# EVMS Training Snippet Library: DOE Common EVMS Findings



Office of Acquisition and Project Management (OAPM) MA-60 U. S. Department of Energy July 2014

Achieving Management and Operational Excellence

# DOE Common Areas of Surveillance Findings

- Work Authorization
- Schedule Integrity
- Subcontract Management
- Variance Analysis
- Estimate at Completion (EAC) Implementation
- Management Reserve (MR)
- Baseline Control
- Scope, Schedule, and Budget Integration







Page 3

- Work Authorization Document (WAD) is the agreement between the CAM and Project Manager
  - Issue: Unapproved before work commences
- Defines, schedule, and budget at the CA level
  - Issue: Scope too vague, not tied to Statement of Work and/or Project Execution Plan
  - Issue: WAD doesn't tie to the IMS, PMB, WBS dictionary, Budget control log



#### Provide the authorization to proceed

 Issue: Dated after work has begun or not extended when the period of performance is extended

#### • Changes to the baseline

 Issue: Updated WADs not issued to document incorporation of control account changes in budget, scope, or schedule as a result of contractual changes, application of management reserve, or formal reprogramming such as an OTB

#### Schedule



- Accurate schedule linkage assures vertical and horizontal integration
  - Issue: Missing predecessors and successors
  - Issue: Excessive use of float, constraints, lags
  - Issue: Schedules from systems feeding schedule information not incorporated into the IMS accurately; examples include Engineering Project and Performance Reports, Purchasing system, Subcontractor schedules

# Schedule (continued)



- Critical path must be derived from and related to the discrete activities planned
  - Issue: Missing logic on discrete tasks invalidating critical path
- CAMs must understand their schedules
  - Issue: CAMs unable to explain basic linkage of tasks, impacts of excessive float or logic issues
  - CAMs must be able to explain the technical requirements of each task in their responsibility



- The prime contractor is responsible for managing the subcontractor using EVM techniques
  - Issue: Inadequate flow down of system/reporting requirements
  - Issue: Subcontractor not identified in Organizational Breakdown
    Schedule
  - Issue: Subcontractor schedule not adequately incorporated into the prime IMS at low enough level to facilitate management
  - Issue: Percentage of completion based on payment milestones instead of work performed

## Subcontractor Management (cont.)



- The prime contractor must update the BCWP and Estimate at Completion (EAC) with the best expectations of performance
  - Issue: Unreliable Estimates at Completion for subcontractor efforts
  - Issue: Prime not establishing and forecasting for the FFP

#### Variance Analysis



Page 9

- Variance analysis components: Cause, Impact, Corrective Action
  - Issue: Not addressing current and cumulative schedule and cost variances separately
  - Issue: Analysis does not address majority of the variance
  - Issue: Root cause not identified
  - Issue: Lack of sufficient detail to identify impact or correction action
  - Issue: Schedule variance not integrated with critical path and float analysis
  - Issue: Corrective Action Logs not maintained or updated timely

#### • Variance analysis relationship to Estimate at Completion

- Issue: The trend process is not a substitute for variance analysis and EAC

### **Estimate at Completion**



- Use metrics, i.e. To Complete Performance Index (TCPI), to assess EAC realism
  - Issue: EAC reasonable tests not being -done or ignored
- Estimate At Completion Updates
  - Issue: Timely EAC review/reassessment not accomplished during variance analysis process
  - Issue: Comprehensive estimates not done at least annually
  - Issue: Best Worst Mostly EACs; best and worst equal to most likely
  - Issue: EAC not integrated with risk
- EAC Missing Key Components
  - Issue: Subcontractor REAs not promptly reported at some level
  - Issue: All trends should be reportable in EAC within a reasonable period

