COURSE OVERVIEW PM0327
Risk Assessment & Risk Management for Oil & Gas Projects

Course Title
Risk Assessment & Risk Management for Oil & Gas Projects



Course Date/Venue
November 22-26, 2026/Meeting Room F, Centro Corniche Al Khobar by Rotana, Al Khobar, KSA

Course Reference
PM0327

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

Course Description







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 Risk Assessment & Risk Management for Oil and Gas Projects. It covers the risk management in oil and gas projects, oil and gas project lifecycle and risk exposure; the risk management framework and principles and risk categories in oil and gas projects; the risk context, risk criteria and risk management planning; the systematic risk identification techniques and technical and engineering risk identification; the HSE and process safety risk identification, project execution and commercial risks, qualitative risk assessment and risk register; and the fundamentals of quantitative risk analysis.

During this interactive course, participants will learn the probability and statistical concepts for risk analysis, quantitative cost risk analysis and schedule risk analysis; the monte carlo simulation for project risk, advanced risk analysis techniques and developing risk response strategies; the effective risk mitigation actions and HSE and process safety risk control including contractual and supply chain risk management; the cost and schedule risk mitigation and emergency, crisis and business continuity risks; the risk monitoring and control throughout project execution, key risk indicators and risk reporting; and the integration of risk with project controls and risk-based decision-making.

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 risk assessment and risk management for oil and gas projects
- Discuss risk management in oil and gas projects, oil and gas project lifecycle and risk exposure
- Explain risk management framework and principles and risk categories in oil and gas projects
- Establish risk context and risk criteria and apply risk management planning, systematic risk identification techniques and technical and engineering risk identification
- Carryout HSE and process safety risk identification, project execution and commercial risks and qualitative risk assessment
- Develop and maintain risk register and discuss the fundamentals of quantitative risk analysis
- Employ probability and statistical concepts for risk analysis, quantitative cost risk analysis and schedule risk analysis
- Apply monte carlo simulation for project risk, advanced risk analysis techniques and developing risk response strategies
- Design effective risk mitigation actions and employ HSE and process safety risk control including contractual and supply chain risk management
- Carryout cost and schedule risk mitigation and identify emergency, crisis and business continuity risks
- Apply risk monitoring and control throughout project execution, key risk indicators and risk reporting, integrating risk with project controls and risk-based decision-making

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 risk assessment and risk management for oil and gas projects for project directors, project managers, operations managers, asset managers, engineering managers, HSE managers, risk managers, contracts and commercial managers, procurement and supply chain managers, construction managers, commissioning managers, project controls managers, planning and scheduling managers, technical managers, business continuity and emergency management professionals, risk engineers, project controls engineers, cost engineers, cost control professionals, lead engineers, process safety engineers, reliability and integrity engineers, maintenance engineers, planning and scheduling engineers, HSE professionals and other technical staff.

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$ 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 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. Andrew Ladwig is a **Senior Management Consultant** with over **25 years** of extensive experience in the areas of **Project Risk** Management, **Risk Assessment** & **Risk Management** for Oil & Gas Projects, **Risk** Identification Tools & Techniques, **Project** Management, **Project Planning**, **Project & Contracts** Management Skills, **Project & Construction** Management, **Project** Planning, Scheduling & Control, **Primavera**, **Project** Delivery & Governance Framework, **Project** Management Practices, **Project** Management Disciplines, **Project** Life Cycle, **Project Stakeholder** & Governance, **Project Management** Processes, **Project Integration** Management, **Project** Management Plan, **Project Work** Monitoring & Control, **Project Scope** Management, **Project Time** Management, **Project Cost** Management, **Project Quality** Management and **Social & Environmental Projects**, Certified Planning & Scheduling Professional (**AACE-PSP**), **Financial & Accounting** Management, **Financial Accounting** & Reporting, **Financial Accounting** Principles, **Accounting Principles & Framework**, Fixed Assets **Accounting**, **Budget Preparation**, **Budget Allocation & Cost Control**, Analyzing & Evaluating **Project Financial Data**, **Financial** Analysis, **Financial** Models & Systems, **Corporate Finance** Management, **Financial Leverage**, **Financial** Modelling & Forecasting, **Financial Analysis** Techniques, **Financial Data** Analysis Concepts & Process, **Financial** Planning Techniques, **Budgeting & Finance**, **Budget** Estimation, **Forecasting & Cost**, **Budgeting & Costing** for Decision Making, Advanced **Budgeting & Forecasting**, **Budgeting** Best Practices, **Budgetary** Controls, **Fund** Management, **Human Resource** Management, **Performance** Management, **Statistical Quality Control**, **Artificial Intelligence**, **Supply Chain** Management, **Pricing Strategy & Tactics**, **Technical** Management, **Business Development**, **Creative Thinking & Problem-Solving** Techniques, **Emotional Intelligence**, **Writing** Business Documents, **Business Writing** (Memo & Report Writing), **Leadership & Team Building**, Psychology of **Leadership**, **Interpersonal Skills & Teamwork**, **Innovation & Creativity**, Controlling Your **Time & Managing Stress**, Strategic **Human Resources** Management, **Negotiation** Skills, **Strategic Planning**, Efficient **Administration** Skills, **Coaching & Mentoring**, **Presentation** Skills, **Communication & Interpersonal** Skills, **Problem Solving & Decision-Making** Skills, **Negotiation** Skills, Effective **Storekeeping**, **Logistics & Procurement**, **Stock** Management, **Warehouse Store & Inventory** Control, General **Warehouse** Management, **Stores & Material Stock Control** Management, **Toolkit** Management, **Inventory** Management, Data Analysis, **HAZOP** Study, Sampling & Analysis, **Hazardous Material** Classification & Storage/Disposal, **Risk** Monitoring, **Gas Testing** & Energy Isolations, Fire & Gas, First Aid and Occupational Health & Safety.

