COURSE OVERVIEW RE0933
Planning & Scheduling Shutdowns & Turnarounds

Course Title
Planning & Scheduling Shutdowns & Turnarounds

Course Date/Venue
November 15-19, 2026/TBA Meeting Room, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
RE0933

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





This practical and highly-interactive course includes real-life case studies where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of Planning & Scheduling Shutdowns & Turnarounds of Process Plant. It covers the shutdowns and turnarounds (SD/TA), SD/TA lifecycle and phases and roles, responsibilities and organization; the scope identification and development, risk identification in shutdowns and turnarounds and performance metrics and benchmarking; the shutdown and turnaround planning process, work breakdown structure (WBS) development, job scoping and work packaging; the resource planning and optimization, material and logistics planning and contractor strategy and planning; the shutdown and turnaround scheduling fundamentals, logic development and activity sequencing; and the critical path method (CPM) for turnarounds.



During this interactive course, participants will learn the resource-loaded scheduling, shutdown window optimization and shutdown and turnaround execution management; the progress measurement and control, cost estimation, cost control and risk management during execution; the health, safety and environmental (HSE) management, quality assurance, inspection control, commissioning and startup planning; the mechanical completion and handover, post-shutdown review and analysis and continuous improvement in SD/TA management; the digital planning and scheduling tools, use of dashboards and analytics and emerging technologies in TA management; and the integration with asset management systems.



Course Objectives/Outcomes & Benefits for the Participants

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

- Apply and gain an in-depth knowledge on planning and scheduling shutdowns and turnarounds of process plant
- Discuss shutdowns and turnarounds (SD/TA) including SD/TA lifecycle and phases and roles, responsibilities and organization
- Apply scope identification and development, risk identification in shutdowns and turnarounds and performance metrics and benchmarking
- Carryout shutdown and turnaround planning process, work breakdown structure (WBS) development, job scoping and work packaging
- Implement resource planning and optimization, material and logistics planning and contractor strategy and planning
- Apply shutdown and turnaround scheduling fundamentals, logic development and activity sequencing and critical path method (CPM) for turnarounds
- Carryout resource-loaded scheduling, shutdown window optimization and shutdown and turnaround execution management
- Apply progress measurement and control, cost estimation and cost control as well as risk management during execution
- Employ health, safety and environmental (HSE) management, quality assurance and inspection control and commissioning and startup planning
- Apply mechanical completion and handover, post-shutdown review and analysis and continuous improvement in SD/TA management
- Carryout digital planning and scheduling tools, use of dashboards and analytics, emerging technologies in TA management and integration with asset management systems

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 shutdowns and turnarounds of process plant 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.

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.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

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. George Poulos, MBA, MSc, BSc, CEng, is a **Senior Mechanical & Maintenance Engineer** with over **30 years** of extensive experience within the **Oil & Gas, Petrochemical, Refinery, Construction, Aircraft & Shipbuilding** Industry. His wide experience cover in the areas of **Shutdowns & Turnarounds** Planning & Scheduling, **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 Management**, **Aluminium** Oxides, **Aluminium Smelting** Process, Basic **Steel Making** Process, **Hot Rolling** Process, **Hot Strip Mill**, **Mill** Operations, **Roll Mill**, **Steel Making** Process, **Steel** Manufacturing, **Electric Arc Furnace** (**EAF**), **Steel Forging**, **Steel** Manufacturing & Process Troubleshooting, **Slit Rolling**, **Carbon Steel Pipe** Wall Thickness & Grade Selection, **Ferro-Alloys**, **Steel Metallurgy**, **Steel** Structure Welding, **Steelmaking** Slag, **Steel** Making Application, **Heat Treatment** & **Prevention Techniques**, **Corrosion** Fabrication & Inspection and **Post Weld Heat Treatment**. Further, he is also well-versed in **Welding** Inspection, **Welding** & **Machine** Techniques, **TIG** & **Arc Welding**, **Shielded Metal Arc Welding**, **Gas Tungsten** & **Gas Metal Arc Welding**, **Welding** Procedure Specifications & Qualifications, **Aluminium Welding**, **Hot Work-Safety**, **SMAW**, **GTAW**, **Welding** Techniques, **Pipeline Welding** Practices, **Welding** Engineering, **Welding** Fatigue & Fracture Mechanics, **Welding Inspection Technology**, **Welding Safety**, **Welding** Defects Analysis, **Welding Technology**, **Welding Problems**, **Welding & Non Destructive** Testing and **Metallurgy Techniques**.

