



2012 Government Contracting Seminar

EARNED VALUE | WENDY COLLINS

STATUS PROJECT SERVICES, INC.

WWW.STATUSPROS.COM

5 Secrets Project Managers Won't Tell You



Here is a mystery for you



Many Project Managers turn in charts or performance reports for their projects to status the health of their projects.

Project status metrics are shown many times color coded green, yellow, and red, depending on the health of the project.

Nobody wants a yellow or red project. The color coding is the result of an **Earned Value** calculation based upon the rate of cost and schedule performance compared to the baseline plan.

Late or incomplete tasks will push your project into yellow or red territory.

Once you are there, completing other tasks more quickly and under budget will help return the project to a green status.

	Description	LVL	LL	SV	CV	VAC	VAR	SV	CV	VAC
1	MOH-2	1		↓	↓	↓	c	-427.8	-499.0	35.2
2	PROJ MANAGEMENT	2		↓	↓	↔	c	-13.2	-61.2	-34.0
3	PROJ MANAGEMENT	3	√	↑	↔	↔		-12.0	-17.4	-3.2
4	SYS ENGINEERING	3	√	↔	↓	↔	cC	6.4	-26.4	0.0
5	FUNC INTEGRA	3	√	↓	↓	↔	sc	-7.6	-17.4	-30.8
6	PRIME EQUIP	2		↓	↓	↑	c	-384.8	-367.6	-309.0
7	SENSORS	3	√	↑	↓	↔		-36.6	-10.6	-21.6
8	COMMUNICATIONS	3	√	↑	↓	↔	scSC	-203.2	-130.8	-87.0
9	AUX EQUIP	3	√	↓	↓	↓	scSC	-93.2	78.2	8.4
10	ADPE	3	√	↓	↓	↔	sc	-10.2	12.6	4.6
11	COMP PROGRAMS	3	√	↔	↓	↔		-0.2	3.4	-1.4
12	PCC	3	√	↓	↑	↔	C	-11.4	-296.2	-187.2
13	DATA DISPLAY	3	√	↑	↔	↔	sS	-113.0	0.0	0.0
14	I & A	3	√	↓	↓	↔	scS	83.0	-24.2	-24.8
15	SPARES	2	√	↑	↑	↔		1.2	-7.8	-6.2
16	DATA	2		↔	↓	↔	cCV	-6.6	-17.8	-16.0
17	ENG DATA	3	√	↓	↓	↔	scSC	-6.6	-4.6	0.0
18	MANAGEMENT DATA	3	√	↑	↓	↑	scCV	0.0	-13.2	-16.0
19	TEST & EVAL	2		↔	↑	↔		14.6	0.6	-2.0
20	TEST FACILITIES	3	√	↔	↔	↔		-0.6	2.0	0.0
21	SYSTEM TEST	3	√	↓	↑	↔	c	12.0	-5.6	-2.0
22	PCC TEST	3	√	↑	↓	↔		3.2	4.2	0.0
23	GEN & ADMIN	2	√	↓	↓	↔	c	-39.0	-45.2	-36.8
24	PERF MEASURE BL	2		↓	↓	↑	c	-427.8	-499.0	-404.0
25	MGT RESERVE	2	√			↔	V	0.0	0.0	439.2

And now the mystery...



Projects are coded green on a continuous basis indicating the project is in good health. Yet, these projects consistently miss **deadlines** and **blow their budgets** wasting millions of dollars - dollars coming, in most cases, directly from the federal government. **Our. Tax. Dollars.**

How does this happen? How do projects stay coded "green" for long periods of time when they are in a state of behind schedule and over cost? **Artful manipulation of the system.**



Earned Value Cheat Sheet



Many
Project
Managers
now know
how to
beat the
system.

Here's the
playbook.

1. Pad the Schedule

- If a project looks like it will take six months, tell management or customer that it will take seven or eight.

2. Push Problem Tasks Forward

- Putting the easiest tasks at the beginning of the project and the hardest tasks at the end can keep a project green for a long time.

3. Bump the Task Completion Percentages

- The longer the task, the larger the "benefit," but upping the completion percentage of any subjective task will help the earned value numbers.

4. Re-Baseline the Project

- The project manager waits until a scope change or other change request, and uses that as an excuse to redo the project schedule.

5. Late Integration of Tasks

- Putting problem tasks at the end of the project and marking them partially complete, problems can be hidden for the entire life of the project.

Can EV encourage bad decisions?



Earned Value is a scoring system used to assess the performance of a project.



