

# Professional Diploma and Training

## Fundamentals of Maintenance Risk Management - FMRRM

### This 5-day intensive course teaches

essential topics and practical applications of maintenance risk management from a managerial and quantitative approach in oil and gas and energy-related companies

The FMRRM course will be coordinated by Dr Elvis Hernandez-Perdomo and delivered by accredited professional trainers in maintenance and project risk management. Delegates will:

- Learn the fundamentals of Maintenance Management and Risk Analysis for successful maintenance strategies and campaigns (under schedule, cost, and minimum shutdown impacts).
- Understand people, process, scope, communication skills, leadership and strategies for team and maintenance management.
- Identify the main assets, project activities, critical paths and their influence on project maintenance risk.
- Implement uncertainty analysis, apply analytics (tornado and sensitivity analysis), run risk quantification, and understand risk profiles to make informed decisions and achieve better business outcomes.

Complemented with case studies and examples, the diploma in FMRRM is endorsed by the IIPER's Certification scheme. Therefore, the FMRRM uses leading risk management technologies provided by OSL Risk Management (UK) and Real Options Valuations (USA) as part of the accredited training program.



**Delivered in Partnership with:**

International Institute of Professional Education and Research (IIPER)

**Supporting Organizations:**

OSL Risk Management (UK), and Real Option Valuations (US)

## Who should attend?

The FMRM is a practical hands-on training for any professional (i.e., engineers, maintenance specialists, project managers, graduates, and students) interested in acquiring technical and practical knowledge in maintenance risk management by using statistical modelling, project risk modelling, risk-based budgeting, data fitting, and risk register and asset management practices.

Following a quantitative perspective, this course will provide fundamental knowledge to ensure that a maintenance campaign is completed within time and budget, as well as fulfilling its goals with minimum disruption.

## Learning outcomes

- Learn the basic concepts of Maintenance Management (i.e., Inspection Plans, Reliability, Predictive and Corrective Maintenance) and Risk Management.
- Understand the importance of defining maintenance scope, including key goals and objectives, milestones and project deliverables, assumptions, general contract management, and project maintenance constraints.
- Learn how to identify risk from maintenance tasks-activities and their interactions to build a Project Network Task Diagram.(Activities and Assets).
- Learn how to identify, assess, quantify and analyse project maintenance risks on cost, schedule and shutdown time to enhance asset integrity management and support strategic decision-making.
- Understand how to run and interpret Monte Carlo simulations and apply risk analytics.
- Understand how to assess ways to mitigate tasks on critical paths, cost and time factors, and maintenance risk drivers.
- Understand the importance of leadership, team building, lessons learned records, team communication and collaboration in a project.

## Delegates will be provided with:

- IIPER's CPD Skills Certificate.
- FMRM support material (pdf files, excel templates, and PEAT-PM models).
- 1-year Full Industry Licenses of Project Risk Management®, Enterprise Risk Management®, and Risk Simulator®

## Course outline

### Day 1: Fundamentals of Maintenance Risk Management

- Introduction to maintenance management
- Introduction to risk analysis
- Teamwork and project engagement (soft skills)
- Asset Integrity Management (Inspection Plans, Reliability Predictive and Corrective Maintenance)
- Case Study and Application

### Day 2: Fundamentals Maintenance Planning

- Starting: project scope, project planning, macro-activities, and project network
- Sequential versus Complex Projects - Project Network Task Diagram (Assets Vs Activities)
- Activity-Based Schedule (ABS) and Activity-Based Cost (ABC) Analysis
- Resource Planning
- Case Study and Application

### Day 3: Dynamic Risk Project Management

- Probabilistic Schedule & Cost Management
- Monte Carlo Risk Simulation & Decision Analytics
- Risk Profile and Project Strategies
- Case Study and Application

### Day 4: Decision-Making Support

- Contingency Analysis and Shutdown Disruptions
- Managerial Flexibility – Plat Shutdowns
- Contract Management
- Assets Vs Plans vs Programs
- Case Study and Application

### Day 5: Group Project and Presentations

- Industry Applications
- Chemical Plant or Shutdown Projects
- Practical Assessment, Report and Presentation

## Training board

### Program Director

**Prof. Dr Elvis Hernandez-Perdomo** is a Senior IIPER-CQRM Certified Trainer with over twenty years of experience in risk management, project management, reliability analysis, corporate governance, economic valuations, and real options in energy-related companies. He is the Director of OSL Risk Management (UK), Senior Risk Specialist at OSL Consulting Engineering, and Senior Executive Consultant at Real Options Valuations, Inc. (ROV - USA), working on real options, risk management, Monte Carlo Risk Simulation, optimisation, and business intelligence analytics.

Dr Elvis has a PhD in Finance (University of Hull), a PhD in Engineering Science, an MSc In Finance, an MSc in Operational Research & Statistics, and a BS in Economics, and is CQRM Accredited and Associated in Business ERP by SAP Corporation. He is also a Visiting Professor and Fellow at the Academy of Higher Education and Energy Institute in the UK, with academic articles published in international peer-review journals in reliability systems, energy markets, engineering, risk, uncertainty, and the like.

### Senior Executive Trainer

**Daniela De Sousa Parisi**, CQRM, MSc., CEng, MICHemE is a Chemical Engineer with over ten years of experience providing consultancy services in process engineering design and modifications as well as project execution for the Oil & Gas, chemical and petrochemical industries.

She also is IIPER-CQRM certified with experience in risk management implementation on engineering projects, project risk management of schedule & cost, risk assessment and quantification during the lifecycle of engineering projects, project economic modelling and Enterprise Risk Management. She is currently working as a Senior Process Engineer at OSL Consulting Engineers (UK) and Risk Engineer at OSL Risk Management (UK).

Daniela is a Chartered Chemical Engineer (IChemE) and Chartered Member of the Engineering Council with a Master's Degree in Chemical Engineering and a Master's Degree in Industrial Engineering and Management. She is also the Chairperson of the IChemE Hull and Humber Members Group (UK).

## Bespoke in-house courses

Bespoke courses can be tailored to the needs of your own organisation and can be held on your premises.

### Course Delivery and Support:

- This accelerated and intensive course will be delivered as follows 9.00-12.00 and 13.00-16.00, with intervals of 10 minutes after each hour of training.
- The instructor will provide a two-hour session after the training (optional) to discuss potential risk quantification approaches and applications to the Client's operational or managerial activities. Please note that these sessions are for clarification, questions & answers, and software support.
- Each participant will receive a 1-year license of the Project Risk Management, Enterprise Risk Management (Risk Registers), and Risk Simulator solution at not additional costs. They will enhance learning-by-doing during and after the training.
- Note that that full packages of licenses has an annual price per user, which is the cost if purchased separately. Visit [www.aeonxgroup.com](http://www.aeonxgroup.com) for further details.



In accordance with sponsors and professional bodies, this training provides a "IIPER Skills Certification" on completion of the course.

**FMRM**  
Fundamentals of  
Maintenance Risk  
Management



## For more information contact

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