During his career life, Mr. Poulos has gained his practical and field experience through his various significant positions and dedication as the **Chief Executive**, **Head of Technical Studies**, **Manager**, **Senior Consultant**, **Lead Welding Engineer**, **Senior Welding Engineer**, **Design Engineer**, **Sales Engineer**, **Author**, **Welding Instructor**, **Visiting Lecturer** and **Technical Proposal Research Evaluator** from various international companies such as Greek Welding Institute, Hellenic Quality Forum and International Construction Companies such as Shipbuilding, Aircraft Industry and Oil and Gas Industry.

Mr. Poulos is a **Registered Chartered Engineer** and has a **Master's** degree in **Naval Architecture**, a **Bachelor's** degree in **Welding Engineering** and a Master of Business Administration (**MBA**) from the **Sunderland University**, **Aston University** and **Open University**, **UK**, respectively. Further, he is a **Certified Trainer/Instructor**, an active Member of Chartered Quality Institute (**CQI**), The British Welding Institute (**TWI**), The Royal Institution of Naval Architects (**RINA**) and American Welding Society (**AWS**), a Registered **EWF/IW** (European Welding Federation-International Welding Institute W/E) and an **IRCA** Accredited External Quality Systems Auditor through BVQI. He is an **Author** of Technical Book dealing with Protection/Health/Safety in the Welding/Cutting domain and delivered various trainings, seminars, conferences, workshops and courses globally.

Training Methodology

Our courses employ an interactive, learner-centred methodology that integrates theoretical knowledge with practical application. The training is delivered through a suitable combination of some or all of the following methods, selected according to the course content and learning objectives:

- Instructor-led presentations and facilitated discussions
- Practical workshops and participant presentations
- Hands-on exercises and real-world case studies
- Equipment demonstrations and technical drawings
- Hardware- and software-based simulations
- Gamification & Role Play in soft-skills courses only
- Virtual Reality (VR) and Augmented Reality (AR)
- Instructional videos and other relevant training resources

This blended approach encourages active participation, strengthens practical skills and supports the effective application of acquired knowledge in the workplace.

Learning Design & Customization

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

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.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the workshop for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: ***Sunday, 15th of November 2026***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Shutdowns & Turnarounds (SD/TA)*** *Definition and Classification of Shutdowns, Turnarounds and Outages • Differences Between Routine Shutdowns and Major Turnarounds • Business Drivers and Strategic Importance of SD/TA • Key Success Factors and Common Failure Causes*
0930 – 0945	*Break*
0945 – 1030	***SD/TA Lifecycle & Phases*** *Initiation and Scope Definition Phase • Planning and Preparation Phase • Execution and Control Phase • Startup, Close-out and Post-TA Review*
1030 – 1130	***Roles, Responsibilities & Organization*** *TA Leadership Structure and Governance • Roles of Planning, Scheduling, Engineering, Operations and Maintenance • Contractor and Vendor Coordination Roles • Interfaces Between Operations and Project Teams*

1130 – 1215	***Scope Identification & Development*** *Mechanical, Inspection and Operational Scopes • Regulatory, Statutory and Integrity-Driven Work • Opportunity and Value-Added Work Identification • Scope Freeze Philosophy and Timing*
1215 – 1230	*Break*
1230 – 1330	***Risk Identification in Shutdowns & Turnarounds*** *Typical SD/TA Risks (Schedule, Cost, Safety, Quality) • Risk Assessment Methodologies • Risk Registers and Mitigation Planning • Lessons Learned from Past Turnarounds*
1330 – 1420	***Performance Metrics & Benchmarking*** *Key Performance Indicators (KPIs) for SD/TA • Cost, Schedule, Safety and Quality Metrics • Benchmarking Against Industry Best Practices • Use of Historical Data and Performance Baselines*
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, 16th of November 2026***

