Contract Planning, Tendering & Bidding, Scheduling, Costing, Budgeting & Controlling, Site Management, Claim & Variation Administration and Close-Out

(ECCM Workshops 1, 2, 3 & 4) – Certified Program

Description:
Today’s competitive and complex construction industry requires careful consideration in the formation of the construction contract to ensure that it is equitable, the specifications and timetable are feasible, and that liability and obligations are clearly defined. Properly prepared contractors, subcontractors, architects, engineers, and developers can thus avoid anticipated problems, reduce performance disputes and receive payment for work performed.

Deciding who is best suited to conduct the various parts of the work, and negotiating appropriate contract terms and conditions are very important elements of the project strategy. The preparation, bidding, negotiation and contract award phases are usually a short but vital part of the selected project delivery method.

Scheduling project activities is one of the most important elements of project management, along with identifying project costs which are a function of its duration. Understanding and establishing such a relationship is very important to calculating the cost impact of project acceleration and compression. Efficient resource management is also essential to control project costs, so it is very important to establish the resources needed and their profile, and perform resource leveling and allocation to meet the schedule needs.

This course is also designed to systematically cover the developmental subjects vital to training competent contract and field administrators to manage time, cost, documentation and disputes during this important phase. Field administration is a critical process in achieving successful facility construction. Most organizations cannot
afford the personnel time to apprentice a field administrator-in-training. This course will focus on the legal, technical and personal responsibilities involved in observation, supervision, and coordination of on-site construction, as well as contract close-out, all of which are essential in administering the contacts required by today’s complex projects.

Emphasis will be given to using the civil law code as the legal framework of the contract, and the applied concepts will be outlined.

**Objectives:**

The aim of this course is to enhance the awareness of consultants, employee engineers, architects and surveyors regarding their rights, responsibilities and legal liabilities and the methods of managing risk to achieve their project objectives. It will also give a broad overview of legal problems encountered by construction professionals in the industry.

This course will also provide comprehensive instruction on key issues which public-sector and private-sector contracting authorities and contractors need to focus their attention, from early planning to contract tendering and awarding, with emphasis on the applicable law. The issues considered include the definition of objectives, analysis of risks and likely costs; possible contract structures and types of pricing; technical and financial evaluation of potential contractors; invitations to tender; important contractual terms and conditions; preparation and submission of bids; evaluation of bids; and contract award.

The techniques for scheduling a project, how to establish time-cost relationships, resource management methods, different types of cost estimates, and expanding one’s cost estimating skills will also be explained. Practical examples will be given to increase familiarity with the various methods and their components, with the goal of preparing cost estimates, budgets and project schedules as accurately as possible.

Finally, this course will also teach you how to identify management responsibilities, develop your communication skills, learn effective administrative responsibilities, understand legal requirements, structure effective record-keeping methods, and promote good organizational and contract close-out procedures.

**After participating in this course, you will be able to:**

- **Examine** claims arising from construction
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- **Distinguish** clearly among the roles and obligations of the contractor/consultant/employer/contract manager
- **Protect** yourself in construction contracts by applying the knowledge gained from this course
- **Analyze** special risk and liability issues
- **Apply** your knowledge to manage construction projects
- **Know** your legal responsibilities as architect, engineer, contract manager or consultant
- **Minimize** your exposure to liability
- **Learn** steps that you must take to protect yourself when involved in a lawsuit
- **Conduct** the contract preparation and bidding to the contract award process with the knowledge of the relative responsibilities of each party involved
- **Pre-qualify** bidders using the qualifications suited to your project
- **Distinguish** among the types of bid calls and types of contracts
- **Use** knowledgeably bonds and insurance
- **Make** productive use of the bidding period while the contractor is putting together a bid
- **Reduce** surprises with the knowledge of how contractors approach the preparation of their bid, what are their criteria for mark-ups, and what procedures they use to assemble and finalize the bid
- **Use** new methods of bidding being contemplated by the industry
- **Deal** appropriately with the low bid when it exceeds the owner’s available financing
- **Select** a contractor and get construction underway without delay.
- **Understand** scheduling techniques and cost estimation methods
- **Differentiate** between the various types of activities, floats and cost estimates
- **Prepare** a budget cost estimate, project schedule, and project cash flow
- **Identify** building system alternatives and critical activities in a project and the time-cost relationship
- **Understand** life cycle costing and resource management
- **Expand** your cost estimating understanding and project scheduling skills
- **Perform** project time analysis and cash flow, cost and schedule control, resource allocation and leveling
- **Identify** management responsibilities
- **Use** effective communication skills
- **Understand** effective administrative responsibilities
- **Understand** legal requirements
- **Structure** and use effective record-keeping methods
- **Promote** good organization procedures
- **Avoid** dispute and claims

