

# **Value Engineering & Cost Estimating**





## **Value Engineering & Cost Estimating**

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## Introduction

Value Engineering VE is a conscious and explicit set of disciplined procedures designed to seek out optimum value for both initial and long-term investment. First utilized in the manufacturing industry over 70 years ago, it has since been widely used in other industries for many years.

Value Engineering is not simply a design/peer review or a cost-cutting exercise. Rather, Value Engineering is a creative, organized effort, which analyzes the requirements of a project for achieving the essential functions at the lowest total costs e.g. capital, staffing, energy, maintenance over the life of the project. Through a group investigation, using experienced and multi-disciplinary teams, value and cost-efficiency can be improved through the study of alternate design concepts, materials, and methods without compromising the functional and value objectives of the client/organization. Value Engineering can be applied at any point in a project, even in construction. Nevertheless, typically the earlier it is applied the higher the return on the time and effort invested. In most cases, Value Engineering identifies and removes unnecessary expenditures, thereby increasing the value for manufacturers and their customers.

## **Course Objectives of Value Engineering & Cost Control**

- Implement Value Engineering in the workplace
- Increase asset reliability and availability to world-class standards
- Reduce unscheduled downtime and production interruptions
- Reduce maintenance costs by 50-70%
- Learn global benchmarking standards

## **Value Engineering & Cost Control Course Outlines**

## Day 1

#### **Introduction to Value Engineering VE**

- Objectives of Value Engineering
- When to apply Value Engineering
- Impact of Value Engineering
- Introduction to project scope



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- Budget analysis
- Elements of the project budget

#### Day 2

## **Application in Value Engineering**

- Value techniques
- The Total Value Management Concept
- VE phase relationships Value management in design
- Classes of Value
- Types of Value
- When to apply Value Engineering

## Day 3

#### **Function evaluation**

• Basic and secondary functions

## **Function Analysis Systems Technique FAST**

- FAST procedure
- FAST examples

## The Six-Step VE Job Plan

- Information
- Speculation
- Planning
- Execution
- Reporting
- Implementation

## Day 4

#### **Speculative Phase Creativity**

- Brainstorming
- Nominal group technique
- Cause and effect analysis
- Pareto charts
- Total Cost concept
- Life Cycle Costing LCC

### Day 5

## **Building on speculation**

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- The nature of the information
- Elements of manufacturing cost

## **VE Workshop Team Projects**

• Review VE plan of attack



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