0730 – 0830	***Shutdown & Turnaround Planning Process*** *Planning Philosophy and Level of Detail • Planning Timelines and Milestones • Planning Deliverables and Documentation • Integration of Multi-Discipline Plans*
0830 – 0930	***Work Breakdown Structure (WBS) Development*** *Creating Effective SD/TA WBS • Discipline-Based and System-Based WBS • Linking WBS to Cost and Schedule Control • Best Practices for WBS Coding and Structure*
0930 – 0945	*Break*
0945 – 1100	***Job Scoping & Work Packaging*** *Job Scoping Principles and Accuracy • Development of Job Plans and Work Packs • Material Take-off and Tool Requirements • Standard Job Plans versus Bespoke Activities*
1100 – 1215	***Resource Planning & Optimization*** *Manpower Estimation and Crew Sizing • Craft Mix and Skill Requirements • Shift Planning and Productivity Factors • Managing Peak Manpower Demands*
1215 – 1230	*Break*
1230 – 1330	***Material & Logistics Planning*** *Long-Lead Item Identification • Material Readiness and Staging Plans • Warehouse, Laydown and Site Logistics • Spare Parts and Contingency Planning*
1330 – 1420	***Contractor Strategy & Planning*** *Contractor Selection Strategies • Contracting Models for SD/TA • Scope Split and Interface Management • Contractor Mobilization and Readiness*
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, 17th of November 2026
0730 – 0830	***Shutdown & Turnaround Scheduling Fundamentals*** *Purpose of SD/TA Scheduling • Schedule Levels (Level 1–4 Schedules) • Relationship Between Planning and Scheduling • Critical Path Concept in Shutdowns*
0830 – 0930	***Logic Development & Activity Sequencing*** *Developing Sound Logic Relationships • Predecessors, Successors and Constraints • Handling System-Based Sequencing • Avoiding Common Logic Errors*
0930 – 0945	*Break*
0945 – 1100	***Critical Path Method (CPM) for Turnarounds*** *Identifying and Managing Critical Path • Near-Critical Activities and Float Management • Schedule Compression Techniques • Schedule Risk and Sensitivity Analysis*
1100 – 1215	***Resource-Loaded Scheduling*** *Manpower and Equipment Loading • Resource Leveling and Smoothing • Managing Resource Constraints • Productivity Assumptions and Adjustments*
1215 – 1230	*Break*
1230 – 1330	***Use of Scheduling Software (Primavera & MS Project)*** *Building Shutdown Schedules in Planning Tools • Coding Structures and Calendars • Baseline Creation and Approval • Schedule Updates and Progress Tracking*
1330 – 1420	***Shutdown Window Optimization*** *Turnaround Duration Optimization Strategies • Parallel Execution and Modularization • System-Based Shutdown Sequencing • Trade-Offs Between Cost, Risk and Duration*
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, 18th of November 2026
0730 – 0830	***Shutdown & Turnaround Execution Management*** *Transition from Planning to Execution • Daily Coordination and Control Processes • Communication and Reporting Structures • Managing Field Execution Challenges*
0830 – 0930	***Progress Measurement & Control*** *Physical Progress Measurement Methods • Earned Value Concepts for SD/TA • Daily Progress Reporting and Dashboards • Managing Deviations and Recovery Actions*
0930 – 0945	*Break*
0945 – 1100	***Cost Estimation & Cost Control*** *Turnaround Cost Estimation Techniques • Cost Breakdown Structures (CBS) • Cost Tracking and Forecasting • Managing Scope Growth and Cost Overruns*
1100 – 1215	***Risk Management during Execution*** *Dynamic Risk Assessment during Shutdown • Managing Emergent Work and Discoveries • Decision-Making under Time Pressure • Contingency and Escalation Processes*
1215 – 1230	*Break*

1230 – 1330	***Health, Safety & Environmental (HSE) Management*** *HSE Challenges Unique to Shutdowns • SIMOPS and Permit-to-Work Integration • Contractor Safety Management • Incident Prevention and Emergency Response*
1330 – 1420	***Quality Assurance & Inspection Control*** *Inspection and Test Planning (ITP) • Quality Control During High-Intensity Work • Managing Rework and Punch Lists • Documentation and Quality Records*
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, 19th of November 2026***

0730 – 0830	***Commissioning & Startup Planning*** *System Handover from Maintenance to Operations • Pre-Startup Safety Reviews (PSSR) • Startup Sequencing and Coordination • Managing Startup Risks*
0830 – 0930	***Mechanical Completion & Handover*** *Mechanical Completion Criteria • System Walk-Downs and Sign-off • Punch List Management • Documentation Handover*
0930 – 0945	*Break*
0945 – 1100	***Post-Shutdown Review & Analysis*** *Turnaround Close-out Process • Performance Evaluation Against KPIs • Cost and Schedule Variance Analysis • Lessons Learned Workshops*
1100 – 1215	***Continuous Improvement in SD/TA Management*** *Capturing and Institutionalizing Lessons Learned • Improving Planning Accuracy over Time • Use of Historical Data and Benchmarking • Building Organizational TA Maturity*
1215 – 1230	*Break*
1230 – 1300	***Digital Tools & Best Practices*** *Digital Planning and Scheduling Tools • Use of Dashboards and Analytics • Emerging Technologies in TA Management • Integration with Asset Management Systems*
1300 – 1345	***Case Studies & Practical Exercises*** *Review of Real-Life Shutdown Case Studies • Analysis of Successful and Failed Turnarounds • Group Exercises on Planning and Scheduling • Key Takeaways and Best-Practice Guidelines*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about t Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

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



Course Coordinator

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