**Who Should Attend**
Contractors, sub-contractors, architects, engineers, employers, developers, supplies, contract managers, consultants, specification-writers, government-employees, public-sector employees, public institutions, financiers, bankers, legal advisors, arbitrators, insurance agents, Buyers of construction; owners, developers, plant managers, real-estate building managers; officials of government agencies responsible for bid calls; architects, building design engineers, civil engineers, interior designers, project managers, contract administrators, manufacturers, suppliers; officers of construction associations, officers of project management firms and construction management firms; bonds and insurance providers; lawyers, arbitrators, mediators, as well as related university and technical college lecturers and students, Project Managers, Architects, Engineers, Construction Managers, Design and Construction Professionals, architects, engineers, contractors, owners and government agencies; construction inspectors, construction managers, project managers; and others responsible for effective field administration in building construction.

**Course Director**

**Prof. Sami M. Fereig, B.Sc. (Hons), M.Sc., M.A. Sc., Ph.D., P.Eng., F.ASCE**

Prof. Sami M. Fereig has over forty years’ experience in structural engineering, construction engineering and management, and construction dispute management. He has practised in both North America and the Middle East, and is actively involved in construction contract administration and project and dispute management with a number of organizations, including public-sector and private-sector companies in engineering and construction. He is the Director of the Certificate Program in Conflict Management for Project and Contract Managers at Conrad Gebel University College at the University of Waterloo, Canada. He was, for 28 years, a professor of civil engineering and construction management at Kuwait University. He has numerous publications in his various areas of specialization, including a five-volume set of textbooks covering all aspects of contract management (in Arabic). He is a member of the ADR Institute of Ontario, the Professional Engineers of Ontario, AACE International, PMI, and a Fellow of the American Society of Civil Engineers. For more details, visit Prof. Sami’s website at [www.prof-sami.com](http://www.prof-sami.com).

**Course Curriculum:**

Day 1
Managing Construction Risks
- Project Life Cycle
- Reviewing the Fundamentals of Project Risk Management
- Risk Identification and Classification
- Risk Priorities
- Risk Allocation
- Contractual Risk Allocation
- Reducing Risk When Selecting Construction Projects
- Contractual Risk Management
- Case Study

Day 2

Legal Aspects of Construction Contracts:
The Law of the Contract: Civil Law, Common Law, Administrative Law
- Basic Contract Law
- Basic Principles: Mandatory and Complementary Rules in Civil Law
- Elements of Contracts
- Sources of Obligation under Civil Law
- Enforceability of Contracts
- Principles of Interpretation
- Damages
- Force Majeure
- Unforeseen Conditions
- Assignment of Rights
- Redemption of Breach
- Limitation Period
- Warranties
- Notice Requirements
- Case Study

Day 3

Parties’ Obligations
- Types of Relationship: Contractor, Agent and Employer
- General and Particular Conditions
- Obligations of the Parties: Contractor, Designer, Employer, Contract Manager
- Role of the Engineer in Construction Contracts
- Change Clauses
- Time is of the Essence
- Case Study
- Conclusion

Day 4

Introduction and Participants’ Objectives
- Characteristics of the Construction Industry
- Importance of Tendering in the Construction Industry
- Tendering Systems

Preparing Construction Documents
- Project Manual Concept
- Forms of Agreement
- Conditions of Contract
- Master Format Overview
- Section Format Overview
- Page Format Overview
- General Requirements – Division One
- Methods of Specification
- Specification Writing
- Substitutions
- Submittals

