



Earned Value

The New Management Revolution: Integrating Contractor Performance with Agency Budgets

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Outline

- Review - Earned Value Concept
- Acquisition Reform Legislation
- Office of Management & Budget
 - » Circular A-11 Part 3
 - Principles of Budgeting for Capital Asset Acquisitions
 - Capital Programming Guide
- Relationships & Summary

The Punchline

*Before we
get into all
the details
let's talk
basics*



- General consensus:

The Federal Government needs to better manage the planning, budgeting and acquisition of fixed assets, including information technology

Purpose of Earned Value: Effective Management

Contract: 4 miles of railroad track in 4 weeks for \$4 million.
Status: After 3 weeks, only \$2 million has been spent.
Question: How are you doing (and how do you know)? *

Spend Plan

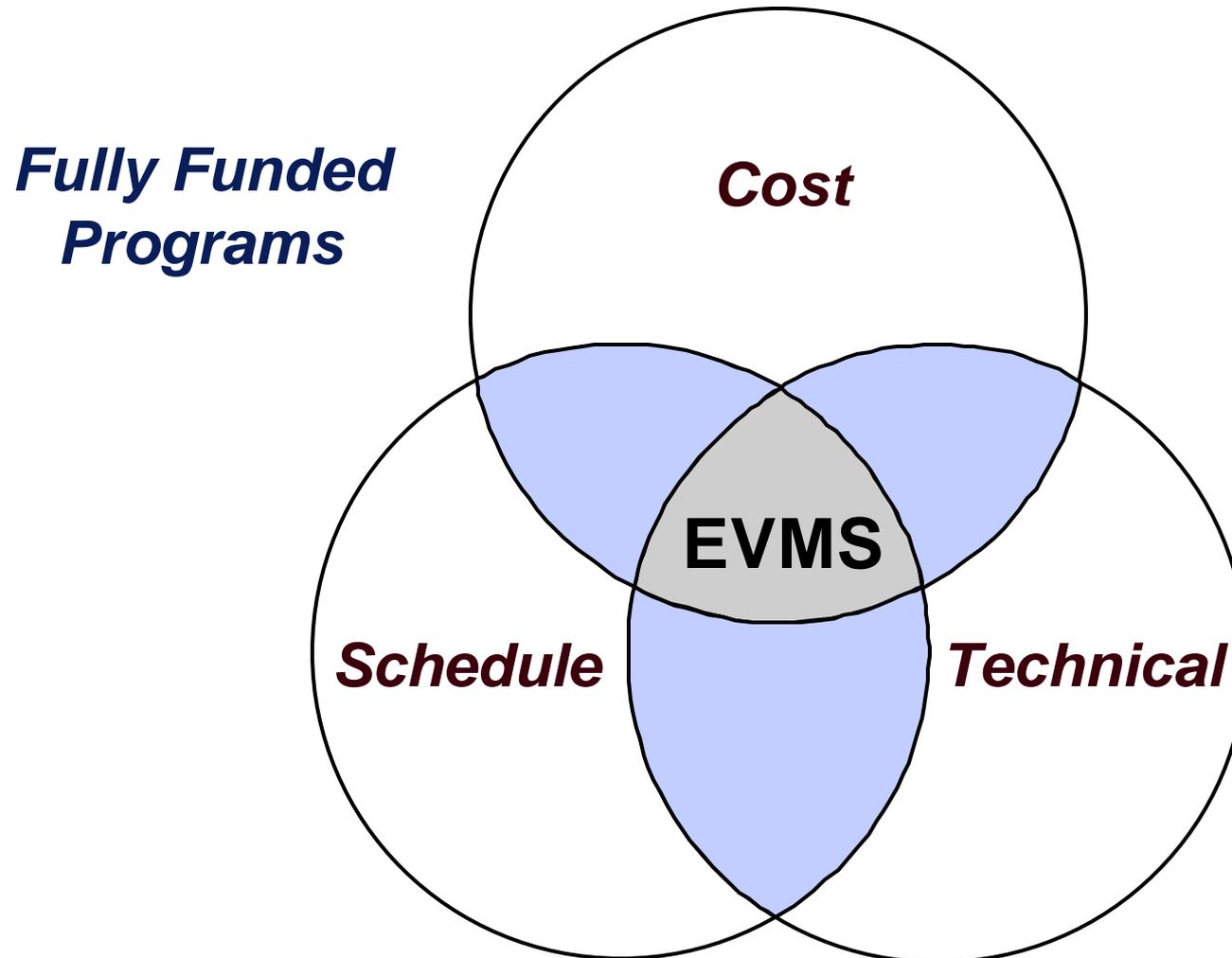
- » Planned \$1M/week
- » Planned \$3M to date
- » Actual cost \$2M
- » \$1M favorable???

Earned Value

- » Planned \$1M/week
- » Planned \$3M to date
- » **Earned \$1M** (66% behind)
- » Actual \$2M (100% overrun)
- » EAC \$8M, 8 weeks late

