

Capital Acquisition Under
The President's Management
Agenda

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President's Message in FY 2003 Budget

- With all the new demands on our resources, better management is more sorely needed than ever.
- We must measure performance and demand results
- Where programs are succeeding, their efforts should be reinforced, where they are not, they should be reinvented, redirected, or retired.

President's Message in FY 2004 Budget

- We will continue to focus on getting results from federal spending.
- A federal program's measure of success is not its size, but the value it delivers.
- My budget will focus on this goal in a new and important way.
- If federal programs cannot show results, they should be overhauled, or retired.

Executive Branch Management Scorecard

- Good intentions and good beginnings are not the measure of success. What matters in the end is completion: performance and results.
- To ensure accountability, a “traffic light” grading system is used to track how well agencies are executing the management initiatives and where they stand at any point in time.

Executive Branch Management Scorecard

Current Status as of
December 31, 2002

Progress in Implementing the President's
Management Agenda

	Current Status as of December 31, 2002					Progress in Implementing the President's Management Agenda				
	Human Capital	Com-petitive Sourcing	Financial Perf.	E-Gov	Budget/ Perf. Inte-gration	Human Capital	Com-petitive Sourcing	Financial Perf.	E-Gov	Budget/ Perf. Inte-gration
AGRICULTURE	●	●	●	●	●	●	●	●	●	●
COMMERCE	●	●	●	●	●↑	●	●	●	●	●
DEFENSE	●↑	●	●	●	●↑	●	●	●	●	●
EDUCATION	●	●	●	●↑	●	●	●	●	●	●
ENERGY	●↑	●	●↑	●↑	●	●	●	●	●	●
EPA	●	●	●↑	●	●	●	●	●	●	●
HHS	●	●	●	●	●	●	●	●	●	●
HOMELAND	●	●	●	●	●	●	●	●	●	●
HUD	●	●	●	●	●	●	●	●	●	●
INTERIOR	●	●	●	●	●	●	●	●	●	●
JUSTICE	●	●	●	●	●	●	●	●	●	●
LABOR	●	●	●↑	●	●↑	●	●	●	●	●
STATE	●	●	●	●	●	●	●	●	●	●
DOT	●	●	●	●	●	●	●	●	●	●
TREASURY	●	●	●	●	●	●	●	●	●	●
VA	●	●	●	●↑	●↑	●	●	●	●	●
AID	●	●	●	●	●	●	●	●	●	●
CORPS	●	●	●	●	●	●	●	●	●	●
GSA	●	●	●	●	●	●	●	●	●	●
NASA	●↑	●	●↓	●	●↑	●	●	●	●	●
NSF	●	●	●	●↑	●	●	●	●	●	●
OMB	●	●	●	●	●	●	●	●	●	●
OPM	●	●	●↑	●	●	●	●	●	●	●
SBA	●	●	●↓	●	●	●	●	●	●	●
SMITHSONIAN	●	●	●	●	●	●	●	●	●	●
SSA	●	●	●	●	●↑	●	●	●	●	●

Arrows indicate change in status since baseline evaluation on September 30, 2001.

POLICY

- OMB Circular A-109, Major System Acquisitions, April 5, 1976
- OMB Circular A-130, Management of Federal Information Resources, November 2000
- OMB Circular A-11, Part 7, Planning, Budgeting and Acquisition of Capital Assets, annually
- FASA, Title V, October 1994
- Clinger-Cohen Act, 1996

Capital Programming Process

- Agency-wide process
- Executive Review Committee must annually prioritize all new and old projects for funding
- Based on Business Case for new projects and ROI for on-going projects
- Major acquisitions submitted to OMB

Business Case Scoring

- All BCs are scored against 10 criteria
- Results provided to agency via budget passback process.
- Ensure agency planning and management of assets is consistent with OMB policy and guidance.
- Ineffective programs, even those with a strong business case, will not be funded.

10 Scoring Criteria

- Supports the President's Management Agenda Items. (Multiple Sections)
- Acquisition Strategy (Section I.G).
- Program Management (I.D, I.H, +)
- Alternatives Analysis (I.E)
- Risk Management (I.F)
- Performance Goals (I.C)

10 Criteria (Cont)

- Performance-Based Management System (I.H)
- Life-Cycle Costs Formulation (I.E. +)
- IT ONLY
 - Enterprise Architecture (II.A)
 - Security and Privacy (II.B)

I.H. Project and Funding Plan

- EVMS must meet ANSI/EAI Standard 748
- I.H.1 Description of Performance-Based Management System
 - Name software program used to evaluate contractor provided EVMS Data.
- For operational projects define the operational analysis system
- Mixed Life-Cycle projects – EVMS on system improvements, OA on operations.