Project Manager Jack –
Experienced, but cuts corners and ignores potential problems
Completes tasks quickly and at lower cost



Project Manager Jill –
Experienced, but is extremely cautious and is careful to check work
Avoids risk and consistently delivers a high quality project

Who is the better project manager?

Speed vs. Quality



According to EV, Jack could be scored better.

It is not that EV promotes poor quality – it is just blind to quality. From the perspective of EV, quality on all tasks and all projects is equal and absolute.

When a task is marked complete, the system assumes it will meet or exceed the required level of quality for the project.

This assumption is necessary for the EV metrics to be used as common yardsticks.

Unfortunately, EV rewards rushed and perhaps sloppy work.

As project managers understand the system, they soon realize they do not get any points for “extra” quality – only credit for racing though tasks meeting only the minimum accepted level of quality.

What goes wrong...



There are many reasons why projects fail –

- Requirements aren't accurate
 - Project scopes aren't managed
 - Design flaws emerge
 - Vendors don't deliver
 - Early estimates are poor
- ...and many more.



All failed projects have one thing in common: at some point, the project team was spending time and money and not completing tasks.

This lack of progress is exactly what earned value calculation is designed to catch.

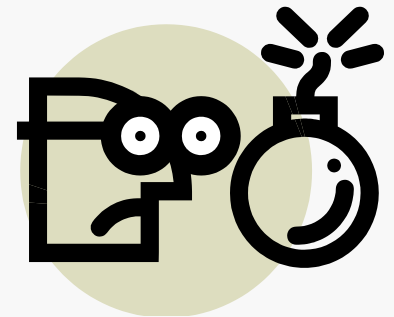
Better late than never...



If project indicators fall for two weeks in a row, it is likely that progress on the project has stalled.

At that point, management realizes the project is most likely going to be late.

An earned value system is not designed to punish people for being late. **It is designed to help management prevent a late project from becoming a failed project.**



Staving off disaster...



Instead of punishing managers for being late, management should use the metrics to focus attention on performing the right projects and providing assistance on correcting the problems on stalled projects.

Being a project manager is tough enough. The role generally has more responsibility than actual authority.

And training is often minimal or nonexistent, leaving most to learn from their own mistakes.

Project managers don't need another reason to be punished; they need more support and mentorship.

Getting off on the right foot...



Be careful of setting up a project to fail from the beginning.

Pitfalls include:

- An “economy car” is pitched and the customer comes back and asks for a “stealth fighter” in the same time frame and for the same cost and company management **accepts** it.
- Cuts are made on proposals in order to make a low-bid in attempt to win a contract. Once won, there is not enough contract experience to **manage and implement the change orders** necessary in order to properly analyze and report project performance.
- An assumption is made that Earned Value is just a report required by the customer each month instead of understanding that it is a **project management philosophy**.

So, what is Earned Value?



- Earned Value Management (EVM) is a project management technique for measuring project performance and progress in an objective manner.
- Because EVM has the ability to combine measurements of scope, schedule and cost in a single integrated system, Earned Value Management is able to provide accurate historical and forecast measurements of project performance.
- Earned Value associates a dollar value with work completed so that it can be compared with the actual spending (to determine **cost variance** – potential cost overruns), and the planned spending (to determine **schedule variance** – potential schedule slippage). In this manner, planned and actual spending are integrated with actual work performed.

How does it work?



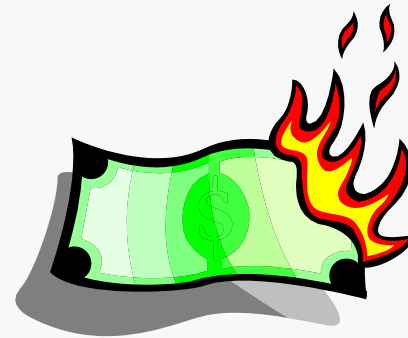
Earned value project management includes:

- Planning work to a manageable level of detail
- Allocating a portion of the budget to each planned work unit (work package)
- Tracking progress by the accumulated “value” of completed work units
- “Earning” work (as it is performed) on the same basis as it was planned, in dollars or other quantifiable units
- Completing the work units, which earns the budgeted value

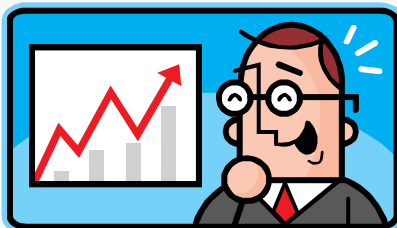
EVM vs. Traditional Tracking



Traditional project management practice tends to compare actual costs with planned expenditures, and confuses actual costs with progress.



Earned Value provides a third reference point that is an objective measurement of the work completed to date.



