COURSE OVERVIEW RE0930
Refinery Shutdown, Turnaround & Troubleshooting

Course Title
Refinery Shutdown, Turnaround & Troubleshooting

Course Date/Venue
September 22-26, 2025/Vasco da Gama Room, Holiday Inn Lisbon-Continental, an IHG Hotel, Lisbon, Portugal

Course Reference
RE0930

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.

The process industry is losing over half a billion dollars of profits a year due to poor turnaround results and missed opportunities. The majority of turnarounds lacked strategic focus and front-end planning. In addition, turnaround teams lacked leadership and were understaffed. The major negative factor is the growing gap between higher turnaround performance expectations and rapidly shrinking qualified resources to manage the turnarounds. As a result, the planning effort not only starts late, but it is also ineffective, and typically does not contribute in the turnaround success.

This course is designed to bridge the above-mentioned gap. It will provide turnaround managers and engineers with enough knowledge and skills to understand the purpose of the turnaround, to properly plan and manage the turnaround, and to achieve exponential results of their turnaround project. The course will teach participants how to establish a systematic turnaround management processes and procedures that incorporate the best turnaround practices, planning techniques and execution strategies.

Turnaround results have a long-term effect on the facility's operational reliability and it dictates the plant's operational efficiency and business survival in the competitive global market. The turnaround performance can be dramatically improved if companies focus on key issues such as strategic planning, selection of qualified contractors, synergistic and innovative organizations, and tactical initiative to improve field productivity.

The course will cover the emerging industry trends, turnaround benchmarking and the challenges faced by refinery executives to consistently achieve pacesetter results on plant shutdowns and turnarounds. We will teach you how to fairly balance your business, marketing and financial goals with your plant needs for mechanical integrity and operational reliability. We will show you how to focus on risk areas, early work scope definition, high-performance initiatives, the assignment of qualified staff and the best practice contracting strategy. Upon the completion of this course, you will have good knowledge to perform World-Class turn arounds.

Course Objectives

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

- Apply systematic techniques in the shutdown, turnaround and troubleshooting of refinery
- Implement the special needs of time constrained projects (24/7)
- Identify the work to be accomplished for the shutdown project
- Plan to meet deadlines & complete turnaround projects on time within budget
- Apply shutdown best practices
- Plan, lead, organize, control and co-ordinate shutdown type projects
- Schedule the work effectively
- Manage resources effectively
- Implement feedback systems
- Identify risks and manage these effectively
- Reporting and documenting the shutdown activity
- Recognize the use of software packages

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 is intended for those involved directly or indirectly in the refinery shutdown and turnaround operations. This includes maintenance and project staff such as managers, engineers, planners, supervisors and other technical people.

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

Haward's 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**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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 Fee

US$ 8,800 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

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. Ahmed Mady is a **Senior Mechanical & Maintenance Engineer** with over **30 years** of practical experience. His experience covers **Rotating Equipment Reliability** Assurance, Effective Predictive **Maintenance, Root Cause Analysis** Techniques, Preparing a Site **Reliability Optimization Plan**, **Site Reliability** Assessment, **Reliability Maintenance** Management, **Maintenance Planning & Scheduling**, **Shutdown & Turnaround, Spareparts & Inventory** Management, **Pump Selection, Installation, Performance & Control**, **Pump & Valve** Operation, Control, Maintenance & Troubleshooting, **Aviation Fueling Operations**, **Pumps, Compressors & Turbines** Selection, Operation, **Heat Exchanger** Design, Operation, Performance, Inspection, Maintenance & Repair, **Steam Boilers** Operation, Maintenance and Control System, **Heat Exchangers** Operations, Maintenance & Troubleshooting, **Water Tanks Filling Station** Operation, **Water Pipes Inspection & Repair**, **Water Treatment** Technology, **RO Plants**, **MSF Plants**, Industrial **Water Treatment**, **Piping System**, **Water Filtering**, **Pump** Selection, Installation, Performance & Control, **Compressors & Turbines** Selection & Operation, **Heat Exchangers** Design & Selection, **TEMA & ASME** Section VIII Requirements, **Steam Boilers** Operation & Maintenance, **Valve** Operation & Troubleshooting, **Aviation Fueling** Operations, **Maintenance** Management, **Reliability** Engineering, Maintenance **Auditing**, **Reliability Centered Maintenance**, Maintenance **Benchmarking**, Maintenance **Planning**, **Root Cause Failure Analysis**, **Lubrication** Technology, **Cost Control & Performance** Improvement.