Earned Value Management

- A project management tool that integrates the project scope of work with schedule and cost elements.
- ANSI/EIA Standard 748 - 2002, *Earned Value Management Systems*.
- Lots of information about EVMS at www.acq.osd.mil/pm

EVMS Changes the Traditional Project Evaluation Method

- To the comparison of how much budget was available in a period to how much was actually spent - BCWS to ACWP
- EVMS adds:
 - How much of the scheduled work actually was done - BCWP
- Provides early visibility of deviations from the cost, schedule and performance goals.

Government Establishes the Framework for the Project

- Agency contract defines outcome/output requirements
- Contract requires contractor to use EVMS - ANSI/EIA 748, to build proposal, manage contract performance, and submit EVMS data to Government.
- Contract defines EVMS software Government will use.

5 PERFORMANCE INDICATORS

How much work should have been done? Budgeted cost of work scheduled BCWS

How much has been done? Budgeted cost of work performed BCWP

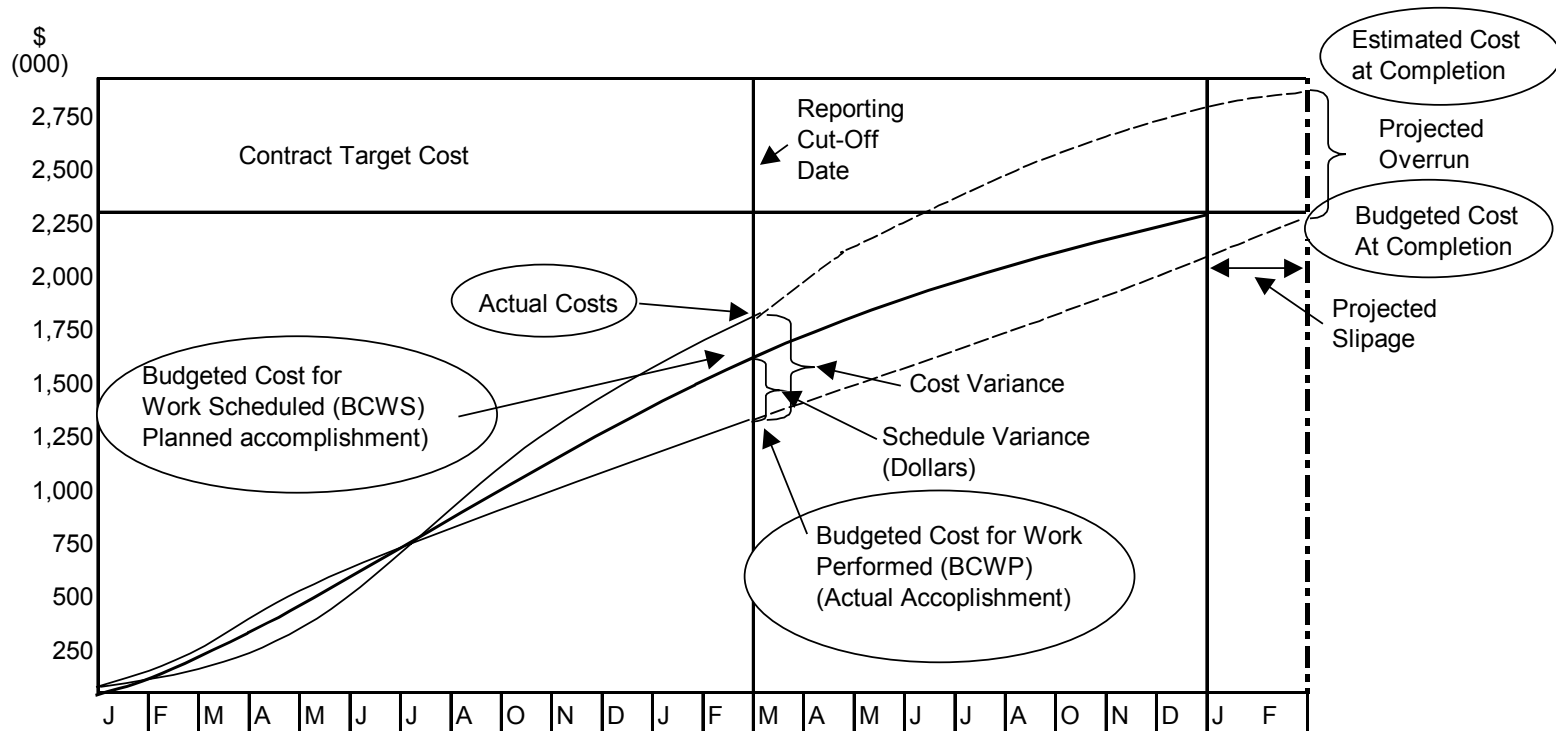
How much did the work cost? Actual cost of work performed ACWP

