

# VALUE ENGINEERING WORKSHOP MODULE - I

## INTRODUCTION

What is Value Engineering?

- A method to optimize savings during Design Process in Construction projects without sacrificing quality, functionality or client's needs and requirements.
- A proven problem solving process adaptable to engineering design and construction.
- A tool that increases design professional capabilities and stature.
- Value Analysis/ Value Engineering is a step-by-step analysis and problem solving methodology.
- VE/VM is NOT A CHEAPENING PROCESS! It is a management tool for maximizing performance, reliability and quality at the lowest possible cost (Worth vs. Function).
- An organized process to identify and remove unnecessary cost from a project and achieves the best balance between Function and Cost (Worth).

## BENEFITS

- Gather and organize information and cost relevant to design and Construction project.
- Define essential functions & Understand and be able to use creative thinking.
- Develop new design that improve while retaining client's oriented needs & Apply objective methods for evaluating design alternatives.
- Understanding and be able to apply life cycle costing terminology & Present alternatives solutions to top management and clients.
- Understanding and apply new techniques for implementing design solutions.

## PRESENTER

### Dr. Jamal F. AlBahar, PMP, AVS

Registered Arbitrator Dubai, U.A.E. and Kuwait

Active Member: PMI, CMAA, AACE, AAA, PMA, SAVE, CSI,

President, PROMIS- Project Management Engineering Systems

Dr. Al Bahar, is a regional expert in project management applications and a well recognized consultant in construction contracts and claims analysis. Dr. AlBahar is a frequent regional and international speaker on subjects related to project management, construction contracts, tendering procedures, claims analysis/evaluation, arbitration, and value engineering. Dr. AlBahar has conducted over 400 public and in-house training courses in the last 20 years on subjects related to contracts, claims analysis and pricing, project management, value engineering, budgeting and cost estimating, and effective project administrative procedures. Dr. AlBahar is a registered arbitrator in Kuwait, Bahrain and the U.A.E.

## PROGRAM

### DAY ONE

#### • PRE - VM WHAT IS VALUE ENGINEERING, VALUE ANALYSIS AND VALUE MANAGEMENT?

- Introduction
- Purpose of Value Analysis and Value Engineering Training Workshop
- History of Value Analysis and Engineering
- Definition of Value Analysis, Value Engineering & Value Management
- Value Engineering Concepts and Principles - Function, Cost & Worth!
- Value Engineering Applications & Life Cycle Costing (LLC)
- The VE Job Plan and Methodology

#### THE INFORMATION PHASE

- The Information Phase of the VE Job Plan - Overview
- Information Gathering & The Function Approach
- Function based Models & Cost, Energy and Life Cycle Models
- Team Member Selection

### DAY TWO

#### THE FUNCTION ANALYSIS PHASE

- What is Function Analysis?
- Function-Cost-Worth Analysis?
- Development of Function Logic Diagrams - FAST Diagrams
- Examples of Function Analysis
- Associate "Worth" to each "Function"
- Cost/Value & Cost/Worth Ratios
- Multi Discipline team approach

### DAY THREE

#### THE "SPECULATIVE" CREATIVE PHASE

- The creativity Process, Team Dynamics
- Create by Primary Function or Secondary Function
- Creativity Techniques

- Brain Storming, Delphi, Force Field Analysis
- Idea Listing and Ranking
- Suspend Judgment till later stage!

### DAY FOUR

#### THE EVALUATION "JUDGMENT" PHASE

- Evaluation Techniques
- Decision Analysis
- Weighted Evaluation
- Idea comparison
- Criteria Establishment
- Alternative costing (Construction, Operation)
- Life Cycle Costing (LCC) with Escalation and Inflation
- Present Worth Method
- Annualized Method
- Matrix Evaluation

### DAY FIVE

#### THE DEVELOPMENT PHASE

- Assess Alternatives and Develop Firm Costs
- Develop Written Proposals
- Assess Proposal Quality
- Strategies for Implementation and Follow Up Plan

#### THE PRESENTATION PHASE

- Presentation of Recommendation to Management
- Objectives
- Tasks
- Procedures
- Oral Presentation Techniques

#### IMPLEMENTATION AND FOLLOW-UP PHASE

- Integrating Value Engineering into the Organization
- Expedite Change
- Assist Decision Makers
- Resolve Problems
- Minimize Delays
- Follow-up

#### • POST - VM WORKSHOP PHASE