Mr. Ahmed has travelled all over **Europe**, **Asia** and the **Americas** joining numerous conferences and workshops with international companies such as **IBM**, System Science Corporation (**SSC**) and International Air Transport Association (**IATA**).

Earlier in his career, he had occupied several challenging roles with several large Logistics and maintenance companies as a **Maintenance Manager**, **Maintenance Engineer**, **Logistics Planning Branch Chief**, **Commander** of the Air Force Logistics, **Systems Analyst**, **Training Branch Chief**, **Systems & Communication Engineer** and **Computer Programmer**.

Mr. Ahmed has a **Bachelor's** degree in **Mechanical Engineering** and a **Certified Trainer/Instructor**. Further, he has gained **Diplomas** on **Civil Aviation Engineering**, **Islamic Studies** and **Information Systems & Technology**. Moreover, he is a **Certified Internal Verifier** by **City & Guilds Level 4 Certificate** in **Leading the Internal Quality Assurance of Assessment Processes & Practice** under the **IQA Qualification** (**Internal Quality Assurance**) and a **Certified Assessor** by **City & Guilds Level 3 Certificate** in **Assessing Vocational Achievement** under the **TAQA Qualification** (**Training**, **Assessment & Quality Assurance**) and a **Certified Trainer/Assurance/Internal Verifier** of the **British Institute** of **Leadership & Management** (**ILM**), **UK**. Further, he has delivered numerous trainings, workshops and conferences and projects worldwide.

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 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, 27th of July 2025***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0900	***Introduction & Fundamentals*** *Introduction to PM: What is a Project? ● PM Associations & Body of Knowledge ● Project Management Body of Knowledge (PMBOK) ● Project Management Elements ● Projects Environment ● Project Life Cycle Phases ● Project Managers Job profile ● Project Manager Job Description ● Project Management Skills ● Project Management Toolkit*
0900 – 0915	***Planning the Shutdown*** *Identifying the Work ● Starting Your Project ● Project Charter/Project Document ● Defining & Limiting the Scope ● Constraints of the Shutdown*
0915 - 0945	***Prioritizing the Proposed Work*** *Identifying the Work ● Review the Maintenance Backlog ● Jobs Not Requiring a Shutdown ● Equipment History ● Predictive Maintenance (PDM) Records ● Preliminary Work of Shutdown ● Walk-downs & Check Lists ● Solicit the Input of Others ● Reviewing Shutdown Files ● Identify Start-up Activity ● Compiling Identified Work*
0945 – 1000	*Break*
1000 – 1030	***Sources of Shutdown Work & Shutdown Project Parameters*** *Class Task*
1030 – 1100	***Risk Management*** *Staffing Assumptions ● Estimate Risks ● Commercial Data ● Procurement Problems ● Project Risk Management - Model*
1100 – 1200	***Risk Management Plan*** *Identify Risks Throughout the Project ● Develop Risk Assessment Criteria ● Tabulate The Risks ● Prepare Standby Plans or Alternatives*
1200 - 1230	***The Project Managers Role***
1230 – 1245	*Break*

1245 – 1330	***Quality Control Plan & Project Quality Management***
1330 - 1400	***Quality Management*** *Group Task*
1400 - 1420	***Shutdown Manager's Skills***
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, 28th of July 2025***