During his career life, Mr. Ladwig has gained his practical experience through his various significant positions and dedication as the **Mechanical Engineer**, **Project Engineer**, **Reliability & Maintenance Engineer**, **Maintenance Support Engineer**, **Process Engineer**, **HSE Supervisor**, **Warehouse Manager**, **Quality Manager**, **Business Analyst**, **Finance Manager**, **Senior Process Controller**, **Process Controller**, **Safety Officer**, **Mechanical Technician**, **Senior Lecturer** and **Senior Consultant/Trainer** for various companies such as the Sasol Ltd., Sasol Wax, Sasol Synfuels, just to name a few.

Mr. Ladwig has a **Bachelor's** degree in **Chemical Engineering** and a **Diploma** in **Mechanical Engineering**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**) and has delivered various trainings, workshops, seminars, courses and conferences internationally.

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.

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 workshop for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: ***Sunday, 22nd of November 2026***

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Risk Management in Oil & Gas Projects*** *Definition of Risk, Uncertainty, Hazard & Opportunity • Importance of Risk Management throughout the Project Lifecycle • Typical Risk Profile of Upstream, Midstream & Downstream Projects • Relationship Between Risk Management, Project Objectives & Business Performance*
0930 – 0945	*Break*
0945 – 1030	***Oil & Gas Project Lifecycle & Risk Exposure*** *Concept Selection, FEED, Detailed Engineering & Procurement Stages • Construction, Commissioning, Start-Up & Operational Phases • Risk Evolution throughout the Project Lifecycle • Identifying Critical Risk Points & Decision Gates*

1030 – 1130	***Risk Management Framework & Principles*** *Principles & Framework of ISO 31000 Risk Management • Establishing Risk Management Scope, Context & Criteria • Integration of Risk Management into Project Governance • Roles, Responsibilities, Accountability & Risk Ownership*
1130 – 1215	***Risk Categories in Oil & Gas Projects*** *Technical, Engineering & Technology Risks • Commercial, Contractual & Financial Risks • HSE, Environmental & Regulatory Risks • Schedule, Supply Chain, Stakeholder & Geopolitical Risks*
1215 – 1230	*Break*
1230 – 1330	***Establishing Risk Context & Risk Criteria*** *Internal & External Project Context • Defining Project Objectives & Risk Boundaries • Risk Appetite, Tolerance & Acceptance Criteria • Developing Project-Specific Risk Matrices*
1330 – 1420	***Risk Management Planning*** *Developing the Project Risk Management Plan • Defining Risk Identification & Assessment Methodologies • Establishing Reporting, Escalation & Review Requirements • Integrating Risk Management with Project Execution Plans*
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, 23rd of November 2026***

0730 – 0830	***Systematic Risk Identification Techniques*** *Brainstorming & Facilitated Risk Workshops • Interviews, Questionnaires & Expert Judgment • Checklists, Lessons Learned & Historical Databases • SWOT, PESTLE & Assumption Analysis*
0830 – 0930	***Technical & Engineering Risk Identification*** *Process Design & Equipment Selection Risks • Technology Maturity & Design Interface Risks • Constructability & Operability Risks • Reliability, Integrity & Maintainability Risks*
0930 – 0945	*Break*
0945 – 1100	***HSE & Process Safety Risk Identification*** *Hazard Identification Principles & HAZID Studies • HAZOP Methodology & Process Deviation Analysis • Job Safety Analysis/Job Hazard Analysis Concepts • Major Accident Hazards, Loss of Containment & Escalation Scenarios*
1100 – 1215	***Project Execution & Commercial Risks*** *Cost Escalation & Budget Overrun Risks • Schedule Delay & Critical Milestone Risks • Contractor, Subcontractor & Supplier Risks • Contractual, Claims & Procurement Risks*
1215 – 1230	*Break*
1230 – 1330	***Qualitative Risk Assessment*** *Assessing Likelihood/Probability of Occurrence • Evaluating Consequence & Project Impact • Developing Probability-Impact Matrices • Categorizing Risks According to Severity & Priority*

1330 – 1420	***Developing & Maintaining the Risk Register*** *Writing Clear Risk Statements Using Cause-Event-Impact Logic • Recording Causes, Consequences & Existing Controls • Assigning Risk Owners & Action Owners • Risk Register Updating, Tracking & Reporting*
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, 24th of November 2026***

