definition/Scoping: Long Range Planning & Design ● Preparation/Pre-Planning & Final Planning ● Execution ● Start Up/Turnover ● Evaluation/Closeout*
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: ***Tuesday, 18th of February 2025***

0730 – 0930	***Maximizing Day to Day Planning to Support STO and Scope of Work*** *The Scoreboard for Maintenance Excellence ● The CMMS Benchmarking System*
0930 – 0945	*Break*
0945 – 1100	***Case Study #2*** *Worklist Control*
1100 – 1200	***Establishing Metrics/KPI's for the Shutdown to Validate Your Results*** *STO Cost Variance Compared to Total STO Cost Estimate ● Business Cost Due to STO Completion Delays (Profit Losses) ● Performance on Planned Tasks (In House Staff & Contractors) ● Number & Cost of Change Request*
1200 – 1215	*Break*
1215 – 1400	***Establishing an Effective Management Team for the STO*** *STO Manager ● Project Planner/Schedulers ● Project Engineer/Task Manager*
1400 – 1420	***Establishing an Effective Management Team for the STO (cont'd)*** *Contractor Team Managers ● Coordinators & Supervisors ● Safety Manager ● Quality Assurance Manager ● Logistics Manager*
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: Wednesday, 19th of February 2025

0730 – 0930	***Pre-Shutdowns Planning & Scheduling*** *Scope of Work: How to Find and Pick Jobs Based Upon Asset Criticality ● Using the Critical Asset Management Tool ● Work Validation and Preparation for Planning ● Individual Job Planning ● Cost Estimating Techniques ● Risk Management and Risk – Based Maintenance ● HSSE (Health, Safety, Security and Environmental) Issues*
0930 – 0945	*Break*
0945 – 1100	***Successful Manpower Management*** *Areas of Responsibility for Establishing a Good STO Team ● Competencies Needed for a Successful STO Team ● Guidelines for Selection of Contractors ● Guidelines for Establishing Performance Based Contracts ● Management of Contractors: Ensuring Competency of Their Staff*
1100 – 1200	***Case Study #3*** *Contract Strategy*
1200 – 1215	*Break*
1215 – 1420	***Shutdown Management System Checklist and Other STO Tools*** *Work List Issues ● Checklist of Contingencies ● Checklist of Validating Work Scope ● Checklist of Contracting Types & Issues ● Checklist of Major & Minor Task Requirements ● Checklist for the Planned Work Package ● Bulkwork Specification Sheet ● Bulkwork Control Sheet ● Checklist for Logistics Requirements ● Checklist for Safety Team ● Quality Checklist for Task Packages ● Start Up Meeting Checklist*
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: Thursday, 20th of February 2025

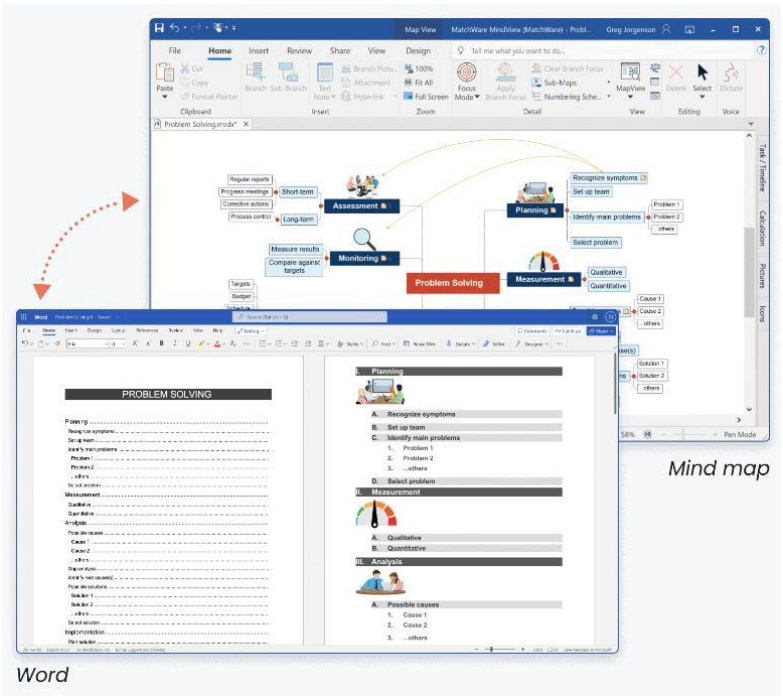
0730 – 0930	***Shutdown Communication*** *Before ● During ● After*
0930 – 0945	*Break*
0945 – 1100	***Logistics Planning: A Key Driver for Schedule & Cost Compliance*** *Materials & Equipments Lead Time Considerations ● In-House Storeroom Operations*
1100 – 1230	***Logistics Planning: A Key Driver for Schedule & Cost Compliance (cont'd)*** *In-House Procurement Staff ● Overall STO Parts & Materials Control*
1230 – 1245	*Break*
1245 – 1300	***Case Study #4*** *Logistics Planning*
1300 – 1420	***Execution of the STO Plan*** *Cost Management & Execution Performance Reporting Methods ● Work Control: Accounting for Manpower, Materials and Equipment ● Schedule Analysis, Monitoring & Reporting of Progress ● Handling Scope Increase & Added Requests for Work*
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 Four*

Day 5: Friday, 21st of February 2025

0730 – 0930	***Execution of the STO Plan (cont'd)*** *Ensure HSSE & Risk Management Requirements Followed During Execution ● Quality Assurance During Execution ● Startup & Turnover*
0930 – 0945	*Break*
0945 – 1100	***Case Study #5*** *Cost Control*
1100 – 1200	***Evaluation & Closing Out*** *Maintenance & Contractor Audits ● Turnover Documents for New Equipment ● Maintenance Contracts ● Measurements & Improvement of STO Performance*
1200 – 1215	*Break*
1215 – 1315	***Post Shutdown*** *Defining Future Improvements ● Addressing Problems ● Planning the Next Shut Down*
1315 – 1330	***Case Study #6*** *Deferred Maintenance Causes 100% Budget Overrun & 5 Day STO Delay*
1330 – 1345	***Course Summary & Wrap-Up***
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

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 the "MS Project" and "Mindview Software".



Mindview Software

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