0730 – 0930	***Planning Processes*** *Doing the Right Work ● Doing The Work Right ● Doing The Work at the Right Time*
0930 - 0945	*Break*
0945 – 1015	***What is the Difference Between Planning & Scheduling?*** *What is Scheduling? ● Planning Objectives ● Planning Tools Cycle*
1015 – 1045	***Project Management Toolkit*** *Project Plan ● Shutdown Plan*
1045 – 1115	***Shutdown Definition*** *The Shutdown Work Breakdown Structure ● The Project WBS – It's Uses ● The Project Work Breakdown Structure ● The Shutdown Budget ● The Project OBS ● The Shutdown OBS ● The Shutdown WBS*
1115 - 1130	***The Shutdown WBS & SOW*** *Group Task*
1130 – 1200	***Planning Thought Process*** *What Must Happen First on the Job? ● Who Must Do This Step? ● How Many People Are Required? ● What Parts, Materials, or Supplies Will Be Needed? ● Is Any Support Equipment Required? ● How Long Will It Take? ● What Must Happen Next on this Job? ● Documentation*
1200 – 1215	***Determining Contract Work*** *Technical Support ● Non-technical Support ● Work That Can Be Performed Off-site ● Work Requiring Special Equipment ● Activities from WBS ● Activities Data ● Task Duration – PERT Method ● Activity Work Content & Costing/Pricing*
1215 - 1230	*Break*
1230 - 1330	***Base Line Plan with Budget Approval*** *Networks For Activity Logic – Overview & Convention ● Shutdown– Early Start Calculations – Forward ● Project Plan – Late Start Calculations-backwards, Float Calculations – Subtract & Network to Gantt Chart ● Common Network Errors ● Schedules ● Milestones*
1330 – 1420	***Base Line Plan with Budget Approval (cont'd)*** *Resource Utilization ● Milestone Plan & Chart ● Resource Utilization ● Resource Loading & Leveling ● Schedules: Resource Requirements ● Manual Load Leveling*
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, 29th of July 2025**

0730 – 0900	***Base Line Plan with Budget Approval (cont'd)*** *Leveling Other Resources ● Resource Utilization ● Budgets & Committed Cash Flow ● Tracking Project Costs ● The Basic Principle ● Base Line Plan*
0900 – 0930	***Shutdown – Network Logic, Schedules: Committed Cash Flow & Schedules: Actual Projected Cash Flow*** *Group Task*
0930 - 0945	*Break*
0945 - 1015	***Organizing & People Management*** *Shutdown Toolkit ● The Shutdown Organisation ● Organizing Tools & Techniques ● Most Important Communications ● Tender / Contract Clause Coverage ● Parts, Material & Equipment ● Material & Equipment Responsibility*
1015 - 1115	***Organizing & People Management (cont'd)*** *Tracking Long Delivery Items ● Accounting ● Reporting Structure ● Assigning Responsibility ● Shutting Down Meeting ● Organization Breakdown Structure (OBS)*
1115 - 1145	***Organizing*** *Group Task*
1145 – 1215	***The Matrix Organisation*** *Administration ● Communication ● Forms, Formats & Files ● Project File ● Shut Down Toolkit- Resource Utilization*
1215 – 1230	*Break*
1230 – 1330	***Leadership Tools & Techniques*** *Team Selection – Organisation ● - Motivation ● - Shutdown Sponsor Role*
1330 – 1420	***Execution & Feedback*** *The Execution Phase ● Shutdown Practical Execution Issues ● Feedback on Project Status ● Job Status Update ● Feedback on Project Status ● Feedback on Project Status: Costs*
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, 30th of July 2025**

0730 – 0930	***Execution & Feedback (cont'd)*** *Project Practical Control ● Project Review Meeting ● Materials Management ● Staging/Rigging ● Shutdown Safety ● OSHA Requirements*
0930 - 0945	*Break*
0945 – 1015	***Quality Control Plan (QCP) Information*** *Cost of Quality ● Inspection Reports ● Activity Inspection Results ● Quality Control Sheet*
1015 – 1100	***Quality*** *Group Task*