* Source: GAO Report May 97

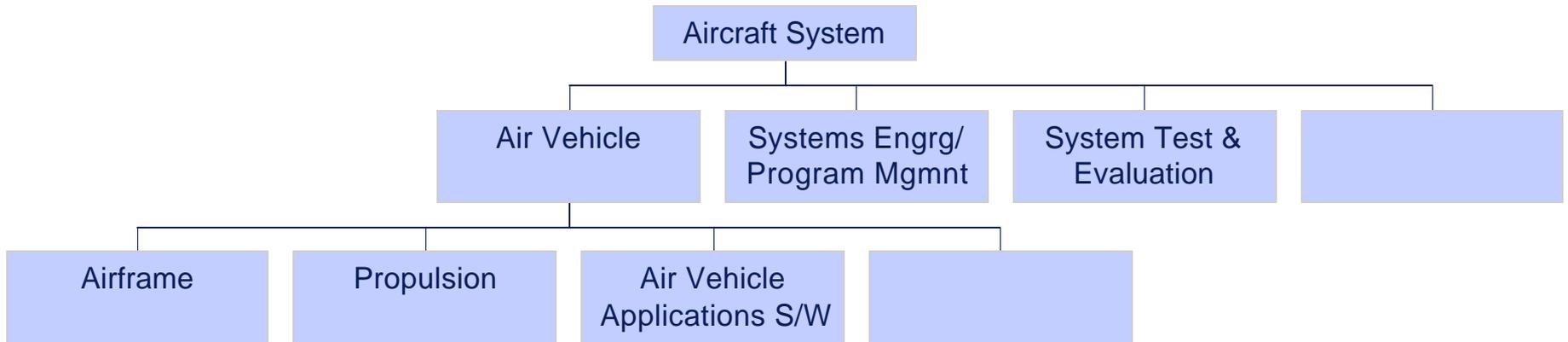
Earned Value: Integrated Management



Integrated Management

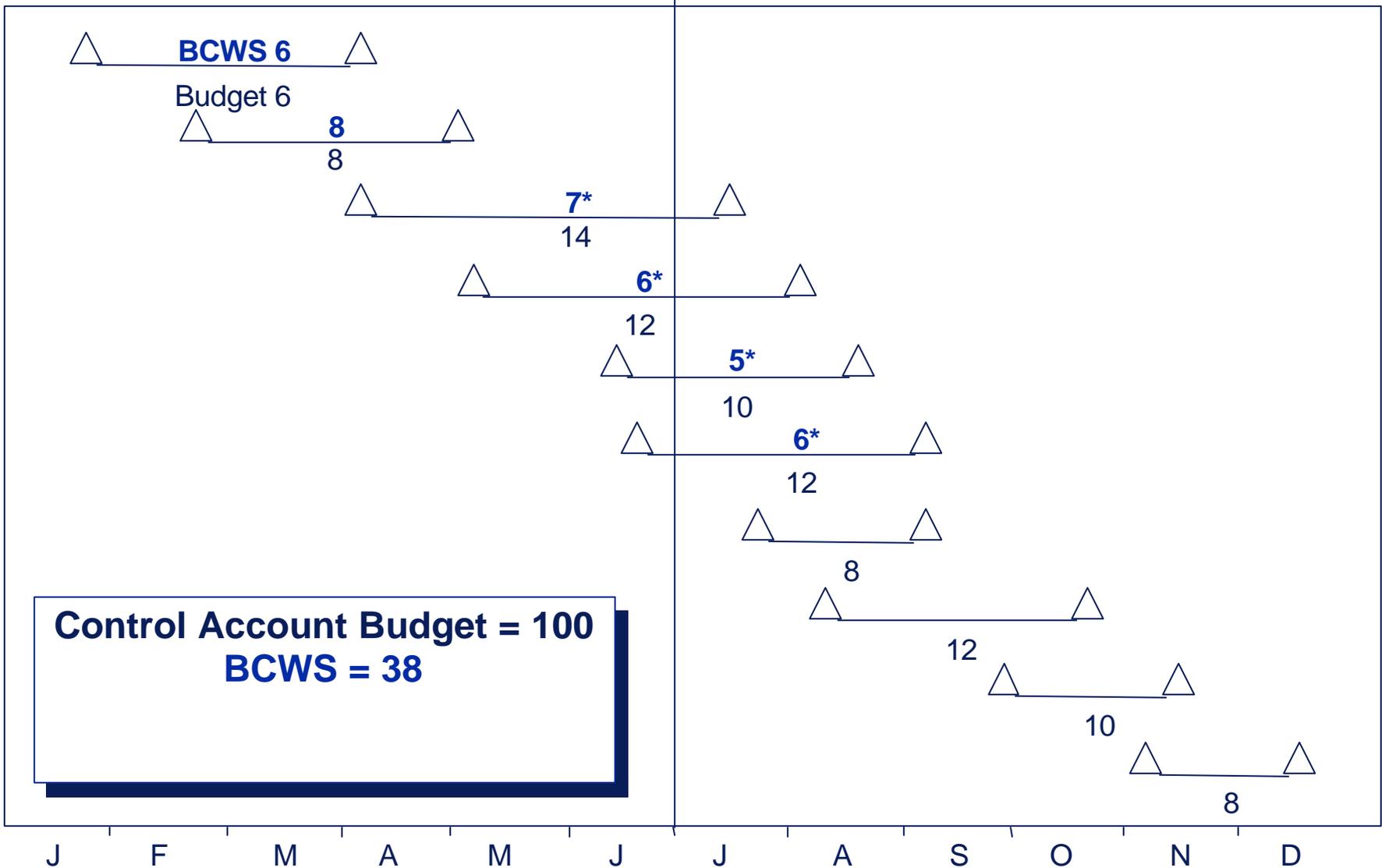
Program “Dictionary” (defines the program)

