

Tailoring the Earned Value Management System

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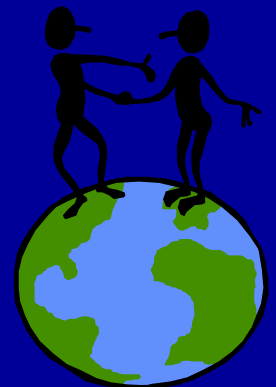
Outline

- The ANSI Standard
- What is an EVMS?
- Establishing an EVMS
- Tailoring the EVMS

The ANSI Standard

EVM Guidelines

- **EVM has a recognized set of guidelines**
 - A company's business planning system should meet these guidelines = **Earned Value Management System**
 - Most are existing project management practices
 - Relatively few practices unique to EVMS
 - Guidelines do not specify a particular process or business system, but only set an expectation
- **Some countries have national standards**
 - U.S., Australia, Canada, U.K.
 - Guidelines may be mandatory in some cases
- **Can be tailored or scaled for smaller projects**

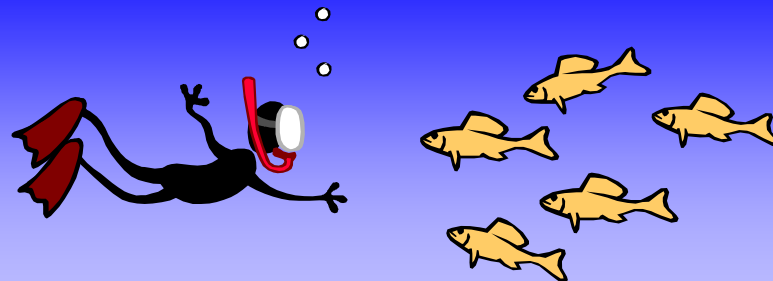


ANSI Standard

- Published by Electronics Industries Alliance
- Reaffirmed in 2002, only minor revisions
 - **ANSI/EIA-748-A-1998, Earned Value Management Systems**
 - Usually referred to as “ANSI 748A”
- Maintained by National Defense Industrial Association, Program Management Systems Committee (NDIA PMSC)
 - NDIA PMSC maintains close coordination with OSD

ANSI Standard

- **32** Guidelines, organized by **5** groups
 - Organizing
 - Planning, Scheduling, and Budgeting
 - Accounting Considerations
 - Analysis and Management Reports
 - Revisions and Data Maintenance



Guideline approach

- Government recognizes that it **cannot** impose a single solution
 - No single EVMS meets the needs of all companies
- **Guidelines** define the criteria for system adequacy
 - Specify desired outcomes
 - Not prescriptive
 - Broad enough to allow for common sense application
 - Comprehensive enough to result in reliable performance data
- Beware of myths, legends, and “accepted” rules of thumb

Will the Real Guideline Please Stand Up?

Guideline or prescription?

Define the authorized work elements for the program. A work breakdown structure (WBS), tailored for effective internal management control, is commonly used in this process.

Define the authorized work elements for the program, using the EZ WBS Maker software tool to develop and define the WBS structure to Level 6.

Process approach

- **Guidelines can be grouped by typical processes used by most companies**
 - Organizing
 - Scheduling
 - Work/Budget Authorization
 - Accounting
 - Indirect Management
 - Managerial Analysis
 - Change Incorporation
 - Material Management
 - Subcontract Management
- **Either approach (ANSI group or process) is acceptable**



ANSI/EIA-748-A Intent Guide

- **Companion to ANSI Standard**
- **Published by NDIA PMSC**
 - January 2006
- **Purpose**
 - Provide additional insight into EVMS guidelines in the ANSI Standard
 - Used by industry or Government
- **Scope**
 - Each guideline is further explained:
 - Management value
 - Intent
 - Typical attributes
 - Objective evidence found in typical outputs

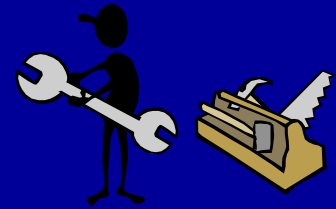


What is an EVMS?