1100 – 1230	***Proven Turnaround Practices*** *The Nature of Turnaround/Shutdown Project Management ● The Environment In Which a Turnaround/Shutdown Takes Place ● Turnaround/Shutdown Success Factors ● More Success Factors ● Similar Planning Approach To Projects ● Elements of a Turnaround/Shutdown ● Turnaround/Shutdown Toolkit ● The Work Breakdown Structure (WBS) & the Organization Breakdown Structure (OBS) ● Identifying the Work ● General Shutdown/Turnaround Checklist ● Planning A Plan ● Milestone Plan ● Milestone Chart ● Work Scope ● Budgets & Cost Control ● Projects*
1230 - 1245	*Break*
1245 - 1400	***Proven Turnaround Practices (cont'd)*** *Materials ● Process Operations ● Pre-shutdown/Pre-turnaround Reviews ● Safety ● Typical Safety Questions That Should Be Asked ● Inspection ● Contracting ● Quality: What is Required? ● Quality Control Plan (QCP) ● Quality Control Plan (QCP) Inspection Report ● Quality Control Sheet ● Risk Management ● Shutdown/Turnaround Practices Discussion*
1400 – 1420	***Control of Shutdown*** *Control Tools & Techniques ● Tracking Project Costs ● Project Practical Control ● Controlling ● Control – Overview ● Control: CSCS = Cost Schedule Control System ● Control Cycle –CSCS ● CSCS Illustrative Graph ● Scope Control*
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*

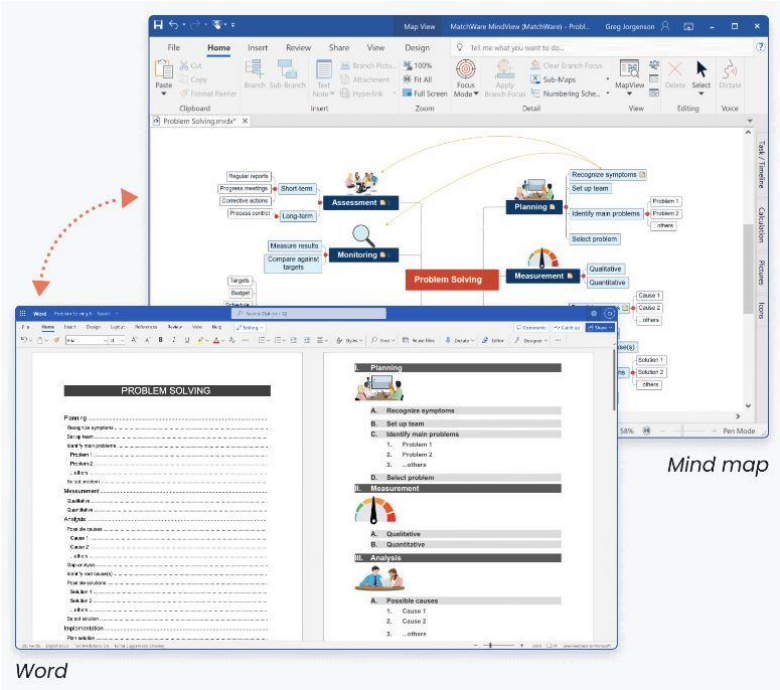
Day 5: ***Friday, 31st of July 2025***

0730 - 0930	***Control of Shutdown (cont'd)*** *Shutdown & Turnaround ● Shutdown Acceleration ● Project Acceleration ● Contractor Controls ● Control Tools & Techniques ● Tracking Project Costs ● Project Practical Control ● Controlling ● Control – Overview*
0930 - 0945	*Break*
0945 - 1015	***Control of Shutdown (cont'd)*** *Control: CSCS = Cost Schedule Control System ● Control Cycle –CSCS ● CSCS Illustrative Graph ● Scope Control ● Shutdown & Turnaround ● Shutdown Acceleration ● Project Acceleration ● Contractor Controls*
1015 - 1030	***Accelerating a Project & Start-up & Handover*** *Group Task*
1030 – 1100	***Start-up & Handover*** *Elements of Handover ● Contactor Handover ● Final Report ● Conclusion*
1100 – 1200	***Use of Computer & Software*** *Project Management Software ● Sorting & Communicating Information*
1200 – 1230	***Using Microsoft Project & Shutdown Workshop*** *Group Task*
1230 – 1245	*Break*

1245 – 1345	***Typical Causes of Shutdown Failure*** *Work not Clearly Defined ● Risks not Analysed or Managed with Contingency Plans ● No Baseline Plan –Poor or Non-existent Planning ● Lack of Scope Management ● Poor Leadership ● Not Taking Environmental needs into the Plan ● Focus on Critical Path items only- the Rest Catch up with you*
1330 – 1345	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1345 – 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

Course Coordinator

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