Work Breakdown Structure



Earned Value Concept

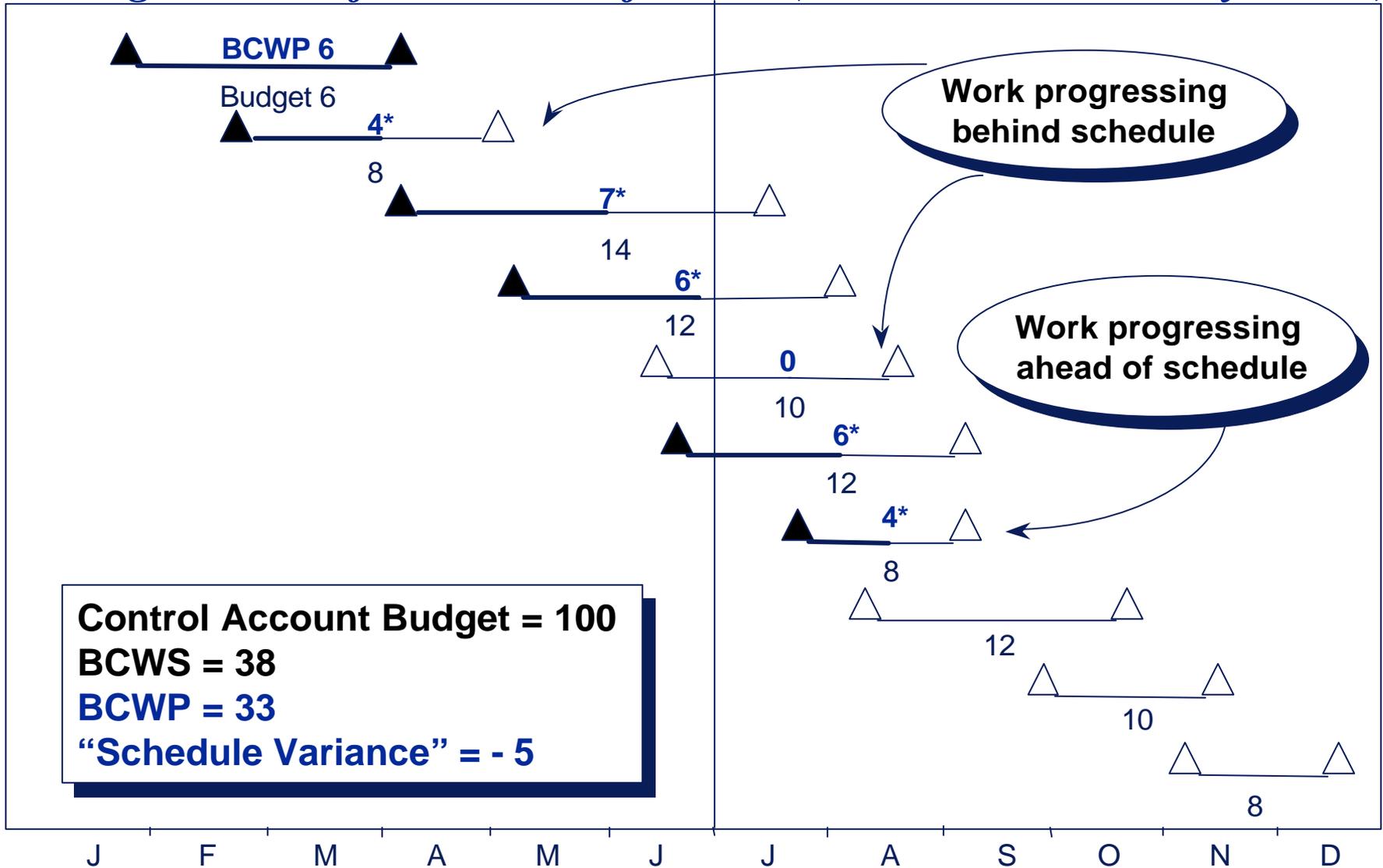
Budgeted Cost for Work Scheduled (what you planned to do)



* 50-50 method used for work in process

Earned Value Concept

Budgeted Cost for Work Performed (Earned Value-what you did)

