
N685: E&P Project Cost Estimation and Control

Instructor(s): Prof. David Newman

Format and Duration

Classroom - 3 Days

Virtual - 5 Sessions

Summary

This course provides participants with an understanding the nature of costs and cost drivers in the E&P industry through the Field Life Cycle. It provides a thorough grounding in the principles of project cost estimation and control for Exploration and Production projects. Different cost estimation classification systems are covered and participants are provided with information about both direct and indirect cost components of projects. Using case studies budgeting principles and cost control strategies are addressed, as well as the approaches to monitoring and controlling project costs. It covers the factors that result in variance in costs through the project phases and emphasises the risk factors that can affect the control of budgets.

Learning Outcomes

Participants will learn to:

1. Appreciate the importance of effective cost estimation and control in E&P projects.
2. Explain the principles of different cost estimation classification systems.
3. Be aware of the direct and indirect cost components of projects.
4. Consider budget and cost control strategies.
5. Be cognisant of approaches to monitoring and controlling project costs.
6. Be able to recognise and manage risks that impact on cost controls.

Training Method

This is a classroom course comprising lectures, discussions sessions, case studies and short practical exercises.

Who Should Attend

The course is suitable for technical and non-technical staff working on projects in the oil and gas industry.

Course Content

1. Introduction

- Overview of the Oil & Gas Industry – Upstream, Midstream Sectors
 - The Industry - Global Market Outlook – Into the Future
- E&P: Exploration, Appraisal, Development, and Production
- Importance of Cost Estimation and Control in E&P Projects

2. Cost Estimation - Basics

- Key Concepts and Definitions: CAPEX, OPEX, DRILLEX and ABEX

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- Influences on Cost Estimates; Geology, Technology, and Market Conditions
- Cost Estimation Classifications: AACE Classes (Class 5 to Class I)
 - Class 5: Concept Screening Estimates
 - Class 4: Study or Feasibility Estimates
 - Class 3: Budget Authorization Estimates
 - Class 2: Control or Bid Estimates
 - Class 1: Definitive Estimates

3. Cost Components in E&P Projects

- Direct and Indirect Costs
 - Drilling Costs (Rig rates, Materials, Logistics)
 - Facilities and Infrastructure Costs – onshore/offshore
 - Labour Costs
 - Environmental and Regulatory Compliance Costs

4. Budgeting and Cost Control Strategies

- Setting Up Project Budgets
- Cost Baseline/ Contingencies/Reserves)
- Cash Flow Forecasting

5. Monitoring and Controlling Project Costs

- Cost Performance Indicators (CPI, SPI)
- Change Management and Cost Variances
- Reporting and Documentation: Cost Reports, Dashboards

6. Cost Estimation – Managing the Risk

- Risk Identification - Technical, Commercial, GeoPolitical, Economic)
- Risk Assessments (QRAs)

7. Case Studies, Software, Course Assessment