Results when used right



The **successful implementation** of Earned Value Management principals and the integration of cost, schedule and performance provides greater visibility into the real project status for all stakeholders and provides for:

- Early determination of whether a project is in trouble
- Better visibility into program performance and what will be needed to complete program scope
- Better management of risks
- Increased communication with project team members and stake holders

One “weird” trick successful project managers learned...

The word "STATUS" is written in a large, bold, black, sans-serif font. It is centered within a white square that has a thin black border. A vertical line and a horizontal line intersect at the center of the square, passing through the text.

STATUS

Project Services, Inc.

Regulations



DFAR 252.234-7001 Notice of Earned Value Management System

DFAR 252.234-7002 Earned Value Management System

DFAR 252.240-7005 Contractor Business Systems

FAR 52.234-2 Notice of Earned Value Management System - Pre-Award IBR

FAR 52.234-3 Notice of Earned Value Management System - Post Award IBR

FAR 52.234-4 Earned Value Management System

ANSI/EIA-748 32 EVMS Criteria



1. Establish a Work Breakdown Structure (WBS)
2. Establish an Organization Breakdown Structure (OBS)
3. Integrate WBS and OBS
4. Show Overhead Responsibility
5. Establish Control Accounts
6. Establish a Schedule
7. Set Performance Indicators
8. Time-Phase Budgets
9. Identify Cost Elements
10. Identify Work Packages (WPs) & Planning Packages (PPs)
11. Summarization of WPs & PPs Equal Control Account
12. Identify Level of Effort (LOE) Activities
13. Establish Overhead Budgets
14. Identify Management Reserve (MR) & Undistributed Budget (UB)
15. Calculate Program Target Cost
16. Ensure Budget is Consistent with Actual Cost Collection
17. Ensure WBS Control Account Summarization Integrity
18. Ensure OBS Control Account Summarization Integrity
19. Properly Allocate Indirect Cost
20. Identify Unit Costs
21. Ensure Material Accounting
22. Track Cost and Schedule Variances
23. Perform Variance Analysis
24. Track Indirect Cost Variance
25. Ensure Variance Summarization
26. Explain & Implement Corrective Actions
27. Forecast New Budget
28. Timely Incorporate Changes
29. Perform Change Control Management
30. Control Retroactive Changes
31. Ensure Authorized Revisions
32. Document Changes

Compliance



For Cost/Incentive Contracts¹ ≥ \$50 Million²

Requirements	When Required
Compliance with EVM system guidelines in ANSI/EIA-748 ³	At contract award and throughout contract performance
EVM system formally validated and accepted by cognizant contracting officer	At contract award and throughout contract performance
Contract Performance Report (DI-MGMT-81466A)	Monthly
Integrated Master Schedule (DI-MGMT-81650)	Monthly
Integrated Baseline Reviews	Within 180 days after contract award, exercise of options, and major modifications

1. The term, "Contracts," includes contracts, subcontracts, intra-government work agreements, and other agreements. "Incentive" contracts include fixed-price incentive.

2. Application thresholds are in then-year dollars.

3. ANSI/EIA-748 = American National Standards Institute/Electronic Industries Alliance Standard 748, Earned Value Management Systems

Compliance



For Cost/Incentive Contracts¹ ≥ \$20 Million² but <\$50 Million²

Requirements	When Required
Compliance with EVM system guidelines in ANSI/EIA-748 ³ (no formal EVM system validation)	At contract award and throughout contract performance
Contract Performance Report (DI-MGMT-81466A) (tailoring recommended)	Monthly
Integrated Master Schedule (DI-MGMT-81650) (tailoring recommended)	Monthly
Integrated Baseline Reviews	Within 180 days after contract award, exercise of options, and major modifications

1. The term, “Contracts,” includes contracts, subcontracts, intra-government work agreements, and other agreements. “Incentive” contracts include fixed-price incentive.

2. Application thresholds are in then-year dollars.

3. ANSI/EIA-748 = American National Standards Institute/Electronic Industries Alliance Standard 748, Earned Value Management Systems

Compliance



For Cost/Incentive Contracts¹ < \$20 Million²

Requirements	When Required
Compliance with EVM system guidelines in ANSI/EIA-748 ³ (no formal EVM system validation)	At the discretion of the PM based on cost-benefit analysis

1. The term, “Contracts,” includes contracts, subcontracts, intra-government work agreements, and other agreements. “Incentive” contracts include fixed-price incentive.

2. Application thresholds are in then-year dollars.

3. ANSI/EIA-748 = American National Standards Institute/Electronic Industries Alliance Standard 748, Earned Value Management Systems

Questions?