EV, EVM, and EVMS

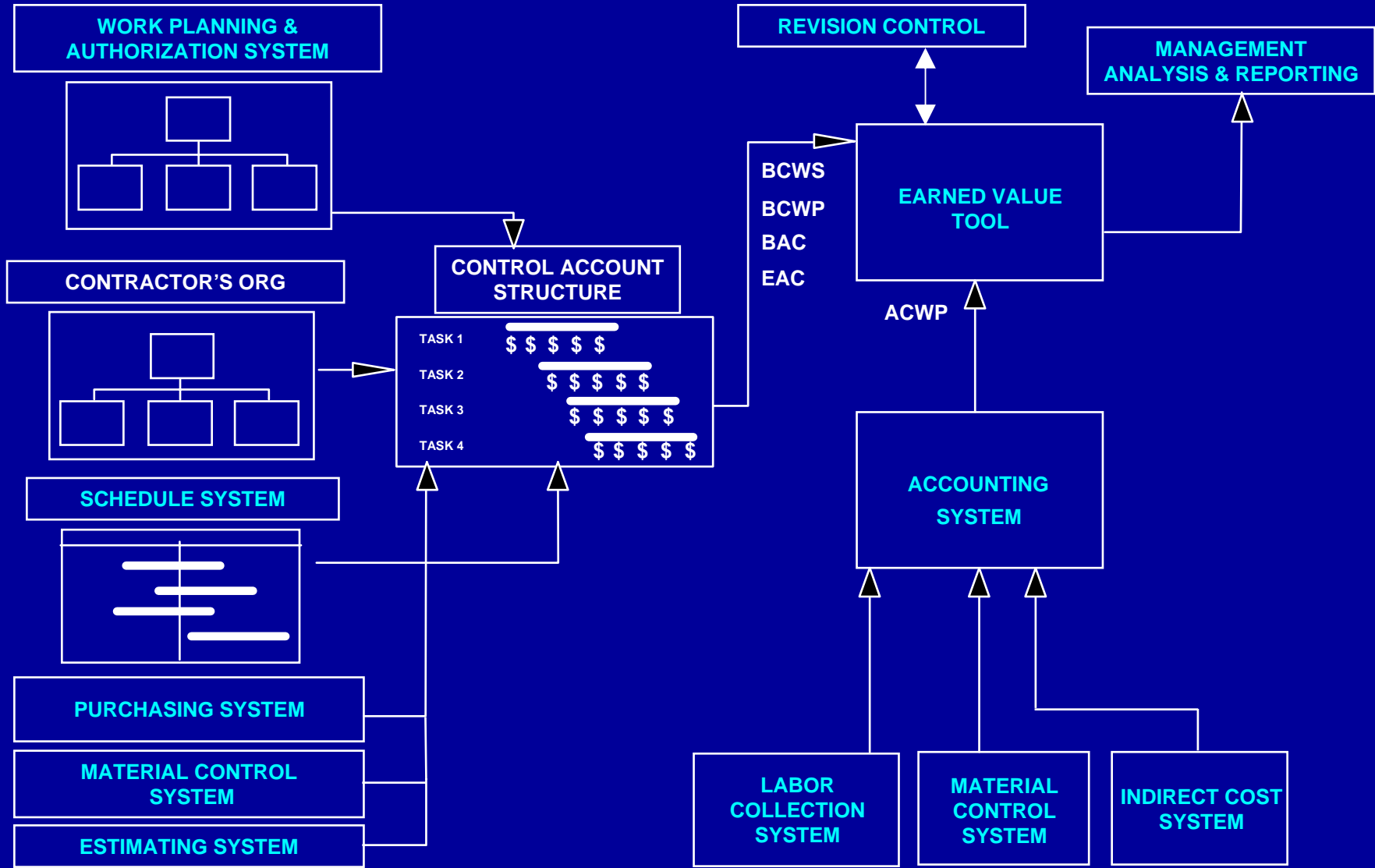
EVMS	Earned Value Management Systems	usually refers to contractors' internal management control systems that meet the guidelines
EVM	Earned Value Management	usually refers to the overall method of managing projects with earned value processes
EV	Earned Value	usually refers to the budgeted resources that have been earned when work is accomplished

Definition: EVM System



- **An integrated management system and its related sub-systems which allow for:**
 - planning all work scope for the program to completion;
 - breaking down program work scope into finite pieces that can be assigned to a responsible person or organization for control of technical, schedule and cost objectives;
 - integrating work scope, schedule, and cost objectives into a performance measurement baseline plan against which accomplishments may be measured;
 - controlling changes to the baseline;
 - using actual costs incurred and recorded in accomplishing the work performed;
 - objectively assessing accomplishments at the work performance level;
 - analyzing significant variances from the plan, forecasting impacts, and preparing an estimate at completion based on performance to date and work to be performed; and,
 - using EVMS information in the company's management processes

Integration of systems for an EVMS



EVM System Description

- A written description of the contractor's integrated processes that demonstrates compliance with ANSI Standard 748-A
- Should meet needs of contractor
 - Ensure consistent application
 - No prescribed length or content



