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بروجاكس للتدريب والتطوير  
Projacs Training and Development

# Construction Supervision and Quality Control Skills

A Member of:



PROJACS ACADEMY



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## Introduction

Construction supervision skills are essential skills for implementing the project execution strategy and plan. On the other hand, QA/QC activities are important that the constructed facility shall meet the requirement for which it has been built. The supervision team, the QA/QC team, together with project controls team and commercial team cooperate together to deliver the project according to the agreed upon quality level, within budget and schedule constraints. This training course will emphasize the importance and relevance of efficient and practical strategies necessary to achieve competency for professionals involved in Construction Supervision and QA/QC of civil works.

For the successful delivery of projects, supervision teams have to understand the **managerial and technical** supervision and QA/QC skills. Construction job sites have to be managed and supervised well and risk free to ensure the likelihood of project success. There is potentially high risk and impact if it is not managed and supervised effectively or if the quality objectives are not met leaving dissatisfied customers.

## Objectives

**At the end of the course, the attendees should be able to:**

- Understand the roles and responsibilities concerning construction supervision
- Learn how to use different tools to prepare for the pre-construction activities
- Learn how to use different tools applied in the construction activities of civil works to deliver construction project successfully
- Learn how to use different tools for orderly close the project during the post-construction
- Learn the components of contractor's quality plan, and how to review it according to specification requirements.
- Learn how to implement QC activities like inspection and testing
- Learn how to use auditing and other QA tools.

## Who Should Attend?

This course is targeted for civil engineers and staff involved in construction delivery, QA/QC staff, project administration, site management, and construction management.

### In What Industries:

Engineering and Construction, Government, Real Estate Development, Oil and Gas\ Petrochemical, Power and Water Utility Plants

## Course Outline

### Day 1:

#### Introduction

- Construction project phases from inception to closure
- Project phases from the owner and contractor perspectives
- General roles of the project parties

#### Part I: Administration of the Pre-construction Activities

- Reviewing contract documents and the selected project strategy
- Division of Responsibility (DOR) including the duties of the construction team
- Pre-construction meeting
- Construction Method Statement
- Construction Planning and scheduling
- Risk planning and assessment
- Risk treatment and management
- Contractor / Subcontractor management
- Contractor's HSE Plans
- Filing System / Correspondence and Correspondence Control
- Insurance and Bonds
- Surveying works
- Soil Investigations
- Site coordination
- Site Layout
- Mobilization

**Day 2:**

**Part II: Administration of the construction Activities**

- Project Diary
  - Field inspections for various **civil works** and Field records
  - Technical submittal types and approvals process for civil works
  - Shop-drawings Submittals
  - Material Submittals for civil works
  - Material management
  - Labor management and optimization
  - Logistics Management
  - Requests for Information (RFI'S)
  - Variations, Changes and Claims
  - Back charges
  - Establishing Project Communication System
  - Types of report and report preparation
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**Day 3:**

**Part II (Continued)**

- Progress Review and Coordination Meetings
- Progress Measurement and Payment
- Health, Safety, and Environmental Plans

**Part III: Administration of the Post-construction Activities**

- Project acceptance / Contract Closeout
  - As-Build Drawings / Manuals
  - Project Closure report / Evaluation of subcontractors
  - Beneficial Occupancy
  - Substantial Completion
  - Punch List
  - Warranty
  - **Work Shop I: Preparation of a checklist for the post-construction phase**
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**Day 4:**

**Part IV: QA/ QC for Civil Works:**

- Reading and understanding the specifications
- Quality requirements according to CSI Master Format, Section 014000
- Contractor's QA/QS systems and plans
- Contractor's QA/QC organization
- Roles and responsibilities of the quality team
- Field laboratory qualifications

- Test Agency Qualifications
  - Schedule of Tests and Inspections
  - Acceptance of works conforming works
  - Rejection of non-conforming works
  - Non- Conformance Notice / Report
  - Test and inspection logs
  - Quality reports and documents to be submitted
  - Repair and protection of works
  - Quality Assurance: Auditing activities and reports
  - Quality Surveillance for **civil works** (inspection of excavation, fill works, formwork, steel placing, concreting, road compaction, plastering, painting, etc)
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**Day 5:**

**Part IV: QA/ QC for Civil Works (continued):**

- Testing of construction and civil works:
- Cement and aggregate Tests
- Testing mixing and curing water
- Testing of concrete additives (accelerators, retarders, etc)
- Tests of Steel reinforcements
- Tests for fresh concrete
- Tests for hardened concrete
- Tests for concrete elements
- Most important geotechnical tests
- Most important Water supply Pipe tests
- Most important Tests for sewage works
- Most important Tests for moisture and thermal works

**General Review / Q and A session**

- Review of a sample of Construction Project Admin Manual (CPAM)
- Q and A

## Course Director

**Ahmed Saleh Mokhtar, BSc. Eng, MSc. Eng, PMP, PMI-RMP,  
Registered Construction Management Consultant and Trainer**

*Member of PMI, AACE, Egyptian Engineers Society, Saudi Council of Engineers, Egyptian PM Society, Management Engineering Society*

**Education: Bachelor of Science in civil engineering, with honors, Egypt 1983**

**Master of Science in Construction Management, Grade 1, Germany, 1991**

Ahmed is a civil Engineer with 33 year-experience as senior consultant in the areas of project management, construction management, claims management and business process management, as well as trainer with public and private sector organizations in Egypt, Germany, Saudi Arabia, Oman, Jordan, Kuwait and the UA Emirates covering projects in construction, Oil & Gas, international Development, and Government sectors. He worked also with international organizations such as UN-ILO (IAS project) and European Commission (TVTC project) in Egypt.