0730 – 0830	***Fundamentals of Quantitative Risk Analysis*** *Purpose & Benefits of Quantitative Risk Assessment • Difference Between Qualitative & Quantitative Approaches • Data Requirements, Assumptions & Limitations • Selecting Appropriate Quantitative Assessment Techniques*
0830 – 0930	***Probability & Statistical Concepts for Risk Analysis*** *Probability Concepts & Uncertainty Ranges • Expected Values & Probability Distributions • Normal, Triangular, Uniform & Lognormal Distributions • Confidence Levels, Percentiles & Interpretation of Results*
0930 – 0945	*Break*
0945 – 1100	***Quantitative Cost Risk Analysis*** *Identifying Cost Uncertainty & Risk Drivers • Estimating Potential Cost Impacts • Developing Risk-Adjusted Project Cost Forecasts • Establishing Management Contingency & Cost Reserves*
1100 – 1215	***Schedule Risk Analysis*** *Identifying Schedule Uncertainty & Delay Risks • Critical Path & Near-Critical Path Risk Exposure • Assessing Activity Duration Uncertainty • Determining Schedule Contingency & Completion Confidence*
1215 – 1230	*Break*
1230 – 1330	***Monte Carlo Simulation for Project Risk*** *Principles of Monte Carlo Simulation • Developing Input Ranges & Probability Distributions • Interpreting Simulation Outputs, S-Curves & Percentiles • Using P50, P80 & Other Confidence Levels for Decision-Making*
1330 – 1420	***Advanced Risk Analysis Techniques*** *Sensitivity Analysis & Tornado Diagrams • Decision Tree Analysis & Expected Monetary Value • Fault Tree Analysis & Event Tree Analysis • Bow-Tie Analysis for Major Oil & Gas Hazards*
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, 25th of November 2026***

0730 – 0830	***Developing Risk Response Strategies*** *Risk Avoidance Strategies • Risk Reduction/Mitigation Strategies • Risk Transfer & Contractual Allocation • Risk Acceptance, Retention & Contingency Planning*
0830 – 0930	***Designing Effective Risk Mitigation Actions*** *Identifying Preventive & Recovery Controls • Evaluating Control Effectiveness • Developing Measurable Mitigation Actions • Assigning Responsibilities, Deadlines & Resources*

0930 – 0945	Break
0945 – 1100	***HSE & Process Safety Risk Control*** *Hierarchy of Controls & Inherently Safer Design • Engineering, Administrative & Procedural Controls • Safety Barriers & Critical Safeguards • ALARP Principles & Demonstration of Risk Reduction*
1100 – 1215	***Contractual & Supply Chain Risk Management*** *Contractor Prequalification & Risk Allocation • Vendor, Supplier & Procurement Risk Management • Long-Lead Equipment & Logistics Risks • Contract Terms, Insurance, Guarantees & Risk Transfer Mechanisms*
1215 – 1230	Break
1230 – 1330	***Cost & Schedule Risk Mitigation*** *Contingency Planning for Cost Overruns • Schedule Recovery & Acceleration Strategies • Managing Scope Changes & Change Control • Controlling Interface, Resource & Productivity Risks*
1330 – 1420	***Emergency, Crisis & Business Continuity Risks*** *Emergency Preparedness & Response Planning • Crisis Escalation & Incident Management • Business Continuity Considerations for Oil & Gas Projects • Recovery Planning & Organizational Resilience*
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, 26th of November 2026***

0730 – 0830	***Risk Monitoring & Control throughout Project Execution*** *Tracking Identified Risks & Mitigation Actions • Identifying Emerging & Secondary Risks • Periodic Risk Reviews & Reassessments • Closing, Escalating & Transferring Risks*
0830 – 0930	***Key Risk Indicators & Risk Reporting*** *Developing Key Risk Indicators (KRIs) • Risk Dashboards, Heat Maps & Trend Analysis • Risk Status Reporting to Project Management • Escalation of Critical Risks to Senior Management*
0930 – 0945	Break
0945 – 1100	***Integrating Risk with Project Controls*** *Integration with Cost Control & Forecasting • Integration with Planning & Scheduling • Integration with Change & Configuration Management • Linking Risk Exposure to Project Performance Indicators*
1100 – 1215	***Risk-Based Decision-Making*** *Evaluating Alternatives Under Uncertainty • Cost-Benefit & Risk-Benefit Analysis • Risk-Based Prioritization of Project Decisions • Decision Documentation, Governance & Approval Processes*
1215 – 1230	Break
1230 – 1315	***Risk Workshops & Practical Case Study*** *Planning & Facilitating an Oil & Gas Project Risk Workshop • Identifying Technical, HSE, Commercial & Execution Risks • Assessing Likelihood, Consequence & Risk Ranking • Developing Mitigation Measures & Assigning Risk Ownership*

1315 – 1345	***Integrated Risk Management Exercise & Course Review*** *Developing a Comprehensive Project Risk Register • Performing Qualitative & Quantitative Risk Prioritization • Preparing Risk Treatment, Monitoring & Reporting Plans • Lessons Learned, Final Review & Continuous Improvement Principles*
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*

Practical Sessions

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



Course Coordinator

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