# COURSE OVERVIEW PM0047
# Brownfield Development and Execution

**Course Title**
Brownfield Development and Execution


**Course Date/Venue**
Session 1: February 24-28, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: September 21-25, 2025/ Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE



**Course Reference**
PM0047

**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.***

This course is designed to provide participants with a detailed and up-to-date overview of Brownfield Development and Execution. It covers the significance of brownfield projects in the petroleum industry; the key differences between brownfield and greenfield projects; the brownfield redevelopment strategies and brownfield assets and infrastructure assessment; the regulatory and environmental considerations and project management in brownfield development; the front-end engineering design (FEED) for brownfield projects and integration of new systems with existing facilities; and the structural and mechanical modifications.

During this interactive course, participants will learn the electrical and instrumentation upgrades and piping and process modifications; planning and scheduling brownfield execution; the shutdown, turnaround and tie-ins and simultaneous operations (SIMOPS); the brownfield construction and site challenges; the proper commissioning and start-up of brownfield projects; the operational readiness in brownfield projects and risk management in brownfield development; the asset integrity management in brownfield facilities; the digitalization and automation in brownfield execution, cost management and budgeting in brownfield projects; and the brownfield execution and troubleshooting.

## Course Objectives

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

- Apply and gain an in-depth knowledge on brownfield development and execution
- Discuss the significance of brownfield projects in the petroleum industry and the key differences between brownfield and greenfield projects
- Carryout brownfield redevelopment strategies, assess brownfield assets and infrastructure and discuss the regulatory and environmental considerations
- Apply project management in brownfield development, front-end engineering design (FEED) for brownfield projects and integration of new systems with existing facilities
- Review structural and mechanical modifications and apply electrical and instrumentation upgrades as well as piping and process modifications
- Plan and schedule brownfield execution, perform shutdown, turnaround and tie-ins and manage simultaneous operations (SIMOPS)
- Identify brownfield construction and site challenges and apply proper commissioning and start-up of brownfield projects
- Ensure operational readiness in brownfield projects and carryout risk management in brownfield development and asset integrity management in brownfield facilities
- Carryout digitalization and automation in brownfield execution, cost management and budgeting in brownfield projects and brownfield execution and troubleshooting

## 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 a basic overview of all significant aspects and considerations of brownfield development and execution for environmental consultants, urban planners and developers, real estate developers, civil engineers, environmental engineers, property and asset managers, geotechnical engineers, construction managers, risk assessors and environmental auditors.

## 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 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:

**Mr. Eric Horne**, MBA, PMP, PMI-RMP & SMC, HNDPM, NDOWS, T3 (Mech), is a **Senior Project Management Consultant** with over **40 years** of training and industrial experience. His expertise lies extensively in the areas of **Projects**, **Contracts**, **Operations**, **Procurement**, **Production**, **Finance** and **Supply Chain** Management. Further, Mr. Horne is an expert in **Project Management** Professional (**PMP**), **Project Risk Management** Concepts, **Project Management** Processes, **Project Time** Management, **Project Cost** Management, **Project Quality** Management, **Quality** Assurance, **Project Human Resource** Management, **Project Integration** Management, **Project** Management Plan, **Project Work** Monitoring & Control, **Project Scope** Management, **Project Communications** Management, **Project Planning, Scheduling & Cost Control Professional**, **Project Scheduling & Cost Control**, **Program Management** Professional (**PgMP**), **Leadership Management**; **Communications** Management; **Interpersonal**, **Teamwork & Team** Management; **Adaptability & Learning**, **Marketing** Management; **Customer Care** Management; Sales & Marketing, Branding, **Account Development Strategy** & **Time** Management; **Facilitation & Business Presentation Management**; **Warehouse** & **Logistics** Management; **Data & Record** Management; Managerial **Economics**; **Marketing** Management; **Value Engineering**; **Change** Management; **Planning**, **Budgeting** & **Cost Control**; Strategic Thinking, **Re-Engineering** & **Risk** Management; **Production Planning** & **Control**; and Service Level Agreements (**SLA**). He is also well-versed in Business Law, Labour Law, Strategy Formulation, Resource Allocation, Continuous Improvement and Productivity Improvement. He is currently the **Senior Project Manager** of **APC Solutions** wherein he is responsible for the complete project life cycle including **initiating**, **planning**, **executing**, **monitoring & controlling** and **closing** as well as developing and presenting of various trainings within their organization.