Establishing an EVMS

Deciding the Scope of the EVMS

- Must decide intent
 - Fully compliance and EVMS certification
 - Voluntary compliance, no certification
 - For all company projects, some projects, or one project
 - Establish different levels of compliance
- Factors
 - Risk and complexity of projects
 - Maturity of existing business systems
 - Maturity of existing project management skill set
 - Availability of time and budget
- Treat it as its own project
 - The EVMS Project
 - Dedicated team

Steps to Establish an EVMS

- Identify existing business systems and tools
- Perform gap analysis against ANSI
 - Acquire new tools as necessary
 - Develop new processes as necessary
- Storyboard the EVMS
 - Use dedicated room
 - Post processes and outputs
 - Show data flow with string connections
- Iterate, iterate, iterate
 - Identify gaps
 - Identify redundancies and opportunities for streamlining
- Conduct data traces using real data
 - Post to storyboard
- Beta test with simple project, end to end

EVM System Documentation

- Document the processes
- Different approaches
 - Single document
 - Overarching description, supporting process documents
 - By division
 - By project
- Matrix of compliance to ANSI Standard
 - Guidelines vs. paragraph references

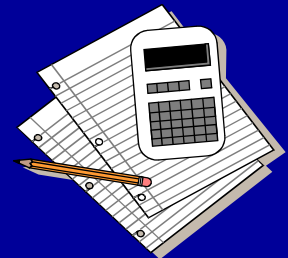
Tailoring the EVMS

Taming the EVMS Monster

- Make it sustainable
- Make processes easily repeatable
- Make it relatively easy to understand and use
- Emphasize good project management principles
- Periodic review of system
 - EVMS outside experts
 - Challenge the status quo – “Why are you doing this?”
- Maintain the system
 - Data traces and surveillance
 - Update documentation

General Principles

- Consider all risk factors when tailoring EVMS
 - type of contract (determined by cost risk)
 - technology
 - schedule
 - past contractor performance
- May be bound by customer policies (e.g. DOD)
 - Most aspects are still able to be tailored
- Should be tailored to reflect internal management
 - should not be seen as customer report
- Written variance analysis is #1 cost driver
 - only ask for what you really need
- Apply common sense!



Risk Factors to Consider

	Cost Risk to Company	Technology Risk	Schedule Risk	Contractor Past Performance
HIGH RISK	FFP Contracts	State of the art or beyond IT and software development	Complex schedule, concurrency	Poor
	FPI Contracts	Under development	Moderate risk, some concurrency	
LOW RISK	Cost Contracts	Off the shelf	Low Risk schedule	Good

Tailor EVMS to Inherent Risk



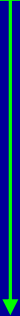
Validation Options

HIGH RISK

LOW RISK

- Validation by customer
 - U.S. government, Australia, other countries
- Third party
- Self-certification
- Submission of summary description to customer
 - (optional) may use already validated system
- None

FFP



Baseline Planning & Scheduling

HIGH RISK

- At lowest level
 - Fully networked schedules with critical path
 - EVM baseline at work package level

LOW RISK

- At a more summary level
 - Higher level schedules, production schedules
 - EVM baseline at control account level
 - Examples: work team level, summary control accounts

FFP



Earning Performance

HIGH RISK

- Performance earned at control account or work package level
 - summed up through WBS from detail level

LOW RISK

- Performance earned by logical means at higher level

FFP

Baseline Assessment

HIGH RISK

LOW RISK

- Formal review by customer
- Joint development of baseline
 - post award (phased: technical, schedule, budget)
 - pre award
- Integrated into program reviews
- Incremental
 - evolutionary acquisition, significant milestones, task orders, etc.
- Walk through, talk through
- Assess schedule and EV measurement only
- Self assessment

FFP



Reporting

HIGH RISK

LOW RISK

- Full performance reports (detailed cost level)
- Tailored reports (eliminate certain formats)
- Contractor defined significant variances
- Report at price or hours (FFP)
- Contractor shares internal reports
- On line, no paper
- No formal variance analysis
- Tabular or graphical status

FFP

always tailor
data
reporting
level to risk

Additional Thoughts on FFP Contracts

- Place emphasis on controlling
 - technical growth
 - schedule
- Ensure integration of work and schedule
- Use EVMS as basis for payments
 - performance metrics
 - significant milestones (contract deliverables)

The Bottom Line

- EVMS *can* and *should* be tailored
 - Should not be seen as a cost driver
 - Should be seen as a cost saver!
 - Should always make common sense
 - Should always reflect how projects are managed on a daily basis