What was the total job supposed cost? Budget at completion BCA

What do we now expect the total job to cost? Estimate at completion EAC

COST PERFORMANCE REPORTING

KEY DATA ELEMENTS



Earned Value Trend Analysis

Variance Analysis By WORK Breakdown Structure										
WBS	Description	SV	CV	VAC	SV	CV	ACV	SPi	CPI	TCPI
1	Muon for U.S. ATLAS Construction	↓	↔	↑	-\$875	-\$28	-\$1,360	0.67	0.98	0.84
1.1	D&D of Kinematic Mounts	↔	↔	↔		-\$1		1.00	0.99	1.00
1.2	Circuit Board F&D	↓	↔	↑	-\$875	-\$24	-\$1,356	0.64	0.98	0.78
1.3	HV Patch Panel Design and Development	↔	↔	↔				1.00	1.00	1.00
1.4	TTC Module Development and Fabrication	↔	↔	↔				1.00	1.00	1.00
1.5	TTC Module Development	↔	↔	↔		-\$1		1.00	0.95	1.00
1.6	HV Board Development and Fabrication	↔	↔	↔		-\$2		1.00	0.98	1.00

Values in K Dollars

EVMS draft Clause

- “Earned Value Management (EVM) as used in this clause, means a project management system used by the contractor that effectively integrates the project technical scope of work with schedule and cost elements for optimum project planning and control. The qualities and operating characteristics of earned value management systems are described in American National Standards Institute (ANSI)/Electronic Industries Alliance (EIA) Standard-748- A – 1998, *Earned Value Management Systems*. A copy of the standard is available from Global Engineering Documents (1-800-854-7179).

EVMS draft Clause

- In the performance of this contract the contractor shall use an earned value management system to manage the contract that –
- (1) Has been recognized by the contracting officer or her/his authorized representative that complies with the guidelines in ANSI/EIA Standard 748.
- (2) Provides on a monthly basis, or more often as deemed necessary by the contracting officer, the following project status information:
 - (a) Budgeted (planned) cost of work scheduled (BCWS);
 - (b) Budgeted cost of work performed (BCWP);
 - (c) Actual Cost of work performed (ACWP); and
 - (d) Provide a cost curve graph plotting BCWS, BCWP, and ACWP on a monthly basis from inception of the contract through the last report, and plotting the ACWP curve to the estimated cost at completion (EAC) value

EVMS draft Clause

- (e) In addition, provide the following EVMS variance analysis:
- Cost variance = (BCWP minus ACWP);
- Cost Variance % = (CV/BCWP X 100%);
- Cost Performance Index (CPI) = (BCWP/ACWP);
- Schedule Variance = (BCWP minus BCWS);
- Schedule Variance % = (SV/BCWS X 100%);
- Schedule Performance Index (SPI) = (BCWP/BCWS);

EVMS draft Clause

- Two independent Estimates at Completion (EAC);
- $ACWP_{cum} + 1/CPI \times (BAC \text{ minus } BCWP \text{ cum})$;
- $ACWP_{cum} + 1/CPI \times SPI \times (BAC \text{ minus } BCWP_{cum})$;
- Variance at Completion (VAC) = (BAC minus EAC) for both EACs above;
- Variance at Completion % = $(VAC/BAC \times 100\%)$ for both EACs above;
- Expected Funds to Completion (ETC); and
- Expected Completion Date.
- (f) Explain the reasons for all variances.

EVMS draft Clause

- g) Provide performance variance. Explain, based on work accomplished as of the date of the report, whether the performance goals will be achieved.
- (h) Provide the contractor EAC and the differences with the two independent EAC calculated as above.
- (i) Discuss the corrective actions that will be taken to correct the variances, the risk associated with the actions, and how close these actions will bring the project to the original baseline. Define proposed baseline changes, if necessary.