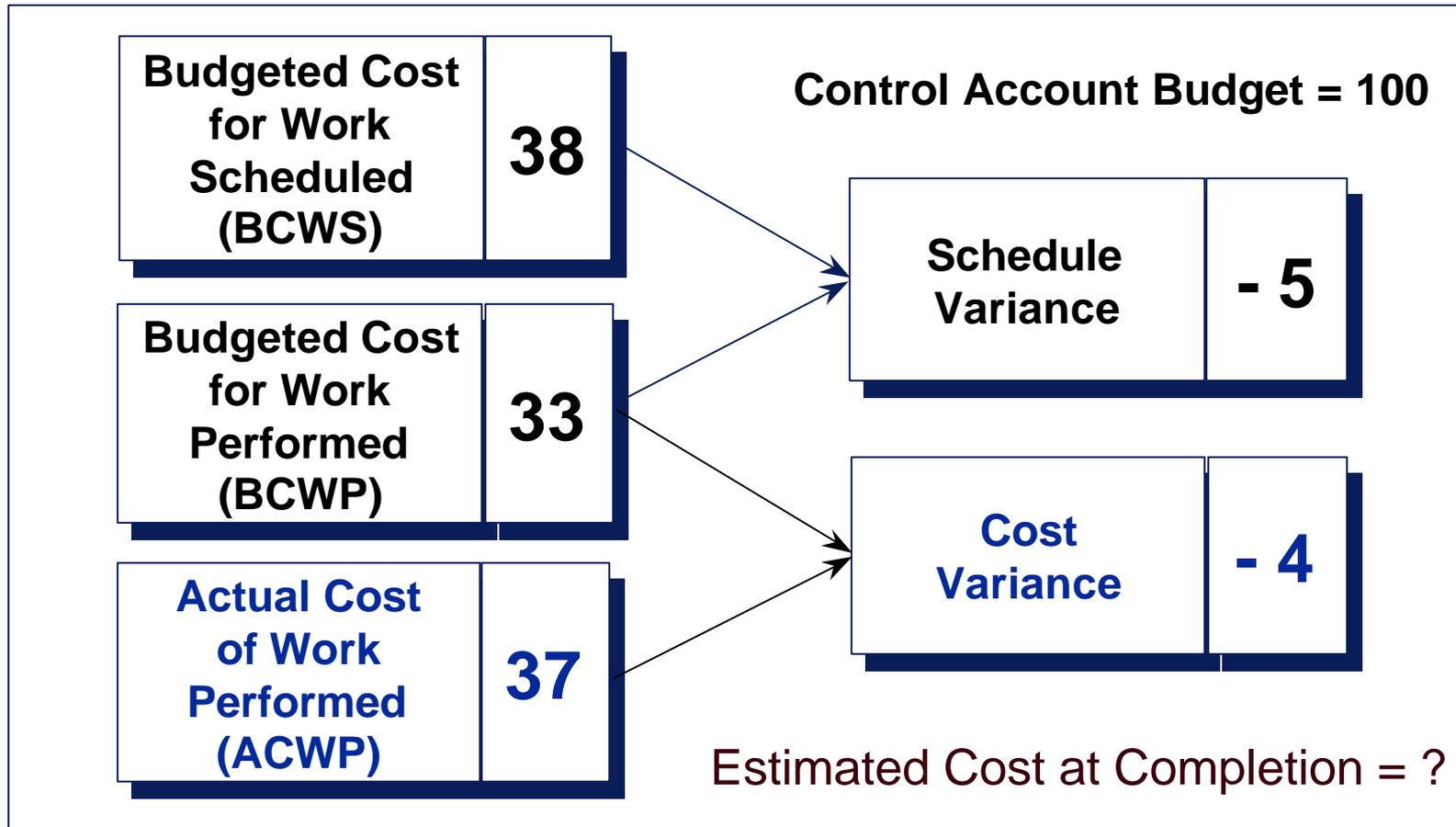


Control Account Budget = 100
BCWS = 38
BCWP = 33
"Schedule Variance" = - 5

* 50-50 method used for work in process

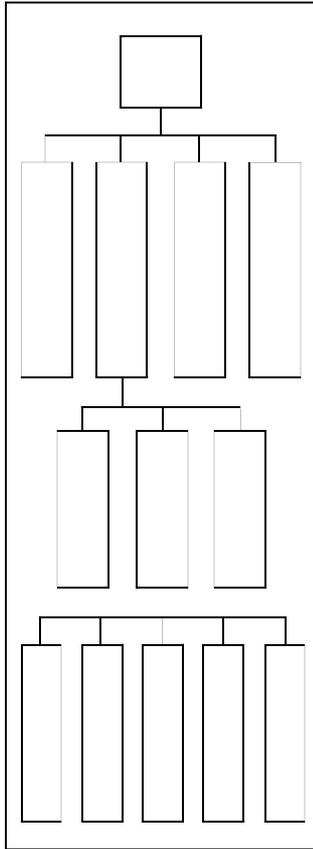
Earned Value Concept

Actual Cost of Work Performed (what it cost to do what you did)

