



10-Day Construction Delay Analysis for Project Success



AGILE LEADERS
Training Center

10-Day Construction Delay Analysis for Project Success

Course Overview

The Advanced Construction Delay Analysis & Claims Management Training Course is an intensive 10-day program designed to develop the technical, contractual, and analytical capabilities required to investigate construction delays, evaluate schedule impacts, establish entitlement, quantify disruption, and prepare defensible delay claims.

The course takes participants from construction programming and Critical Path Method principles through advanced forensic delay analysis techniques, including As-Planned vs As-Built, Impacted As-Planned, Time Impact Analysis, Windows Analysis, and Collapsed As-Built analysis.

Participants examine how baseline quality, schedule updates, contemporaneous records, critical path movement, float, concurrency, and causation affect the reliability of a delay assessment. Particular attention is also given to Extension of Time claims, disruption and productivity loss, measured mile analysis, prolongation costs, global claims, acceleration, and delay mitigation.

The program incorporates the principles of the SCL Delay and Disruption Protocol and connects analytical findings with contractual administration, claims preparation, expert reporting, and dispute resolution.

Practical construction scenarios and schedule-based case studies are integrated throughout the program, enabling participants to progress from identifying a delay event to preparing and presenting a structured forensic delay analysis.

Target Audience

- Project Managers and Construction Managers
- Planning and Scheduling Engineers
- Delay Analysts and Forensic Schedulers
- Contract Managers and Contract Administrators
- Claims Managers and Claims Consultants
- Quantity Surveyors and Cost Engineers
- Construction Engineers
- Commercial Managers
- Project Controls Professionals
- Construction Lawyers and Dispute Specialists
- Consultants and Employer Representatives

Targeted Organizational Departments

- Project Management
- Project Controls and Planning
- Contracts and Procurement
- Commercial Management
- Claims Management
- Engineering and Construction
- Legal and Dispute Resolution
- Cost Control
- Risk Management
- PMO and Programme Management

Course Objectives

By the end of this 10-day training course, participants will be able to:

- Classify construction delays according to criticality, responsibility, excusability, and compensability.
- Understand contractual entitlement to Extension of Time and delay compensation.
- Develop, review, and validate construction programmes for forensic delay analysis.
- Apply Critical Path Method principles, float calculations, constraints, and schedule logic.
- Identify delay events and establish reliable contemporaneous records.
- Analyse cause, effect, responsibility, and critical path impact.
- Apply As-Planned vs As-Built and Impacted As-Planned methodologies.
- Perform Time Impact Analysis and Windows Analysis.
- Apply Collapsed As-Built and other retrospective delay analysis techniques.
- Evaluate concurrent delays and float-related issues.
- Select an appropriate delay analysis methodology based on available project information.



Training Methodology

The program combines:

- Instructor-led technical sessions
- Construction delay case studies
- Programme and schedule analysis
- CPM calculation exercises
- Delay-event analysis
- Practical forensic methodology demonstrations
- Claims evaluation scenarios
- Graphical schedule presentations
- Group discussion and expert review
- Integrated final delay-analysis case study

Course Toolbox

Participants will work with practical approaches covering:

- Construction programme review
- Baseline validation
- CPM and critical path calculations
- Delay-event registers
- Schedule update assessment
- Delay analysis method-selection criteria
- As-Planned vs As-Built analysis
- Time Impact Analysis
- Windows Analysis

Course Agenda

Day 1: Construction Delays, Entitlement & Claims Fundamentals

- **Topic 1:** Construction delay concepts, causes, and project impacts
- **Topic 2:** Critical and non-critical delay classification
- **Topic 3:** Excusable, non-excusable, and compensable delays
- **Topic 4:** Employer, contractor, and third-party delay responsibility
- **Topic 5:** Extension of Time entitlement and contractual principles
- **Topic 6:** Delay claim lifecycle from event identification to resolution
- **Reflection & Review:** Delay classification, responsibility, and entitlement assessment



Day 2: Construction Programming, CPM & Baseline Validation

- **Topic 1:** Construction planning, WBS, and programme development
- **Topic 2:** Activity durations, dependencies, and sequencing logic
- **Topic 3:** Critical Path Method and network calculations
- **Topic 4:** Forward pass, backward pass, and event-date calculations
- **Topic 5:** Total float, constraints, milestones, and critical activities
- **Topic 6:** Baseline validation and programme integrity assessment
- **Reflection & Review:** Evaluating whether a programme is suitable for delay analysis

Day 3: Delay Identification, Records & Schedule Evidence

- **Topic 1:** Identifying and defining delay events
- **Topic 2:** Progress monitoring and schedule update techniques
- **Topic 3:** Contemporaneous records and evidentiary requirements
- **Topic 4:** Notices, correspondence, RFIs, changes, and progress records
- **Topic 5:** Linking delay cause, schedule effect, and responsibility
- **Topic 6:** Preparing a structured delay-event chronology
- **Reflection & Review:** Building reliable evidence for delay claims

