

# Earned Value Management for Project Performance Measurement

- Obtain basic knowledge in understanding and using an effective performance management system in managing technical projects effectively.
- Manage projects using a proven, effective performance measurement technique.
- Work with clients to define project objectives and develop a project plan and put it into action.
- Make project decisions concerning scope, cost and schedule parameters faster, more effectively and more confidently.
- Stay on top of schedules, budgets, workloads and human resources issues and delegate practically and fairly.
- Learn to avoid the pitfalls of project management by quickly identifying potential project risks and mitigate them as early as possible.

## Purpose and Background

The management of technical projects is becoming a challenge to professional engineers in an increasingly competitive marketplace in which effective project planning and control approaches in compliance with clients' contractual requirements. Successful project managers demand that their projects meet technical objectives and be completed on schedule and within budget. To ensure success, an effective project control system must be designed, developed and implemented to provide management with timely and accurate information on deviations of cost and time parameters from the target objectives established during the planning cycle of the project.

Earned Value Management (EVM) is a project planning and control approach which provides cost and schedule performance measurements. It compares actual accomplishment of scheduled work and associated cost against an integrated schedule and budget plan. Its benefits include visibility into the true progress of the project work against the budget, projections of anticipated project schedule and cost trends and the ability to take timely corrective actions for undesired variances. EVM is considered to be one of the most powerful and productive concepts utilized in managing today's complex projects in private, commercial or government environments.

## Seminar Benefits

- Obtain basic knowledge in understanding and using an effective performance management system in managing technical projects effectively.
- Manage projects using a proven, effective performance measurement technique.
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## Who Should Attend

This seminar is designed for those who want to learn the basic principles of EVM used for project performance measurement, a proven method to evaluate project work progress in order to identify early potential schedule slippage and areas of budget overruns. It provides practical coverage of an accurate and realistic reflection of the integrated scope, cost and schedule parameters of a project to assist both contractors and client management in the decision-making process.

Project managers, program managers, engineers and cost/schedule practitioners, contract administrators as well as any professional involved in a management/control related function should be able to find this seminar very helpful for their work on projects.

## Seminar Instructor

**Nghi M. Nguyen, Ph.D., M.Eng, P.Eng, PMP**, is President of NDV Project Management Services Inc. He has had over 25 years of progressive experience in the field of project management on major construction and high-technology projects with leading Canadian and American corporations such as the SNC-Lavalin Group, Lockheed Martin and the Canadian Space Agency (CSA). As a consultant to engineering and construction firms, he has assisted clients with

## ● EARNED VALUE MANAGEMENT FOR PROJECT PERFORMANCE MEASUREMENT

project management approaches to effectively complete projects and attain their objectives. He is a specialist in project management training, definition, development, identification of project objectives, constraints and methodologies, having provided project management trainings to engineers worldwide. He has been working as a project management consultant for the CSA on projects associated with the 16-nation International Space Station (ISS) project, the construction of the largest and most sophisticated engineering facility ever undertaken as well as for SNC-Lavalin International on China's Three Gorges Dam project, the largest on-going construction project on earth. Dr. Nghi Nguyen has written and presented numerous technical papers on project management related topics in international conventions and seminars in Canada, the U.S., Europe and Asia sponsored by professional associations such as the Project Management Institute (PMI), the American Consulting Engineering Council (ACEC), ASCE, Canadian Society of Civil Engineers (CSCE), the Performance Management Association (PMA) and the Paris-based AFITEP. He is a

part-time faculty member at Montreal's Concordia University, teaching Construction & Project Management courses at both undergraduate and graduate levels and hold B.S., M.S., and Ph.D. degrees in Civil Engineering and Construction & Project Management. He has been instrumental in developing and implementing effective EVM systems on major high-tech and construction projects for clients worldwide.



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## SUMMARY OUTLINE

### DAY 1

**8:30AM – 4:30PM**

#### Introduction to Earned Value Management (EVM)

- Management Criteria versus Engineering Criteria
- Evolution of the Earned Value Management (EVM) Concept
- The Cost/Schedule Control System Criteria (C/SCSC)
- The EVM System Criteria
- Performance Measurement- An Effective EVM Technique
- EVM in Project Management

#### Scope the Project

- Understanding the Project Work Scope
- Work Breakdown Structure (WBS)
- Make-or-Buy Choice
- WBS and Earned Value

#### Plan and Schedule the Project

- Understanding the Project Objective
- Planning the Project
- Scheduling the Project
- Scheduling and Earned Value

#### Estimate and Budget Project Resources to Form Control

##### Account Plans (CAPs)

- Integrating the Project Work Scope with Cost and Schedule
- Earned Value CAPs
- Cost Estimates and Budgets
- Management Reserves

#### Establish the Earned Value Project Baseline

- Methods Used to Plan and Measure Earned Value
- Control Account Plans (CAPs)
- The Performance Measurement Baseline (PMB)
- Maintaining the Baseline : Managing Changes in Scope

### DAY 2

**8:30AM – 4:30PM**

#### Monitoring Performance Against the Baseline

- CAPs Performance Measurement
- Presentations to Project Management
- Earned Value Cost and Schedule Variances
- Materials and Subcontracts in EVM

#### Final Cost and Schedule Forecasting

- Determining Factors
- Cost and Schedule Results Methodology
- Management Reserve or Contingency Reserve
- Estimate At Completion (EAC)
- The Over Target Baseline (OTB) Process
- Predicting the Project's Time Duration

#### EVM Reporting

- Subcontractors' Reporting
- Preparing and Interpreting the Integrated Cost/Schedule Report
- The EVM Reporting Formats

#### EVM Exercises and Case Studies