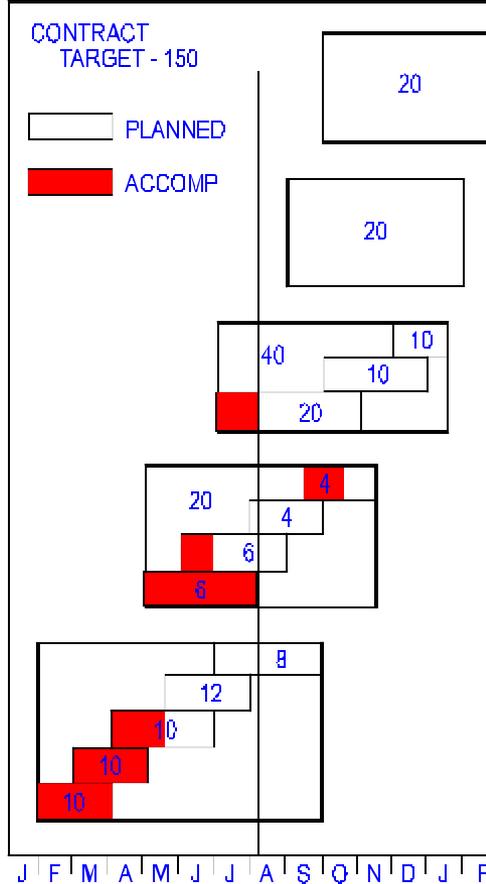


The Earned Value Concept Summary

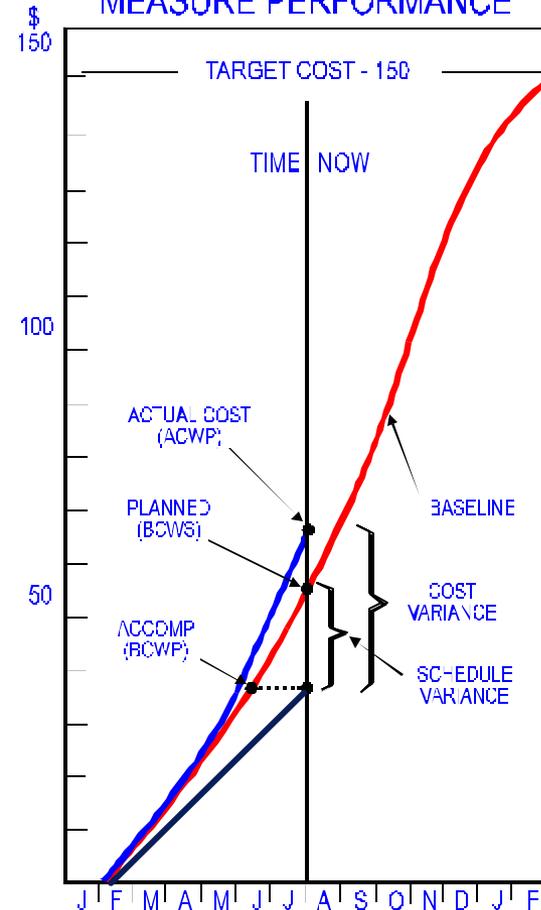
DEFINE THE WORK



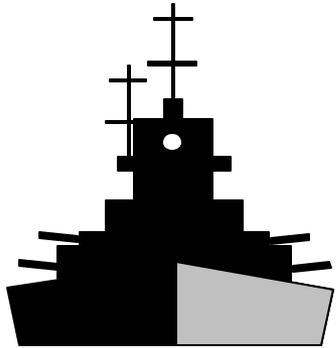
SCHEDULE AND BUDGET



MEASURE PERFORMANCE



Earned Value Management: Origins



1960s-

- Complex Programs
- Multiple Customers
- Need for Improved Management



PERT COST

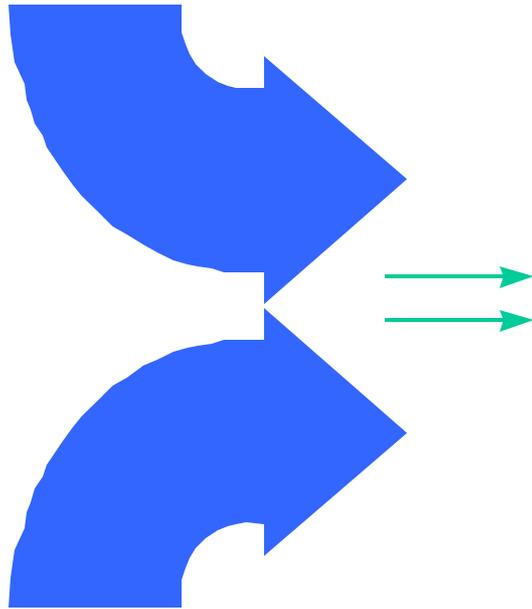
- Resource-loaded networks
- 10 versions by '64



- Industry Issues:***
- “How-to-manage”
 - Inefficiency

Earned Value Management: Origins (cont'd)

**Industry Best
Practices**



**Government
Requirements**

**1967: DoD Instruction 7000.2
Cost/Schedule Control Systems
Criteria (C/SCSC)**

Criterion-based Management

- Brief statements of attributes
- Not “how-to”
- Not a system
- Minimum acceptable standard

**1997: DoD Regulation 5000.2-R
Earned Value Management
Systems (EVMS) Criteria**

Earned Value Policy: DoD 5000.2-R, Appendix VI

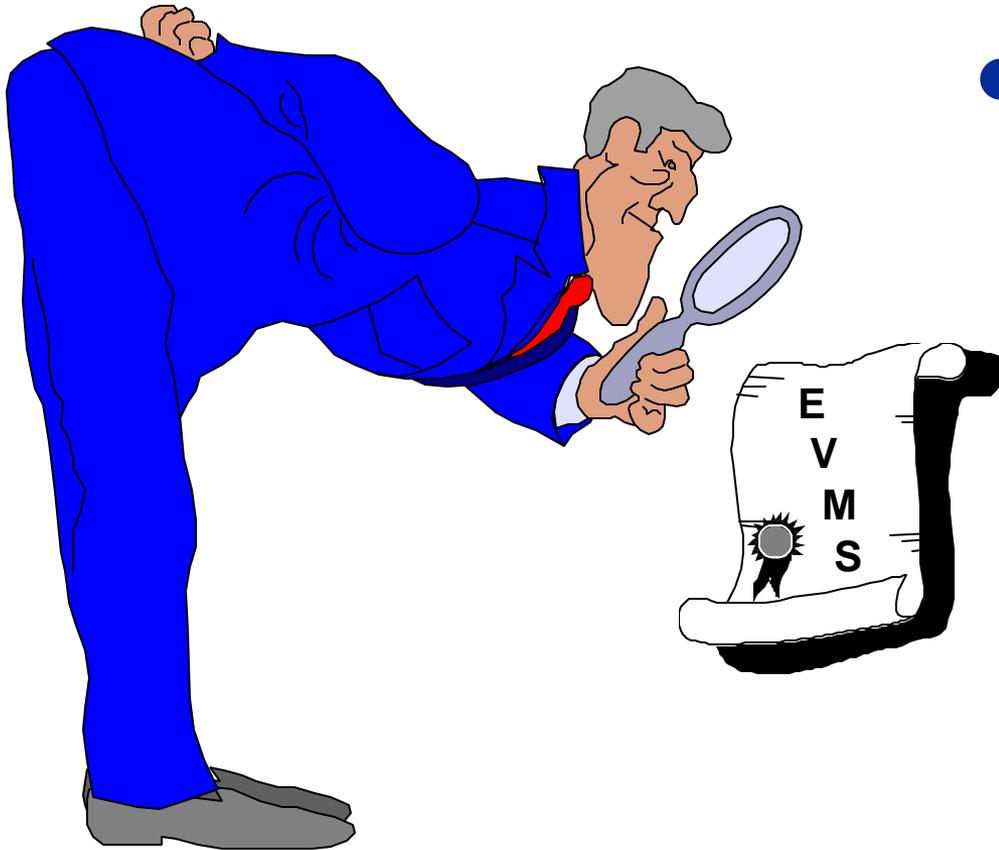
- **32 Criteria:**

- » Organization
- » Planning, Scheduling & Budgeting
- » Accounting Considerations
- » Analysis & Management Reports
- » Revisions & Data Maintenance

- Mirrors Industry Guidelines



DoD Earned Value Policy



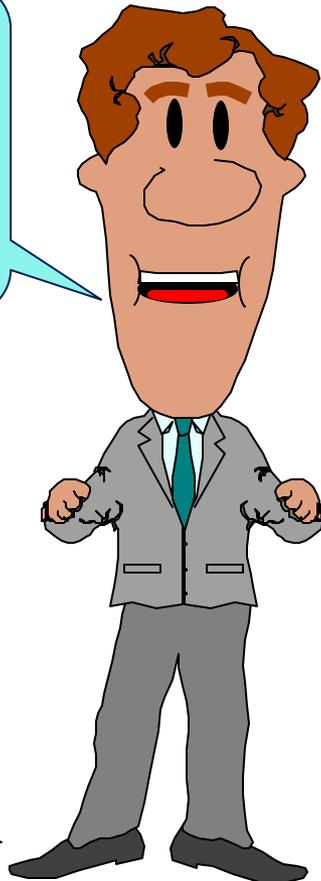
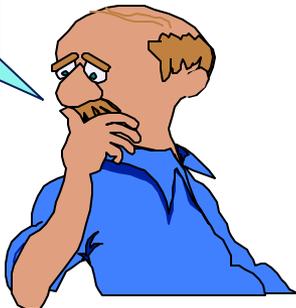
● Reaffirmed-