Bid Documents
- Invitations to Bid
- Instructions to Bidders
- Information Available to Bidders
- Bid Forms and What They Represent
- Supplementary Bid Forms
- Attachments to Bid Forms
- Unit Prices, Alternate Prices, Separate Prices, Itemized Prices, Identified Prices-1
- Nominated Sub-Contractors and Manufacturers
- Contract Price/Contract Time-1
- Privilege (Exculpatory) Clauses-1
• Form of Contract/General and Supplementary Conditions
• Case Study

Day five & six are weekends

Day 7
Selecting Contracting Strategies and Procurement Methods
• Standard Forms
• Stipulated Price Contracts
• Unit Price Contracts
• Cost-Plus-A-Fee Contracts
• Design-Build Contracts
• Construction Management Contracts
• Selecting an Appropriate Form of Procurement to Minimize Disputes
• Designing a Dispute Resolution System

Bonding and Insurance Requirements
• Differences between Bonds and Insurance
• Bid Bonds
• Performance Bonds
• Other Bonds
• Case Study

Day 8
Pre-Award Considerations
• Importance of Pre-Award Meeting
• Employer-Supplied Materials, Equipment and Services
• Bid Bonds

General Aspects of Tendering, Bidding and Awarding
• Advertisements for Bids on Public Works Projects
• Advertisements for Bids in the Private Sector
• Pre-Qualification
• Value Engineering
• Constructability Review
• The Decision to Bid
• Plan Deposit
• Bidding (Estimation) Period
• Accuracy of the Bidding Information
• Instructions to Bidders
• Addendum
• Bid Form
• Modification and Withdrawal of Bids
• The Award
• Mistakes in Bids
• Case Study
• Conclusion

Day 9
• The Art of Planning
• Fundamentals of Project Time Management
• Establishing the Project and Work Breakdown Structure
• Developing the Schedule
• Project Network Logic
• Arrow Diagram and Precedence Diagram
• Case Study

Day 10
• Time Analysis
• Critical Path and Floats
• Bar Charts
• Time-Cost Relationship
• Project Compression and Acceleration
• Resource Planning, Leveling, and Allocation
• Project Controlling and Monitoring
• Case Study

Day 11
• Introduction to Estimating
• Types of Estimates
Day 12

- Cost Management Process in Planning and Design
- Introduction to Project Budgeting and Concept Estimating
- Budget Estimating Approaches
- Parametric Systems Budget Estimate
- Concept Design Estimating Approaches
- Life Cycle Costing (LCC)
- Value Engineering
- Cash Flow Analysis
- Conclusion

Day 15

Project Documentation and Control Systems

- Contract Administration in the Field
- Roles of the Parties
- Legal and Contractual Roles
- Pre-Construction Activities
- Keeping Good Records
- Definition of Records
- Hierarchy of Records
- Types of Records
- The Record as a Constructive Tool in Disputes

Thirteen & fourteen are weekends
• Construction Documents as Pivotal Communication Records and Tools
• Keeping Conference and Meeting Records
• The Documentation Process

Organization of Forms for the Field Administrator’s Record System

• Designing the Record Forms:
  - Essential Elements: Lean and Effective
  - Processing the Form
• Standard Pre-printed Forms:
  - What’s Available
  - Source
• Application of Forms for Specific Uses
• On-Site Coordination Meetings and Communication
• Measures to Minimize Disputes
• Documenting Possible Claim Activity
• Claim Protection and Mitigation
• Case Study

Day 16

The Legal and Contractual Role of the Field Administrator

• As the Employer’s Representative: Centre for all Communications
• As an Observer: To Monitor the Progress of Work
• As a Certifier: Of Progress Payment, Substantial Completion
• As an Interpreter: Clarifier of Contract Documents
• As a Modifier: Changing Orders and Making Minor Change Orders
• As a Judge: Responsibility of Separate Primes
• As an Arbitrator: Disputes between Employer and Contractor
• As an Evaluator: Shop Drawings and Samples
• As an Inspector: Punch List Preparation

Communications among the Participants during Construction Phase

• Basis for all Communication
• The “Chain of Command”
• The Formal vs. the Informal
• The Implied vs. the Explicit
Day 17

Substantial Completion and Project Hand-Over

- Commissioning and Handing-Over
- Substantial Completion
- Preparation of Punch List
- Starting of Systems
- Conclusion

Course Language : English/Arabic
Course Manual: English
Course Fee : US$ 4,950