Mr. Horne has worked for many blue chip companies such as **BHP Billiton**, **Eskom**, **Telecast Engineering**, **Adcorp**, **3M** and many more wherein he gained technical and broad experience in all facets of well-renowned large companies in various industries. His work started on the shop floor as a **Industrial Engineer**, Senior Work Study Officer, **Industrial Engineer**, **Industrial Sales Engineer**, **Lecturer**, **Consultant/Trainer**, **Project Specialist** and rising up to managerial positions like **Project Governance Development Manager**, **Senior Project Manager**, **Project Manager Specialist**, **Marketing Manager**, **Sales Manager**, **National Marketing & Training Manager**, **Change Manager**, **Regional Manager** and **Project & Training Manager**.

Mr. Horne has a **Master** degree in **Business Administration** from the **University of Wales**, **UK**. Further, he has a **Higher National Diploma** in **Production Management**, a **National Diploma** in **Organisation** & **Work Study** and a **T3 Mechanical Certificate**. Moreover, he is a **Certified Instructor/Trainer**, a **Certified PMI-Project Risk Management Professional** (**PMI-RMP**), a **Certified Project Management Professional** (**PMP**), a **Qualified SETA Assessor**, a **Certified Scrum Master** and a **Certified Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**). He has further delivered numerous trainings, courses, workshops, seminars and conferences 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.

## Accommodation

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

## 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***

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| *0730 – 0800* | *Registration & Coffee* |
| *0800 – 0815* | *Welcome & Introduction* |
| *0815 – 0830* | ***PRE-TEST*** |
| *0830 – 0930* | ***Introduction to Brownfield Projects***<br>*Definition & Significance of Brownfield Projects in the Petroleum Industry • Key Differences Between Brownfield & Greenfield Projects • Challenges & Opportunities in Brownfield Development • Approach to Brownfield Asset Management* |
| *0930 – 0945* | *Break* |
| *0945 – 1040* | ***Brownfield Redevelopment Strategies***<br>*Life Extension of Existing Facilities • Capacity Enhancement & Debottlenecking Projects • Repurposing & Re-Engineering Old Assets • Case Studies on Successful Redevelopment* |
| *1040 – 1135* | ***Assessing Brownfield Assets & Infrastructure***<br>*Structural Integrity & Condition Assessment of Existing Facilities • Evaluating Operational Efficiency & Safety Compliance • Identifying Bottlenecks & Constraints in Brownfield Operations • Framework for Asset Evaluation* |
| *1135 - 1230* | ***Regulatory & Environmental Considerations***<br>*Compliance with Health, Safety, & Environmental (HSE) Policies • Environmental Impact Assessments (EIA) for Brownfield Projects • Permitting & Regulatory Approval Challenges • Best Practices for Minimizing Environmental Footprint* |
| *1230 - 1245* | *Break* |

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| *1245 – 1335* | ***Project Management in Brownfield Development***<br>*Phases of Brownfield Project Execution • Risk Management in Project Planning • Coordination with Stakeholders & Regulatory Bodies • Project Management Methodologies* |
| *1335 - 1420* | ***Case Studies on Brownfield Development***<br>*Lessons Learned from Past Projects • Success Stories & Challenges Faced • Strategies to Overcome Operational Constraints • Future Trends in Brownfield Project Execution* |
| *1420 – 1430* | ***Recap***<br>*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***

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| *0730 – 0830* | ***Front-End Engineering Design (FEED) for Brownfield Projects***<br>*Importance of FEED in Brownfield Modifications • Scope Definition & Project Feasibility Studies • Risk Assessment & Safety Considerations • FEED Process for Brownfield Execution* |
| *0830 - 0930* | ***Integration of New Systems with Existing Facilities***<br>*Challenges in Retrofitting New Equipment • Compatibility with Existing Infrastructure & Operations • Ensuring Minimal Disruption During Integration • Strategies for Seamless System Integration* |
| *0930 – 0945* | *Break* |
| *0945 – 1040* | ***Structural & Mechanical Modifications***<br>*Upgrading Old Pipelines & Pressure Vessels • Reinforcing Aging Infrastructure • Replacement versus Rehabilitation of Mechanical Components • Approach to Brownfield Structural Improvements* |
| *1040 – 1135* | ***Electrical & Instrumentation Upgrades***<br>*Challenges in Upgrading Power & Control Systems • Selection of Automation & Digital Control Systems • Managing Legacy Systems in Brownfield Projects • Standards for Electrical Modifications* |
| *1135 - 1230* | ***Piping & Process Modifications***<br>*Debottlenecking & Optimization of Pipeline Networks • Impact of Flow Changes on Existing Equipment • Pipe Stress Analysis & Integrity Assessments • Best Practices for Process Piping Modifications* |
| *1230 - 1245* | *Break* |
| *1245 - 1420* | ***Case Studies on Engineering Challenges & Solutions***<br>*Real-World Examples of Engineering Design Failures & Solutions • Lessons Learned from Brownfield Upgrades • Value Engineering Strategies for Cost-Effective Development • Future Innovations in Brownfield Design & Engineering* |
| *1420 – 1430* | ***Recap***<br>*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**

