CONCEPT

Giga-Project Budgeting, Cost Forecasting and Cost Control for Capital Programmes

Giga-Project Budgeting, Cost Forecasting and Cost Control for Capital Programmes

Technical depth: Practitioner · **Practical mode:** Modelling build

Introduction

Giga-projects commit capital over many years, across dozens of contracts and hundreds of work packages, and small weaknesses in estimating, phasing or change control compound into large overruns. Owners and delivery partners often hold budgets that no longer reflect scope, contingency that is drawn without evidence and forecasts that lag reality. This Core Concept course equips cost and finance professionals to build, phase, forecast and control programme budgets using recognised cost engineering practice. Participants build each element on case data and leave with a Programme Budget and Cost Forecast Model for their own programme.

Course Objectives

- Structure a programme cost baseline using aligned work and cost breakdown structures and a recognised estimate classification
- Phase capital budgets into time-based cash flow forecasts that reflect procurement, contract and payment milestones
- Quantify contingency and management reserve using range estimating and Monte Carlo simulation
- Control commitments, variations and change orders against the baseline and report their forecast impact
- Forecast estimate at completion and funding requirements across packages, contractors and financial years
- Produce a Programme Budget and Cost Forecast Model ready for sponsor and funding review

Target Audience

- Cost managers and quantity surveying leads responsible for package and programme budgets
- Project controls managers overseeing cost, schedule and reporting across multiple contracts
- Finance business partners supporting capital programmes, funding requests and cash planning
- Programme and delivery managers accountable for spend against approved budgets
- Owner-side commercial managers administering contract variations, claims and payments
- PMO leads responsible for consolidated portfolio cost reporting

Course Outline

Day 1: The Giga-Project Cost Landscape and Baseline Readiness

- Optimism Bias and Reference Class Forecasting in Megaproject Estimates
- AACE Total Cost Management Framework: Asset Planning and Project Control Cycles
- Programme Funding Structure: Capex, Opex, Owner Costs and Delivery Partner Fees
- Work Breakdown and Cost Breakdown Structure Alignment Using ISO 21511
- Cost Control Health Check of an Existing Programme Budget

Day 2: Estimating, Budgeting and Governance Standards

- AACE 18R-97 Estimate Classes and Accuracy Ranges at Each Stage Gate
- ISO 21502:2020 Guidance on Project Budgeting and Cost Control
- Life-Cycle Costing to ISO 15686-5 for Capital and Operating Trade-Offs
- FIDIC 2017 Payment, Variation and Price Adjustment Clauses and Their Budget Effect
- Budget Authority and Stage-Gate Funding Release Matrix

Day 3: Phasing, Forecasting and Controlling Cost

- Time-Phased Budget and S-Curve Build from the Integrated Master Schedule
- Cash Flow Forecast Linked to Milestone and Interim Payment Profiles
- Commitment, Accrual and Actual Cost Tracking by Package
- Rolling Forecast and Estimate at Completion Updates Using ISO 21508 Indicators
- Monthly Cost Report: Budget, Commitment, Forecast and Variance Columns

Day 4: Contingency, Change and Cost Risk

- Contingency Estimating Principles Under AACE 40R-08
- Range Estimating and Monte Carlo Simulation Using AACE 41R-08
- Integrated Cost and Schedule Risk Analysis to AACE 57R-09
- Change Order and Variation Control Log with Trend Register
- Escalation, Currency and Commodity Price Exposure in Multi-Year Budgets

Day 5: Modelling Build and the Programme Budget and Cost Forecast Model

- Transport Infrastructure Case: Rebaselining a Budget After Scope Growth
- Mixed-Use Development Case: Cash Flow Peak and Funding Gap Analysis
- Programme Budget and Cost Forecast Model Build for an Own Programme
- P50 and P80 Contingency Recommendation Drafting
- Peer Model Review and Forecast Defence

Skills You Will Gain

- Cost Baseline Development
- Estimate Classification
- Capital Cash Flow Forecasting
- Contingency Determination
- Change and Variation Control
- Cost Risk Analysis
- Commitment Management
- Programme Cost Reporting

Why Attend This Course

- Return to work with a Programme Budget and Cost Forecast Model built on own data and tested in peer review
- Defend contingency levels to sponsors and funders with probabilistic evidence rather than a flat percentage
- Detect budget erosion from unapproved change, escalation and late commitments before it reaches the forecast
- Compare cost control practice with professionals from other sectors and countries who run large capital programmes

Conclusion

Large capital programmes rarely fail on one decision; they drift through many small gaps between scope, estimate, commitment and forecast. This course moves from the cost landscape and baseline, through estimate classification, life-cycle costing and contract terms, to phasing, forecasting and the contingency and change controls that keep a programme within its funding. The final day turns that material into a Programme Budget and Cost Forecast Model that participants take back to their programme, giving them a defensible basis for every budget, forecast and contingency request they present.