Ahmed is a Registered Consulting Engineer (RCE) by the Civil Engineering Department of the Egyptian Society of Engineers 1999. He also got his Project Management Professional (PMP) Certification in 1999 and Risk Management Professional (RMP) Certification in 2012 from the Project Management Institute (PMI) in the USA.

Ahmed is currently providing consulting and training services in the following fields:

- Various Construction Management (CM) and supervision topics,
- Project Management,
- Project Risk Management,
- Construction Contracts & contract management
- Claims management and Delay analysis
- PMO Setup and implementation
- PM Maturity Assessment and Improvement
- Business Process Reengineering (in PM / CM)
- Balanced Scorecards (BSC) implementation in project-based organizations

Currently, Ahmed is providing a 4-Week Development Program for Saudi Engineers (IKTIFAA) program: 1- Managing Projects, Consultants and Contractors, 2- Construction Site Supervision and Management, 3- Project Planning and Scheduling, and, 4- PMP Exam Preparation Course.

Ahmed has been selected by the Ministry of Housing and Urban Development in Egypt as member of the national committee for issuing a new code of practice for construction project management in Egypt (2007-2009) and its subsequent updates (2012 to date). He assisted the ministerial committee for Bid evaluation and negotiating the Greater Cairo Waste Treatment Project with a budget of one billion EGP in 1999.

Ahmed was previously engaged as visiting lecturer teaching project management in the Graduate School for Management, Arab Academy for Science and Technology, as well as in the 6 October University, and Helwan University in Cairo. He provided more than 150 public and customized training courses for several industries, as well as for the UN and the European Commission, cooperating with well-known regional and international training providers such as Projacs, Amieadest, CMCS, American University (AUC), Insignia, PMI- Arabian Gulf Chapter, Bernard KSA, and PromaStar Saudi in the Gulf region. He was also member of the Curricula development team in the International Labour Organization (ILO), America-Middle-East (Amideast) organization and in Promastar.

From Jan 2004 to 2007, he was the **consulting director and the technical Board Member at PromaStar for Project Management and IT** with offices in Cairo, Riyadh and Dammam, responsible for all projects starting from business development, to implementation and closure. He has a main role in managing PromaStar's projects at Saudi Telecom, Jeddah Municipality, Saudi MOI, MobiServe Holding, Al-Zakary Real-estate in Riyadh, Al-Saad Contracting in Jeddah, and Libyan Steel Company in Misratah. [https://en.wikipedia.org/wiki/Al-Azhar\\_Park](https://en.wikipedia.org/wiki/Al-Azhar_Park)

From 1998-2003, he was working as **director of project management division in EPM Consultancy**, covering several projects including the renovation of the Historical Cairo Library (Darulkutob) and as project manager for Al-Azhar Park Project, a multi-million land-mark project in Cairo financed by AKTC (Switzerland).

Between 1990 and 1998, he worked in Germany in the **project management division of the consulting Office Faulenbach** managing several industrial and residential construction projects. From 1985 to 1989, he was working in Egypt as research and teaching assistance in the quality control department of the Housing and Building Research Center.

Ahmed is a chartering member of the Egyptian Project Management Society (EPMS) and a Member of the Management Engineering Society (MES), the local part of the International Project Management Association (IPMA). He is a current member of the AACE, and the Project Management Institute (PMI), USA, and served as member of Board of Directors and VP of PMI's Chapter Middle East / North Africa (PMI-MENA).

### Training Method

- Pre-assessment
- Live group instruction
- Use of real-world examples, case studies and exercises
- Interactive participation and discussion
- Power point presentation, LCD and flip chart
- Group activities and tests
- Each participant receives a binder containing a copy of the presentation
- slides and handouts
- Post-assessment

### Program Support

This program is supported by interactive discussions, role-play, case studies and highlight the techniques available to the participants.

### Schedule

**The course agenda will be as follows:**

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|---------------------|------------------|
| • Technical Session | 08.30-10.00 am   |
| • Coffee Break      | 10.00-10.15 am   |
| • Technical Session | 10.15-12.15 noon |
| • Coffee Break      | 12.15-12.45 pm   |
| • Technical Session | 12.45-02.30 pm   |
| • Course Ends       | 02.30 pm         |

### Course Fees\*

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*\*VAT is Excluded If Applicable*