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|---|---|
| 0730 – 0830 | ***Planning & Scheduling for Brownfield Execution***<br>*Work Breakdown Structure (WBS) for Brownfield Projects • Gantt Charts & Timeline Development • Key Performance Indicators (KPIs) for Project Execution • Project Scheduling Framework* |
| 0830 – 0930 | ***Shutdown, Turnaround, & Tie-Ins***<br>*Planning & Execution of Shutdown Activities • Challenges in Brownfield Tie-Ins & Hot Work Execution • Turnaround Best Practices for Minimal Downtime • Case Studies on Successful Tie-In Execution* |
| 0930 – 0945 | *Break* |
| 0945 – 1040 | ***Managing Simultaneous Operations (SIMOPS)***<br>*Risk Assessment & Coordination for SIMOPS • Conflict Resolution in Multiple Operational Activities • Ensuring Worker & Asset Safety During SIMOPS • Operational Procedures for Managing SIMOPS* |
| 1040 – 1135 | ***Brownfield Construction & Site Challenges***<br>*Working in Constrained & Live Operational Environments • Challenges in Material Handling & Logistics • Safety Measures for Brownfield Construction Activities • Construction Management Best Practices* |
| 1135 - 1230 | ***Commissioning & Start-Up of Brownfield Projects***<br>*Pre-Commissioning & Commissioning Best Practices • Functional Testing & Performance Validation • Startup & Operational Handover Processes • Commissioning Standards for Brownfield Projects* |
| 1230 - 1245 | *Break* |
| 1245 - 1420 | ***Case Studies on Brownfield Construction Execution***<br>*Analysis of Brownfield Project Delays & Solutions • Lessons Learned from Commissioning & Startup Failures • Cost-Effective Construction Strategies for Brownfield Sites • Future Trends in Brownfield Construction Techniques* |
| 1420 – 1430 | ***Recap***<br>*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**

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| 0730 – 0930 | ***Ensuring Operational Readiness in Brownfield Projects***<br>*Training & Competency Development for Operations Staff • HSE & Process Safety Considerations in Operational Readiness • Documentation & Standard Operating Procedures (SOPs) • Framework for Operational Readiness Assessment* |
| 0930 – 0945 | *Break* |
| 0945 - 1100 | ***Risk Management in Brownfield Development***<br>*Identifying Key Risks in Brownfield Modifications • Quantitative & Qualitative Risk Assessment Methods • Risk Mitigation Strategies for Brownfield Execution • Best Practices in Project Risk Management* |
| 1100 – 1230 | ***Asset Integrity Management in Brownfield Facilities***<br>*Lifecycle Assessment of Aging Infrastructure • Corrosion Control & Preventive Maintenance • Integrity Monitoring & Predictive Analytics • Asset Integrity Management Standards* |
| 1230 - 1245 | *Break* |

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| *1245 – 1330* | ***Digitalization & Automation in Brownfield Execution***<br>*Digital Twin Applications in Brownfield Redevelopment • Real-Time Monitoring & Predictive Maintenance Solutions • AI & Machine Learning Applications in Brownfield Operations • Digital Transformation Strategies for Brownfield Projects* |
| *1330 - 1420* | ***Cost Management & Budgeting in Brownfield Projects***<br>*Budget Estimation & Cost Control Strategies • Financial Risks Associated with Brownfield Execution • Cost-Benefit Analysis for Modification versus Replacement • Cost Optimization Strategies for Brownfield Projects* |
| *1420 – 1430* | ***Recap***<br>*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***

