

Design Management – Case Study and Workshop

Certified Program

إدارة أعمال التصميم للمهندسين – دراسة حالة و ورشة عمل

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Oman

Introduction

Design management is getting lot of attention in the construction sector due to its strong implications for the entire project. Successful management of design is critical to cost-effectiveness, timeliness and quality of the entire project. According to many studies around 20-25% of the total construction period is wasted due to design deficiencies. Other studies suggest that around 78% of quality problems in construction are design related. From cost point of view, as well, design-caused defects form the largest category. Every construction project has its own requirements with respect to the method of construction, the place of construction and most importantly, what has to be constructed. However, all projects have one thing common to them, and that is, the immense complexities that they possess. The majority of this complexity lies in the design phase of the project. Hence, design management has assumed significance over the years.

This training program will introduce the participants to an introduction to construction industry and project management, the different stages of construction projects, the different development and types of several design management models, the different steps required to the management of a design project and general case studies and applications

Upon completion of this training course, participants will know:

- Mitigation of risk by selection of the most suitable project design type
- Methods of selection and qualifying contractors
- Terms and conditions-examples of commercial terms
- Reducing total cost of project
- Developing better warranties provisions
- How to determine fair and reasonable prices and times
- Structuring economic price adjustments
- Negotiation planning and strategies
- Design management techniques

The organization will benefit by:

- Greater strategic focus of those involved in Contracting
- Higher productivity of design and contracting personnel
- Reduced cost of contracts for materials & services
- Better outcomes in design methods evaluation
- Improved supplier performance

Attendees will gain by participation in this program as a result of:

- Increased skill sets in design process
- A greater sense of Professionalism in design process evaluation
- Knowledge of evaluating prices and times
- Greater ability to lead successful negotiations with suppliers and contractors
- Increased recognition by the organization due to improved performance

Who Should Attend?

This course is recommended for anyone involved with the design stage of construction, maintenance and repair projects:

- Architectural engineers
- Structural design engineers

- Construction engineers
- Mechanical engineers
- Electrical engineers
- Process / operation engineers

Course Outline:

Day #1

1. Introduction to construction industry:
 - Construction project stages
 - Main contract types
 - Methods of tendering
 - Construction engineering
 - Construction categories
 - Construction project management
 - Importance of design management for construction projects
2. Project Feasibility Studies

Day #2

3. Drawings and Specifications
4. Design stage in construction projects

Day #3

5. Management of the design phase process as a project:
 - Cost estimate
 - Planning and scheduling
 - Resources management
 - Financial management
 - Time control
 - Cost control
 - Quality control and assurance
 - Tendering Procedures
 - Value Engineering
 - Construction Project Contracts
 - Contractors Evaluation
 - The Design and Construction Process

Day #4

6. Review of the different applied design management models for construction projects:
 - Introduction
 - Design management vs. Construction management
 - Characteristics of design management
 - Design management phases
 - Thinking to build a simple model of design
 - Researches review in design management
 - The RIBA Design (The Royal Institute of British Architects of work) Model,
 - “Total Design” Model,
 - (VDI) Engineering Model,
 - March's Design Model,
 - BS 7000 Design Model,
 - French's Design Model,
 - Pahl and Beitz D-Model,

- The Analytical Design Planning Technique (ADePT),
- Integrated Design Planning,
- Scheduling and Control (DePlan),
- Design Collaboration (Teamwork) Frameworks,
- Conventional Design Process in construction, and
- Process Parameter Interface
- Conventional design process in construction
- Process-Parameter-Interface Model
- Case study: Design of a conference room
- Design reviews in the construction process
- Concurrent engineering approach to reducing design delivery time
- Different case studies

Day #5

7. An integrated proposed new Design Management Model (DMM) suitable for various cases in construction projects (CASE STUDY AND WORKSHOP):
 - An Integrated System req. for the Initial Phase
 - Preliminary Studies Forms
 - Design Project Scope Forms
 - An Integrated System req. for the Planning Phase
 - An Integrated System req. for the Control Phase

Course Fee :

US\$ 3,800