- » ADL Study - 1984
- » TQM Report - 1991
- » DoDI 5000.2 - 1991
- » DoDIG Report - 1993
- » C&L/TASC - 1994
- » DoD 5000.2-R - 1996
- » OMB Circular A-11
Part 3 - 1996
- » GAO Report - 1997

Reform Legislation

Acquisition Reform is connected to 3 federal acts

*Is there an inter-
mission
?*



- Government Performance and Results Act (GPRA), 1993
- Federal Acquisition Streamlining Act (FASA), (Title V), 1994
- Information Technology Management Reform Act (ITMRA), 1996
 - » “Clinger/Cohen”

Purpose of the Acts

GPRA

Provides for establishment and evaluation of performance standards and goals for expenditure of the Federal budget

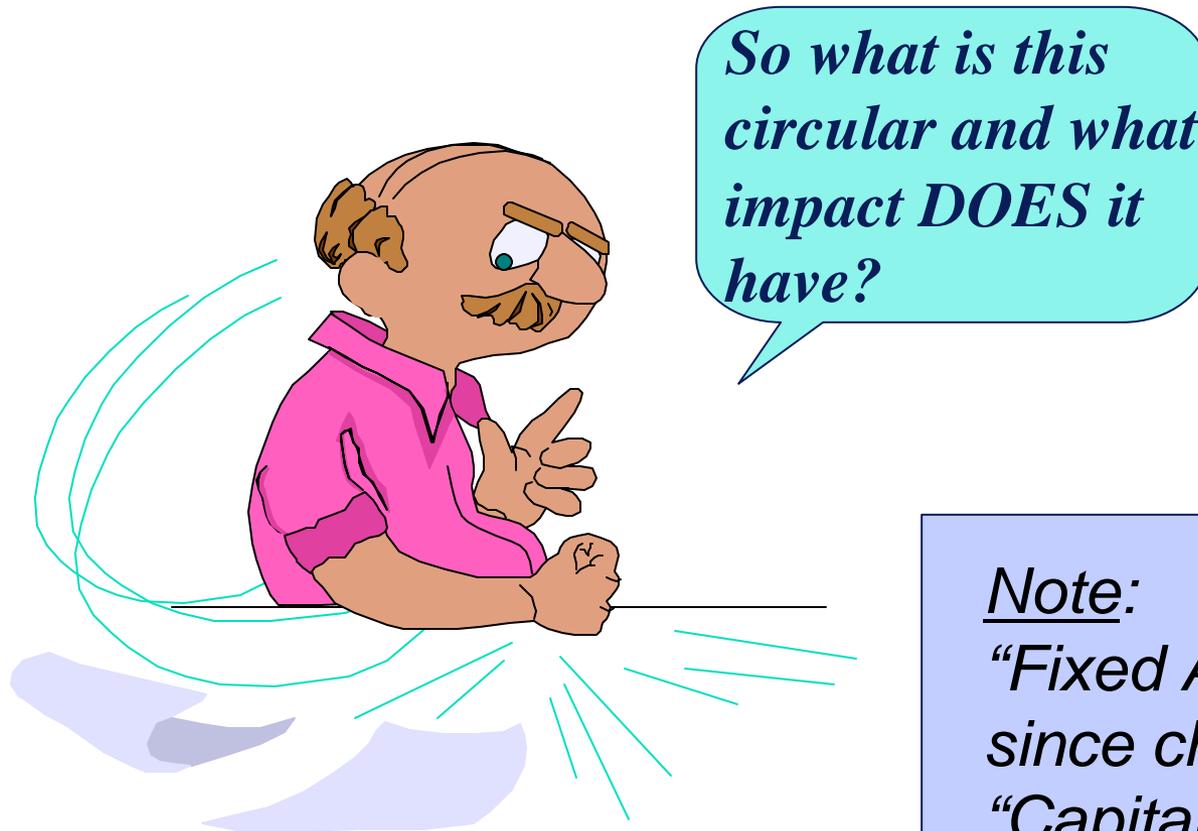
FASA(V)

Requires reporting of cost, schedule and performance goals for asset management and evaluation of progress

ITMRA

Requires reporting of performance in information systems acquisition

Circular A-11, Part 3: Planning, Budgeting & Acquisition of Fixed Assets



Note:

"Fixed Asset" has since changed to "Capital Asset"

A-11 Part 3 Objectives

It is designed to

- provide guidance and identify requirements for planning, budgeting and acquisition management of fixed assets
- unify guidance for the collection of agency information that FASA and ITMRA require OMB to report to Congress
- ensure that acquisition plans support the mission statements, performance goals and plans developed per GPRA

Capital Assets: Definition

- Capital assets are
 - » Land, Structures, Equipment
 - » Intellectual property (including software)
 - » Useful life of two years or more
 - » Additions, improvements, replacements
- Capital assets may be acquired by
 - » Purchase, construction, manufacture
 - » Lease-purchase or other capital lease
 - » Operating lease

Capital Assets: Examples

- Office buildings
- Hospitals, schools
- Laboratories
- Prisons
- Dams, power plants
- Furniture, elevators
- Printing presses
- Motor vehicles
- Airplanes, ships
- Satellites
- Space exploration equipment
- Info. technology hardware/software
- DoD weapons systems
- etc.....

A-11, Part 3 (cont'd)

A-11 also addresses issues regarding full funding, a new idea for some agencies.