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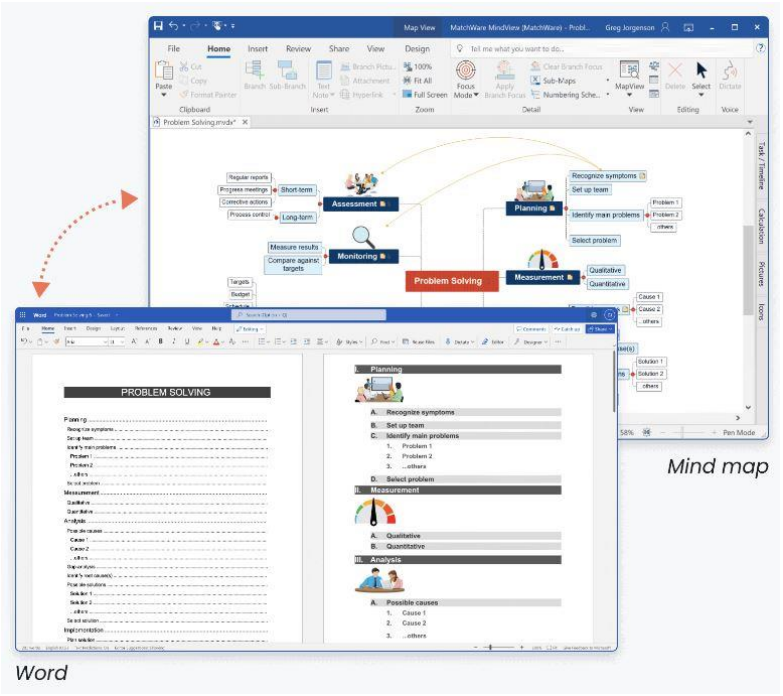
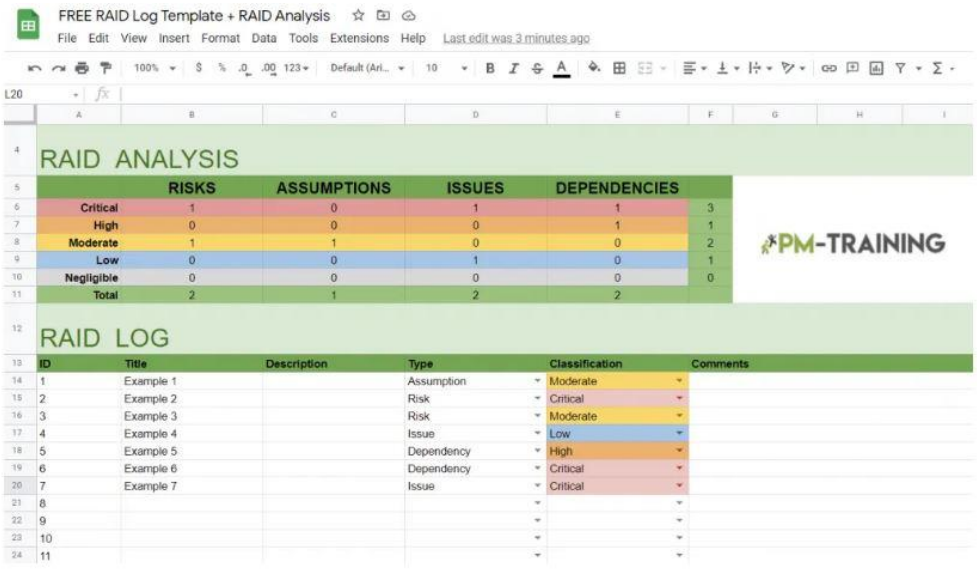
| *0730 - 0930* | ***Case Studies on Operational Readiness & Risk Mitigation***<br>*Lessons Learned in Risk Management • Strategies for Improving Brownfield Project Efficiency • Future Trends in Asset Integrity & Automation • Best Practices in Operational Transition & Workforce Readiness* |
| *0930 – 0945* | *Break* |
| *0945 – 1100* | ***Hands-On Training: Brownfield Project Planning***<br>*Developing a Brownfield Project Execution Plan • Work Breakdown Structure (WBS) & Timeline Development • Identifying Constraints & Mitigation Strategies • Project Planning Templates & Tools* |
| *1100 – 1230* | ***Practical Session: Brownfield Engineering & Design Modifications***<br>*Evaluating Structural & Mechanical Modifications • Integrating Process & Piping Changes • Designing Safety Enhancements for Brownfield Projects • Design Standards & Engineering Best Practices* |
| *1230 - 1245* | *Break* |
| *1245 – 1345* | ***Brownfield Execution Simulation & Troubleshooting***<br>*Managing Real-Time Project Execution Challenges • Problem-Solving for Construction & Tie-In Delays • Lessons Learned from Common Execution Pitfalls • Troubleshooting & Problem-Solving Framework* |
| *1345 - 1400* | ***Course Conclusion***<br>*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 “Mindview Software” and “Raidlog Simulator”.




**Mindview Software**




**Raidlog Simulator**

## Course Coordinator

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