Day 4: As-Planned vs As-Built & Impacted As-Planned Analysis

- **Topic 1:** Principles of As-Planned vs As-Built analysis
- **Topic 2:** Reconstructing and validating As-Built information
- **Topic 3:** Comparing planned and actual project performance
- **Topic 4:** Identifying critical deviations and delay periods
- **Topic 5:** Impacted As-Planned methodology and fragnet insertion
- **Topic 6:** Practical comparative delay-analysis case study
- **Reflection & Review:** Strengths, limitations, and appropriate applications of comparative methods



Day 5: Time Impact Analysis & Windows Analysis

- **Topic 1:** Principles and structure of Time Impact Analysis
- **Topic 2:** Selecting appropriate schedule updates and data dates
- **Topic 3:** Developing and inserting delay-event impacts
- **Topic 4:** Windows and time-slice analysis methodology
- **Topic 5:** Tracking critical path movement across analysis periods
- **Topic 6:** Practical Windows Analysis and TIA application
- **Reflection & Review:** Prospective and contemporaneous delay-analysis techniques

Day 6: Collapsed As-Built & Advanced Forensic Methods

- **Topic 1:** Introduction to retrospective forensic schedule analysis
- **Topic 2:** Collapsed As-Built methodology and delay extraction
- **Topic 3:** Additive versus subtractive delay-analysis approaches
- **Topic 4:** As-Built based forensic analysis techniques
- **Topic 5:** Strengths and limitations of advanced methodologies
- **Topic 6:** Selecting the appropriate delay-analysis method
- **Reflection & Review:** Matching analysis methodology to project records and claim circumstances

Day 7: Critical Path, Float & Concurrent Delay

- **Topic 1:** Advanced critical path assessment in delayed projects
- **Topic 2:** Critical path changes during project execution
- **Topic 3:** Total float ownership and float consumption
- **Topic 4:** Float-related delay claims and contractual implications
- **Topic 5:** Concurrent delay principles and causation assessment
- **Topic 6:** Practical concurrency and critical-path analysis
- **Reflection & Review:** Allocating delay responsibility where multiple events overlap

Day 8: Disruption, Measured Mile & Delay Cost Claims

- **Topic 1:** Distinguishing delay from disruption
- **Topic 2:** Establishing causation in disruption claims
- **Topic 3:** Productivity loss and disruption quantification
- **Topic 4:** Measured Mile Analysis and productivity comparison
- **Topic 5:** Prolongation costs and delay compensation calculations
- **Topic 6:** Total cost claims, modified total cost, and global claims
- **Reflection & Review:** Linking time impacts, productivity loss, and financial entitlement



Day 9: SCL Protocol, Mitigation & Acceleration

- **Topic 1:** Principles of the SCL Delay and Disruption Protocol
- **Topic 2:** Prospective versus retrospective delay assessment
- **Topic 3:** SCL guidance on records, float, concurrency, and EOT
- **Topic 4:** Delay prevention, mitigation, and recovery planning
- **Topic 5:** Acceleration strategies and associated cost implications
- **Topic 6:** Problematic issues and practical approaches to mitigating delays
- **Reflection & Review:** Applying recognised delay-management principles to live projects

Day 10: Delay Reporting, Claims Presentation & Integrated Case Study

- **Topic 1:** Structuring a professional forensic delay analysis report
- **Topic 2:** Graphical presentation of schedules, events, and critical paths
- **Topic 3:** Integrating time, causation, responsibility, and cost findings
- **Topic 4:** Preparing defensible delay and disruption claims
- **Topic 5:** Presenting findings in negotiation and dispute proceedings
- **Topic 6:** Integrated construction delay analysis case study and presentation
- **Reflection & Review:** Full-course integration and professional delay-analysis readiness

FAQ

What specific qualifications are needed before enrolling?

A background in project management, construction, or contracts is preferred. Scheduling or claims experience will enhance understanding.

How long is each day's session and total duration?

Each session lasts 4-5 hours, including interactive workshops and exercises. The total course spans 10 days 40-50 hours.

Does the course include practical software demonstrations?

Yes, participants will use MS Project and similar tools to perform delay analysis methods in construction and project scheduling and delay management exercises.



How This Course is Different from Other Delay Analysis Programs

This 10-day program combines forensic delay analysis, construction scheduling, claims management, disruption, and contractual entitlement in one advanced course. It covers key methods such as As-Planned vs As-Built, Time Impact Analysis, Windows Analysis, Collapsed As-Built, concurrency, float, and Measured Mile Analysis.

Unlike basic delay courses, it also addresses Extension of Time claims, prolongation costs, mitigation, acceleration, SCL Protocol principles, and professional delay reporting through practical case studies and schedule-based exercises.



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