Principles of Budgeting for Capital Asset Acquisitions

- Planning
 - » Supports core mission
 - » ROI > alternative uses of public resources
 - » Risk is understood
- Costs & Benefits
 - » Including life-cycle
 - » ***Cost/Sched/Perf goals measurable using EVMS***
- Principles of Financing
 - » Fully funded
- Risk Management
 - » Analyzed & managed
 - » Appropriate allocation
 - Government
 - Contractor
 - » ***Controlled & monitored using EVMS***
 - » Formal review process

Performance Measures

Strategic Goals

- Mission
- Long-term Goals

Performance Goals

- Annual goals
- Specific element of a strategic goal

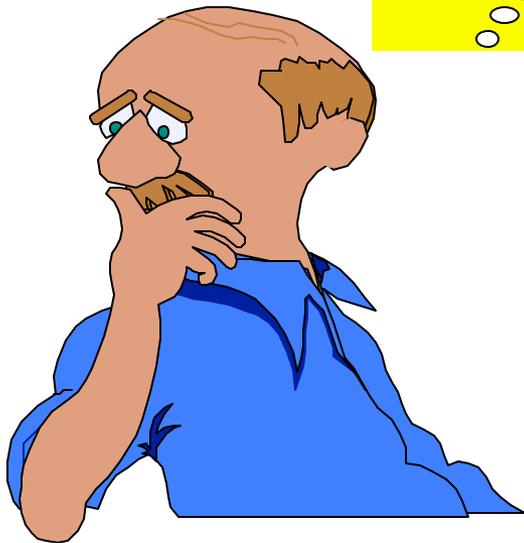
Performance Indicators

- A measure of progress toward a performance goal
 - quantity
 - quality
 - timeliness
 - cost
 - outcome

“Three Pesky Questions:”

- 1. Is function tied to agency mission?*
- 2. Could another entity do it better?*
- 3. Have processes been reengineered to give best performance at lowest cost?*

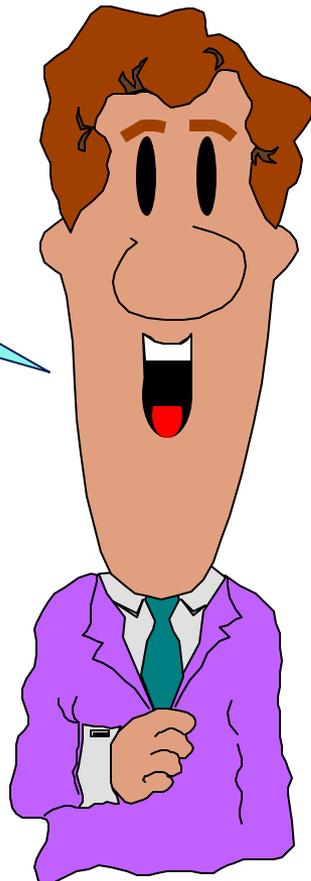
Performance-based Management: The Key?



- Shift focus to program execution
- Provide for regular and systematic measurement of program performance compared to goals
- Emphasize results (outcomes and outputs)

Baseline Goals

So what gets reported to OMB?



- Cost and Schedule Goals
- Performance Goals

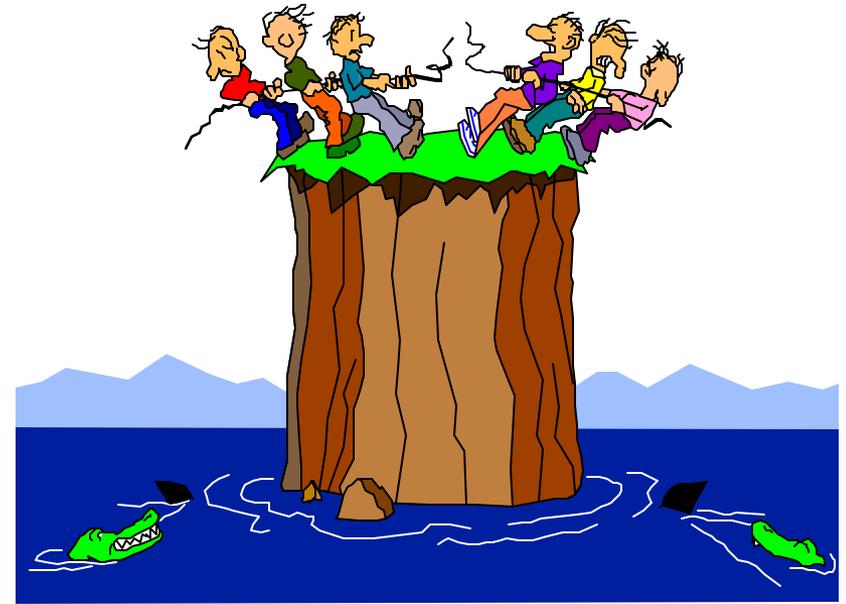
Cost and Schedule Variance Reporting

- If cost or schedule is 10% or more above or behind plan, respectively
 - » Analyze variances
 - » Discuss corrective actions
 - » Propose revisions if goals can't be met



Performance Goals

- These should clearly define the technical or other results expected
- Wherever possible, they should be quantitative
- Describe the probability of accomplishment, i.e. what is the degree of

