

COURSE OVERVIEW RE0933
Planning & Scheduling Shutdowns & Turnarounds

Course Title

Planning & Scheduling Shutdowns & Turnarounds

Course Date/Venue

October 13-17, 2024/ Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

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® (Howard 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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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.

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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.



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. Craig Nilsen, CMRP, CRCMP, is a Senior Maintenance & Reliability Engineer with over 25 years of extensive experience within the Oil & Gas, Refinery and Petrochemical industries. His wide expertise includes Maintenance Planning & Scheduling, Maintenance Planning Process, Maintenance Shutdown & Turnaround, Maintenance Audit Best Practices, Maintenance & Reliability Management, Reliability Engineering, Maintenance & Reliability Best Practices, Reliability, Availability & Maintainability (RAM), Root Cause Analysis, Maintenance Process, Reliability-Centered Maintenance (RCM), Reliability Engineering Analysis (RE), Root Cause Analysis (RCA), Asset Integrity Management (AIM), Reactive & Proactive Maintenance, Maintenance Process, Work Task Prioritization, Condition Monitoring, Mechanical Engineering, Mechanical Manufacturing Engineering, Mechanical Engineering Design, Electro Technology, Maintenance Planning, Spare Parts Planning & Inventory Management, Computerized Maintenance Management Systems (CMMS), Process Plant Shutdown & Turnaround, Maintenance Optimization & Best Practices, Reliability Centered Maintenance Principles & Application, Efficient Shutdowns, Turnaround & Outages, Process Plant Shutdown, Turnaround & Troubleshooting, Shutdown & Turnaround Management, Optimizing Equipment Maintenance & Replacement Decisions, Maintenance Management & Cost Control, Preventive & Predictive Maintenance, Effective Reliability Maintenance & Superior Maintenance Strategies, Integrity & Asset Management, Total Plant Reliability Maintenance, Vibration Measurement, Spare Parts & Materials Management, Mechanical & Rotating Equipment Troubleshooting & Maintenance, Rotating Equipment Reliability Optimization, Laser Alignment, Thermography, Risk Assessment, Legal Liability, Construction Regulations, Machine Vibration Analysis, Bag Filters Operation & Troubleshooting, Blower & Fan, Pumps, Valves, Bearings & Lubrication, Mechanical Seals, Mechanical Equipment Maintenance, Gearboxes, Shaft Alignment, Rotating Equipment, Preventive & Predictive Maintenance, Spare Management and Network Analysis.

During his career life, Mr. Nilsen gained his practical and field experience through his various significant positions and dedication as the **Maintenance Engineer, Repair Shop Supervisor, Maintenance & Reliability Specialist, Maintenance Planner/Reliability Specialist, Senior Maintenance Planner/Condition Monitoring Specialist, Supply Chain Maintenance Planner, Technical Advisor, Senior Trainer/Lecturer and Fitter & Turner** for Algorax (Pty) Limited.

Mr. Nilsen has a **National Higher Diploma in Mechanical Engineering**. Further, he is a **Certified Instructor/Trainer, a Certified Maintenance and Reliability Professional (CMRP)** from the Society of Maintenance & Reliability Professionals (SMRP), a **Certified Reliability Centered Management Professional (CRCMP)** from the International Organization of RCM Professionals (IORCMP) and a **Qualified Fitter & Turner**. Moreover, he is an active member of the Society of Maintenance and Reliability Professionals (SMRP) and the South African Asset Management Association (SAMA). He has further delivered numerous trainings, courses, seminars, workshops and conference 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 13th of October 2024

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 Monday 14th of October 2024

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 Tuesday 15th of October 2024

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 Wednesday 16th of October 2024

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 Thursday 17th of October 2024

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”.





The screenshot displays the MindView software interface. The top window shows a mind map titled 'Problem Solving' with branches for 'Assessment', 'Planning', 'Measurement', and 'Monitoring'. The 'Assessment' branch includes 'Target reports', 'Process metrics', 'Short term', and 'Long term'. 'Planning' includes 'Recognize symptoms', 'Set up team', and 'Identify main problems'. 'Measurement' includes 'Qualitative' and 'Quantitative'. 'Monitoring' includes 'Measure results' and 'Compare against targets'. Below the mind map is a Word document template with sections for 'PROBLEM SOLVING', 'Planning', 'Measurement', and 'Monitoring', each with a list of sub-points and checkboxes.

Mind map

Word

Mindview Software

Coordinator

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