CONCEPT

Construction Risk Management and Allocation: Registers, Contingency and Contract Risk

20 September – 1 October 2027
Barcelona - Eixample district four-star



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Introduction:

Construction risk management often stops at a risk register written for tender approval, while ground surprises, design gaps, late permits and supplier failures still land on whichever party signed the weakest clause. Owners overpay for risks contractors cannot control, and contractors price risks they never read. This Core Concept course gives owner, contractor and consultant managers a method to find construction risks, model their cost and programme effect, size contingency and allocate each risk to the party best placed to carry it. Participants build a Construction Risk Register, Quantitative Risk Model and Risk Allocation Matrix for a case project.

Course Objectives:

- Identify construction risks from ground, design, interface, supply chain, weather, permit and stakeholder sources through structured site-focused workshops
- Rate and rank construction risks on calibrated heat maps and select avoid, reduce, transfer or retain responses for each work package
- Build Monte Carlo cost and schedule risk models for a construction programme and set contingency at a chosen confidence level
- Allocate construction risks between owner, contractor and designer according to control, foreseeability and pricing ability across delivery models
- Review ground conditions, change, delay, force majeure and liability cap clauses and the indemnities, bonds and insurance that back them
- Run live risk control through early warning, risk reduction meetings, contingency drawdown and handover risk reviews

Target Audience:

- Owner-side project and development managers who approve budgets, contingency and contract strategy for building and infrastructure schemes
- Contractor commercial and bid managers who price risk at tender and defend margin during delivery
- Consultant cost managers and project controls leads who run risk workshops, registers and quantitative analysis
- Contract managers who draft and negotiate risk clauses, indemnities and security instruments
- Construction and delivery managers who own site risks, early warnings and handover readiness

Course Outline:

Day 1: Construction Risk Sources and Party Perspectives

- Construction Risk Taxonomy: Ground, Design, Interface, Supply Chain, Weather, Permit and Stakeholder Sources
- Owner, Contractor and Consultant Risk Perspectives Across Feasibility, Tender, Build and Handover
- Ground Investigation Adequacy Review and Geotechnical Baseline Reporting
- Design Maturity Gaps, Interface Registers and Utility Diversion Exposure
- Permit, Site Access and Third-Party Consent Dependency Mapping

Day 2: Risk Identification Workshops and the Construction Risk Register

- Risk Workshop Facilitation with Prompt Lists, Site Walkdowns and Constructability Reviews
- Cause-Risk-Consequence Wording for Construction Risk Statements
- Construction Risk Register Fields: Owner, Trigger, Proximity, Response and Residual Rating
- Opportunity Capture Through Value Engineering and Temporary Works Alternatives
- Package-Level Risk Mapping Against Trade Packages and Work Fronts

Day 3: Qualitative Assessment, Heat Maps and Response Planning

- Probability and Impact Scales Calibrated to Cost, Programme, Safety and Reputation
- Heat Map Construction and Risk Ranking by Work Package
- Scoring Bias Checks: Anchoring, Optimism and Groupthink in Site Teams
- Avoid, Reduce, Transfer and Retain Response Options for Site Risks
- Risk Action Plans with Trigger Dates Linked to the Construction Programme

Day 4: Quantitative Cost and Schedule Risk Analysis

- Three-Point Estimates for Quantities, Rates and Activity Durations
- Monte Carlo Cost Risk Model Build with Correlation Between Trade Packages
- Schedule Risk Analysis on the Construction Programme: Merge Bias and Critical Path Drivers
- Integrated Cost and Schedule Risk Outputs: S-Curves, Tornado Charts and Confidence Levels
- Weather Downtime and Productivity Loss Modelling for Earthworks and Concrete Pours

Day 5: Contingency Setting and Week-One Guided Case

- Contingency Build-Up: Design Allowance, Construction Contingency and Owner Reserve
- Confidence Level Selection and Contingency Ownership Between Owner and Contractor
- Contingency Drawdown Rules, Transfer Log and Release at Milestones
- Guided Case: Hospital Extension Risk Register and Heat Map
- Guided Case: Highway Interchange Cost and Schedule Risk Run

Day 6: Risk Allocation Principles and Delivery Models

- Allocation Principles: Control, Foreseeability, Pricing Ability and Cost of Transfer
- Traditional Design-Bid-Build Versus Design-Build Risk Profiles
- EPC Lump-Sum Turnkey and Management Contracting Risk Positions
- Alliancing and Collaborative Contracts: Pain-Gain Share and Shared Risk Pools
- PPP Risk Matrices: Construction, Availability and Demand Risk Between Authority and Project Company

Day 7: Risk Clauses in Standard Contract Forms

- Unforeseeable Ground Conditions Clauses and Baseline Reports as Allocation Tools
- Change and Variation Mechanisms as Risk Re-Pricing Routes
- Delay, Extension of Time and Delay Damages Caps
- Force Majeure and Exceptional Event Clauses: Triggers, Notices and Consequences
- Limitation of Liability, Consequential Loss Exclusions and Overall Caps

Day 8: Risk Transfer Instruments and Risk in Tender Pricing

- Indemnity Clauses: Scope, Carve-Outs and Mutual Hold Harmless Structures
- Performance, Advance Payment and Retention Bonds as Credit Risk Cover
- Insured Versus Retained Risks in the Allocation Matrix
- Tender Risk Pricing: Priced Risk Items, Qualifications and Clarifications
- Bid-No-Bid Review of Onerous Clauses and Contractor Risk Premium Setting

Day 9: Live Risk Control, Handover Risk and Lessons Learned

- Early Warning Notices and Risk Reduction Meetings Between Owner and Contractor
- Monthly Risk Review Cycle: Register Refresh, Trend Tracking and Contingency Burn Rate
- Risk Performance Indicators: Retired Risks, Realised Risks and Contingency Variance
- Commissioning and Handover Risk: Incomplete Systems, Operator Readiness and Defects Exposure
- Lessons Learned Capture Fed Back into Future Allocation Matrices

Day 10: Capstone: Risk Register, Quantitative Model and Allocation Matrix

- Capstone Case Pack Review: Water Treatment Plant or Mixed-Use Tower Scope, Programme and Contract Extracts
- Capstone Construction Risk Register and Heat Map Build
- Capstone Quantitative Cost and Schedule Risk Model with Contingency Recommendation
- Capstone Risk Allocation Matrix Across Owner, Contractor, Designer, Insurer and Surety
- Capstone Presentation to a Mock Project Board with Peer Challenge

Skills You Will Gain:

- Construction Risk Identification
- Heat Map Risk Ranking
- Monte Carlo Cost Risk Modelling
- Schedule Risk Analysis
- Contingency Sizing and Drawdown Control
- Delivery Model Risk Profiling
- Contract Risk Clause Review
- Tender Risk Pricing

Why Attend This Course:

- Leave with a Construction Risk Register, Quantitative Risk Model and Risk Allocation Matrix built on a case project and ready to adapt
- Defend contingency figures to boards and lenders with confidence levels instead of flat percentages
- Spot risk shifts hidden in delivery model choices and contract clauses before tender or signature
- Compare practice with owners, contractors and consultants from building, transport, water and energy schemes

Conclusion:

Risk on a construction project is carried by someone whether or not it was planned. Week one moves from construction risk sources, workshops and registers through heat maps and Monte Carlo cost and schedule analysis to contingency setting and a guided case. Week two adds what a shorter course leaves out: allocation principles across delivery models, risk clauses, indemnities, bonds and tender risk pricing, then live control, handover risk and lessons learned. The capstone produces a Construction Risk Register, Quantitative Risk Model and Risk Allocation Matrix for a case project.