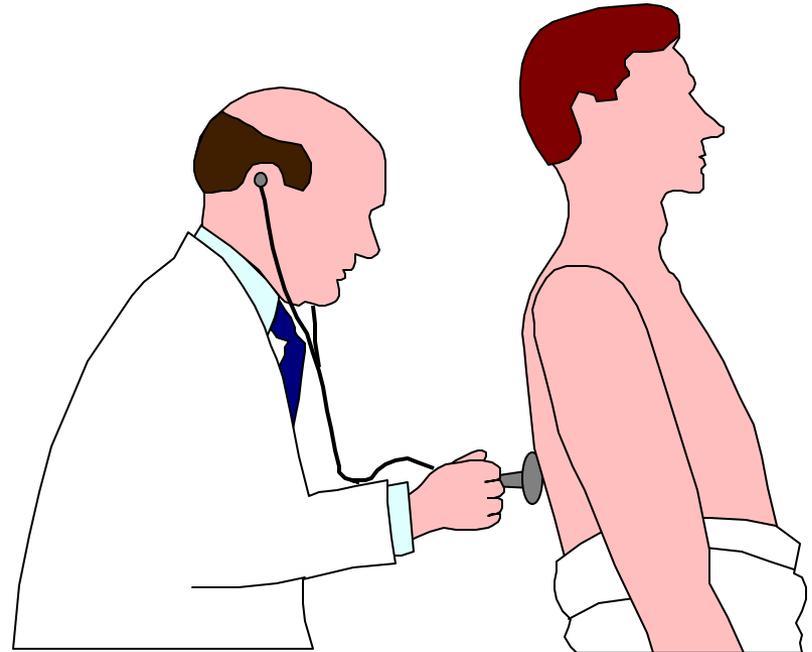


Risk



Performance Goal Variance Reporting

- If there is any* deviation from the baseline plan for performance goals
 - » Analyze variances
 - » Discuss corrective actions
 - » Propose revisions if goals can't be met



* **10% for DoD**

Management Alternatives

- Find the resources
- Adjust program to stay within resources
 - » Must meet baseline goals unless OMB approves revisions
 - » Proposed revisions must be justified, with an estimated probability of achievement
- Cancel?

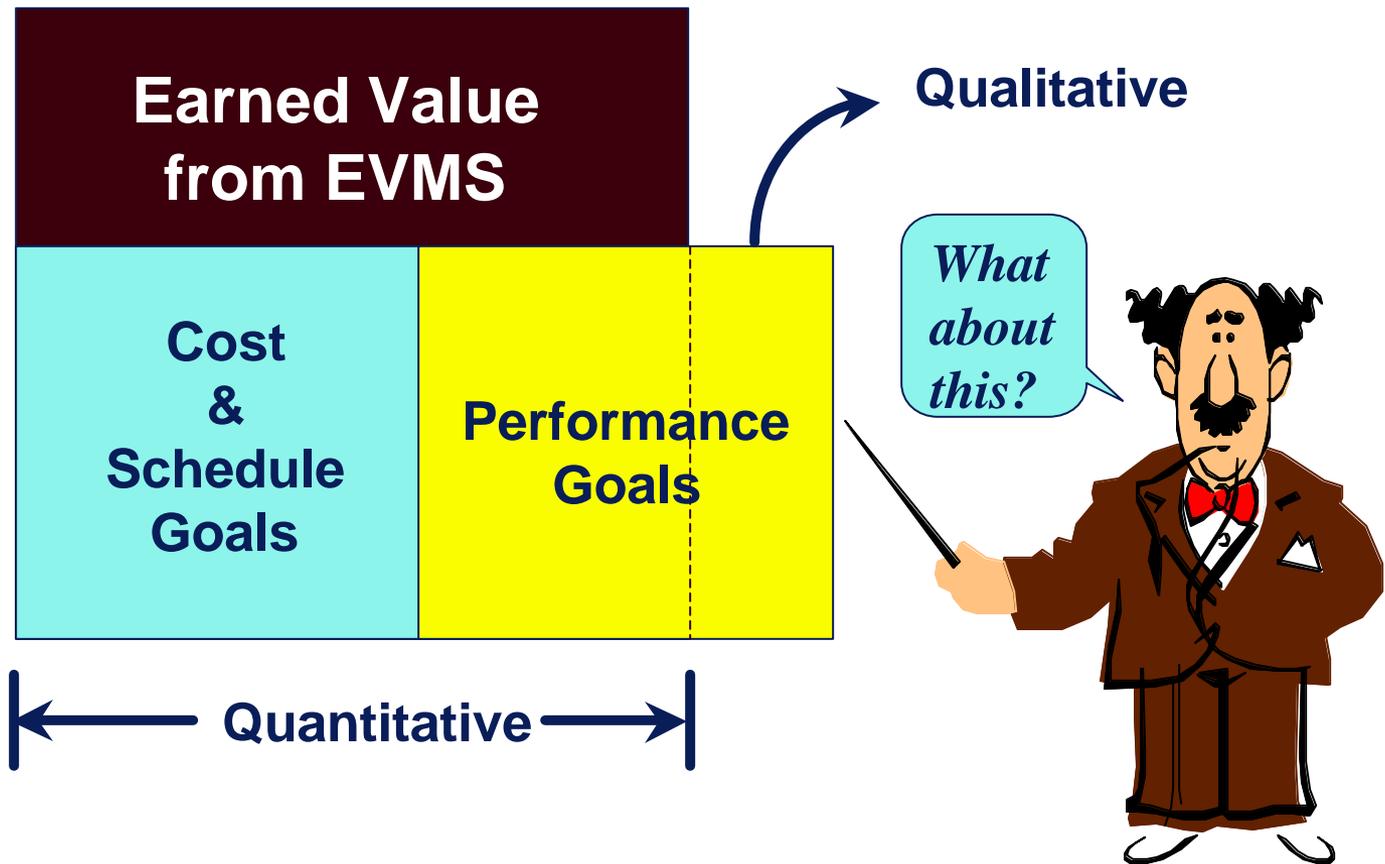
Earned Value Management and A-11 Part 3

*A-11 sees a
key role for
EVMS*



- A-11 requires a description of the performance-based management system used by contractors
- Asks whether it is an EVMS system and, if not
- Explain how the system provides measures of accomplishment vs planned schedule and actual cost

Earned Value and A-11, Part 3



The Next Steps

- OMB Capital Programming Guide
 - » Basic reference
 - » Replaces OMB A-109
 - » Not prescriptive
- OMB training
- Continue Cooperation
 - » American Project Management Forum
- Reporting/contract types?



In Conclusion

- A-11 Part 3 officially extends DoD-pioneered performance measurement to all agencies- *and* applies to DoD
- It effectively mandates Earned Value Management as the basis for performance-based management systems
- Earned Value Home Page:
<http://www.acq.osd.mil/pm>