### Management Reserve (MR)



Page 11

- MR is budget set aside for internal future changes, controlled by the contractor
  - Issue: MR justification inadequate emerging trends
  - Issue: MR is being harvested from control accounts that under-run
    - Example: Setting BAC to EAC and excess budget moved to MR
- The use of MR without maintaining scope, schedule, and budget integration is distorting DOE project performance and masking unfavorable earned value trends
  - Issue: Specific examples leading to compliance confusion are subcontractor firm fixed price (FFP) REAs, planning package conversions, design evolution, and global risk realization
    - Need to distinguish between variance-only risks and other risks
    - Planning package conversions need adequately document change in scope or assumption (G/L 10 and 14)

### **Baseline Change Control**



- Changes must be tracked in a time phased log that reconciles with the Contract Performance Report (CPR)
  - Issue: Inconsistent use of baseline control logs
- Changes must be processed in a timely manner, prior to authorization of scope effort beginning
  - Issue: Current period/retroactive budget changes processed after the planned start date and/or actual start date and accumulation of charges

## **Baseline Change Control (cont.)**



#### Change Request package must be complete

- Issue: Budget Change Request (BCR) / Baseline Change Proposal (BCP) missing key attachments such as the scope, schedule, budget before and after the change, and a new Work Authorization document
- Changes are limited to (a) time phasing within current schedule start and stop dates, or (b) changes to scope, schedule, and budget due to contract modification, formal reprogramming, or internal Management Reserve uses
  - Issue: Budget transfers without scope and vice versa
  - Issue: Improper re-planning, such as use of MR to eliminate variances

## **System Integration**



- All documents supporting the approved procedures must tie to each other in terms of scope, schedule, budget, actual cost, etc.
  - Issue: Key documents do not align in terms of figures and dates
    - Examples include but not limited to:
      - Work Authorization Document to Control Account Plan to Schedule
      - Responsibility Assignment Matrix to Control Account Plan
      - Contract /Project Budget Base Log to Management Reserve, Undistributed Budget, Performance Measurement Baseline log

#### **DOE OAPM EVM Home Page**



@ ENERGY GOV			
Office of Management			SEARCH
office of management			
SERVICES OPERATIONAL MANAGEMENT	MISSION	Ab	outUs OFFICES 👻

Home » Operational Management » Project Management » Earned Value Management

#### EARNED VALUE MANAGEMENT

Aviation Management

Executive

Correspondence

Energy Reduction at

HQ

Facilities and

Infrastructure

Freedom of Information

Act

Financial Assistance

Information Systems

Procurement and

Acquisition

Project Management	
Earned Value	$\triangleright$
Lessons Learned	
Reviews and	
Validations	
Documents and	
Publications	
RCA and CAP	

Earned Value Management (EVM) is a systematic approach to the integration and measurement of cost, schedule, and technical (scope) accomplishments on a project or task. It provides both the government and contractors the ability to examine detailed schedule information, critical program and technical milestones, and cost data.

- EVMS Surveillance Standard Operating Procedure (ESSOP) 26 Sep 2011 (pdf)
  - EV Guideline Assessment Templates (MS Word)
  - DOE EVMS Cross Reference Checklist (pdf)
  - DOE EVMS Risk Assessment Matrix (MS Word)
- Formulas and Terminology "Gold Card" Sep 2011 (pdf)
- Slides from the OECM Road Show: Earned Value (EV) Analysis and Project Assessment & Reporting System (PARS II) May 2012 (pdf)
- DOE EVM Guidance

#### EVM TUTORIALS

#### Module 1 - Introduction to Earned Value (pdf 446.86 kb) July 17, 2003

This module is the introduction to a series of online tutorials designed to enhance your understanding of Earned Value Management. This module's objective is to introduce you to Earned Value and outline the blueprint for the succeeding modules. This module defines Earned Value management. It looks at the differences between Traditional management and Earned Value management, examines how Earned Value management fits into a program and project environment, and defines the framework necessary for proper Earned Value management implementation.

http://energy.gov/management/office-management/operational-management/project-management/earned-value-management

Career Development

Program

Real Estate

History