EVMS draft Clause

- (c) The Government will conduct an integrated baseline review within ____ (should be before contract award, but as soon as practicable after award) days after contract award, exercise of significant contract options, or incorporation of major contract modifications. The objective of the integrated baseline review is for the Government and the Contractor to jointly assess areas, such as the Contractor's planning, to ensure complete coverage of the statement of work, logical scheduling of the work activities, adequate resources, and identification of inherent risks.
- (d) Contractor proposed EVMS changes must be agreed to by the contracting officer and the contractor prior to implementation.

EVMS draft Clause

- (e) The Contractor agrees to provide access to all pertinent records and data requested by the contracting officer or a duly authorized representative. Access is to permit Government surveillance to ensure that the EVMS conforms, and continues to conform, with the performance criteria referenced in paragraph (a) of this clause.
- (f) The contractor shall require the subcontractors specified below to comply with the performance criteria of this clause (Insert list of applicable subcontractors).
- (End of Clause)

I.H.4.A Actual Performance and Variance

- **All of I.H.4 is always filled in to show current status of project.**
- Compares OMB approved baseline and actual outcomes for phase, segment/module by milestone
- Shows baseline completion date and new estimated completion date, baseline costs and new estimate to complete.

I.H.4.B Project Summary

- As of date ____ Must show:
- Budgeted Cost of Work Scheduled (BCWS)
- Budgeted Cost of Work Performed (BCWP)
- Actual Cost of Work Performed (ACWP)
- Cost curve plotting BCWS, BCWP and ACWP on monthly basis

I.H.4.B.4 (Cont.) Provide the following EVMS Analysis

- Cost Variance \$ and %
- Cost performance index
- Schedule Variance \$ and %
- Schedule Performance Index
- Two independent Estimate At Completion
- Variance at Completion for both EACs

I.H.4.B.4 (Cont)

- Variance at Completion \$ and %
- Expected Funds to Completion
- Expected Completion Date

I.H.4.C and D

- C - Analysis of the reasons for cost and schedule variances of 10% or more at time of report or EAC is projected to by 10% or more
- D – Provide performance variance
Explain whether IPT still expects to achieve performance goals. If not, explain reasons

I.H.4.E, F and G

- E - Discuss estimate to complete (EAC)
 - Contractor
 - Program Manager
 - Two commonly used EAC formulas
 - Rationale for the EAC chosen by IPT
- F - Corrective actions with risk - How close to original goals will be result
- G - Agency Head concurrence to continue

Cost Performance Index

- $CPI = BCWP/ACWP = \$6,200/\$9,000 = .68$
- Every \$ spent is earning 68 cents
- Performance Factor (PF) = $1/CPI = 1/.68 = \$1.45$. To earn a dollar of value it is costing \$1.45
- Discuss how corrective actions will allow contractor to operate at an efficiency rate of less than a \$ for every earned dollar.

One of Two Estimates At Completion

- $ACWPCum + PF_1(BAC - BCWPCum)$
- Where $PF_1 = 1/CPI = 1/(\$6,200/\$9,000) = 1/.68 = \$1.45$
- $\$9,000 + \$1.45(\$50,000 - \$6,200) =$
- $EAC = \$72,000 = 44\%$ overrun
- $\% \text{ complete} = BCWP/BAC = 12\%$
- To achieve BAC contractor must work at .93 per earned \$

Second of Two EACs

- $ACWP_{cum} + PF_2 (BAC - BCWP_{cum})$
- $PF_2 = 1/CPI \times SPI = 1/.68 \times .68 = 1/.46$
 $= \$2.17$
- $\$9,000 + \$2.17 (\$50,000 - \$6,200) =$
 $\$104,046 = 108\% \text{ overrun}$
- CPI and SPI equal indicates actual expenditures equal planned expenditures.

Management Decision

- If not within 90 % of baseline goals
 - Is project cost-beneficial?
 - Should project be continued or terminated?
 - Where will funds come from?
- OMB must approve revisions to goals
- Baseline goals always retained

Performance Based Management System (PB) (Part I, Section I.H)

- 5 Agency, will use, or uses an Earned Value Management System (EVMS) that meets ANSI/EIA Standard 748 and project is earning the value as planned for costs, schedule, and performance goals.
- 4 Agency uses the required EVMS is within the variance levels for two of the three criteria and needs work on the third issue.

Performance Based Management System (PB) (Part I, Section I.H)

- 3 Agency uses required EVMS but the process within their agency is very new and not fully implemented or there are weaknesses for this individual project's EVMS information.
- 2 Agency seems to re-baseline rather than report variances.
- 1 There is no evidence of PB.