

## EARNED VALUE MANAGEMENT

### **Introduction**

For cost-effective project management and controls, PT&C promotes a graded approach to manage client projects. This approach ensures that project objectives are comparable with the dollar value, complexity and visibility, and defines any potential risks of the project. These grading factors are the basis for determining the degree to which the elements of the project control system are to be implemented.

### **Controlling Scope, Cost and Schedule Integration**

PT&C provides a process using an integrated set of techniques for planning and controlling the life cycle of a project, which are as follows:

#### ***Risk Management***

This graded approach assesses and institutes up-front management capabilities that control technical scope, cost and schedule risks. Project Control customizes the requirements to the specific project, while considering the risks and complexities of the project for cost-effective management. High-risk projects require a higher degree of detailed estimating, planning, budgeting and reporting.

#### ***Cost Estimating***

Cost Estimating is an integral and key aspect of baseline budget development. The baseline estimate is a living document that is updated throughout the design evolution process. The project baseline estimate, after validation, forms the basis for requesting Budget Authority. The cost estimate is integrated with the tasks for each Work Breakdown Structure (WBS) element of the project.

#### ***Planning and Scheduling***

PT&C uses a graded approach in planning and scheduling the project scope and tasks. For both low-risk and high-risk projects, PT&C's Integrated Project Schedules (IPS), also organized in the WBS hierarchy, clearly illustrate critical path activities and milestones that identify the start, significant events and completion date requirements by which schedule performance is measured.

Planning begins with the conceptual planning process by defining the scope of work, project schedule and budget. Project Control structures the project into an Organizational Breakdown Structure (OBS) that promotes effective organization, planning, monitoring, controlling and reporting. The OBS provides the basis for responsibility, work assignments and baseline management. Cost accounts, categorized in design areas and work packages, are for each terminal WBS element integrating with the (responsible) OBS element, thereby acting as a control point to collect budgets and commodities (i.e., costs, hours) for all organizations performing the work. A schedule is prepared to conform to the WBS to illustrate the technical effort and time, labor, support, material, equipment, facilities and funding required for the project.

Project cost/schedule integration is established and maintained at the cost account level by assuring that the start and completion dates of the cost account entries are united with the IPS. The IPS becomes the primary planning and analysis tool in the schedule hierarchy, and integrates the various functional intermediate schedules to reflect the project scope.

#### ***Performance Measurement***

Performance Measurement is an earned-value management methodology integrating time-phased work schedules and cost accounts to create a controlled, time-phased budget called the Performance Measurement Baseline (PMB). The PMB validates the value of the planned work in the IPS and is an integral part of the change control process.

The project control tools provide a process to collect and provide information that measures the physical accomplishment of work on a project. This information is used to determine project status by analyzing cost, schedule, technical performance, consideration of potential problems and their impacts, and alternative courses of action.

