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Ms. Margaret Weichert
Deputy Director for Management
The Office of Management and Budget
725 17th Street, NW
Washington, DC 20503

Mr. Kevin Fahey
Assistant Secretary of Defense for Acquisition, DoD

Subj: How Commercial IT Companies Use Earned Value Management with P/PM

Dear Ms. Weichert and Mr. Fahey:

Commercial IT companies in S. Korea and India use EVM that is based on P/PM and systems engineering best practices. These practices should be applied to DoD capital acquisitions.

This letter augments my letter dated July 26, “Successful Implementation of PMIAA by all Agencies, including DoD. It incorporates excerpts from an article that I wrote in 2010, “Performance-based EV in Commercial IT Projects,” and provides additional evidence that EIA-748 is a *de facto* military standard that fails to meet OMB criteria. It also includes excerpts from my letter to then Pres.-elect Trump, which is also relevant today.

Topics and highlights from the article follow:

Background

I had the pleasure of teaching Performance-Based Earned Value to over twenty project managers and software engineers at Samsung SDS (SDS). SDS is the largest IT company in S. Korea with 17 overseas offices in 10 countries and 10,000 employees. SDS has fixed-price IT development contracts. It had applied EVM to some of its contracts and was planning to increase its use.

Solomon Protects His Intellectual Property

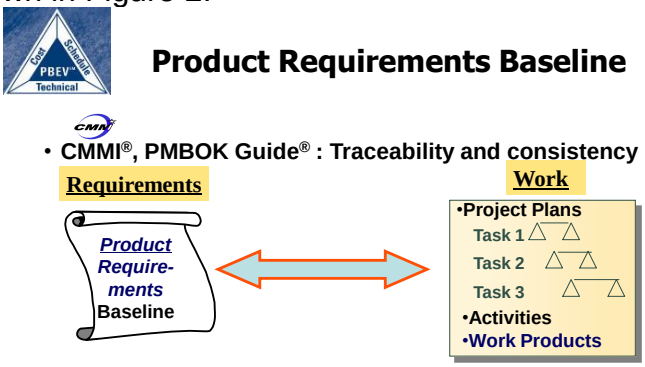
SDS EV Techniques

The Samsung Software Academy (SSA) was developing an advanced course for senior project managers (PM). The course consists of five modules including Leading Complex Projects, Agile PM, Risk Management, Estimation, and EVM. Most of the trainees were PMPs and had previous, fundamental EVM training.

The PBEV training was integrated with SDS core training on software requirements and software estimation, based on the books written by Karl Wiegerts and Steve McConnell). SDS' EVM process is consistent with the PMI *Project Management Body of Knowledge* (PMBOK®) and PMBOK's focus on quality and the *product* scope. SDS does not align its processes with the U.S. EVMS Standard nor with EVMS guidelines that measure only *work* scope, not product scope.

Trace Requirements Baseline to the Schedule and Work Packages

The SDS training included guidance from the Capability Maturity Model Integrated (CMMI®) for requirements traceability from a requirement to its derived requirements as well as to its allocation to functions, objects, plans, work products, and work packages, as shown in Figure 2.



Source: CMMI Requirements Management Process Area (PA), Specific Practice (SP) 1.5

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SDS EV Techniques

The SDS training agenda included techniques and class problems that link EV with technical performance and the product requirements. The techniques that are illustrated below include:

- Define the requirements baseline for each planned product release
- Trace the requirements baseline to the schedule and work packages
- Track status of each requirement
- Monitor technical performance with meaningful variance analysis
- Account for deferred functionality
- Plan and measure rework
- Make negative adjustments to EV for accurate status
- Realistic EAC

Figure 11

Derivation and Flowdown of TPMs

Document, Baseline, IMS, EVM	Parameter
CDD	Key Performance Parameter (KPP)
Functional Baseline	Measures of Effectiveness (MOE)
Functional Baseline	Measures of Performance (MOP)
Allocated Baseline	TPM
IMS	TPM Milestones and Planned Values
Work packages	TPM-based % complete criteria

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Conclusion (of article)

World class, international, commercial IT companies selectively use EVM on their fixed-price contracts. They do so effectively and efficiently. Their EVM techniques are primarily based on selecting the ***most effective software metrics as base measures of EV and on PMBOK's focus on the product baseline or quality.*** For EV, they measure both the quantity of work completed and the quality of the evolving work product. They use TPMs or the percentage of requirements that were met. EV is truly tied to technical performance.

In contrast, ***U.S. defense contractors use EVM*** processes based on the EVMS standard and ***its limited focus on the quantity of work performed, not quality of the evolving system.*** Defense contractors and their customers should consider adopting some of the best practices of commercial IT companies. These practices can ***transform EVM into a more effective project management tool.***

EIA-748 is a *de facto* military standard that fails to meet OMB criteria

The following email was sent to Mr. Fahey yesterday.

I reviewed information regarding NDIA's proposed EIA-748-D, the reaffirmation of the EVMS standard. The information was from presentations at NDIA Integrated Program Management Division meetings and at the SAE website. SAE is the Voluntary Consensus Standard (VCS) body that is conducting the vote for reaffirmation.

Both sources provide evidence that the proposed EIA-748-D is a de facto military standard and not a VCS that meets the criteria of:

1. PMIAA (widely accepted standards for program and project management (P/PM) planning and delivery) and

2. OMB Circular A-119 (consider..whether..the standard is effective and otherwise suitable for meeting agency regulatory, procurement, or program needs, including as applicable:
   (h) the prevalence of the use of the standard in the national and international marketplaces;

   (i) the problems addressed by the standard and changes in the state of knowledge and technology since the standard was prepared or last revised;

First, the NDIA and the SAE provide clear evidence the contents of the draft EIA-748-D are pertinent to federal contractors and meaningless to commercial organizations. The proposed revisions include the following terms that are not applicable to commercial organizations:

- Authorized, unpriced work
- Over Target Baseline
- Over Target Schedule

Second, the NDIA discussion of the "Next Generation EVM Standard," from its meetings, in Sept. 2017 and Feb. 2018, describe potential revisions to be made in 2023. The presentations confirm that NDIA plans to ignore the non-federal, commercial community and the PMIAA requirements for P/PM.

Sept. 2017 Excerpts:

- IPMD will coordinate with DOE
- IPMD will be coordinating/requesting input from OMB and Civilian Agencies (NASA, DHS, FAA)

Conclusion: There is no indication of intent to coordinate with commercial organizations, both domestic and international.

Feb. 2018 Excerpts:

- Do not add a guideline for Program Management but do add one for Risk Management
- Section 3 of the Standard should discuss the difference between funding and budget in an EVMS environment
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Conclusions (of email);

1. There is no intent to cover "Program Management," the core of PMIAA.
2. The difference between "Funding" and "Budget" is of no concern to commercial organizations.
3. There is no stated intent to broaden guidance from the current "work scope" to include the "product scope" or technical baseline, systems engineering, and other needs

that are defined in my white paper, “DoD Acquisition Reform: EVMS-lite to Program/Project Management. There is no intent to close the “quality Gap” by defining criteria for linking earned value to technical performance.

For example, I have seen countless cases where earned value was based on the percent complete of the originally budgeted number of drawings, lines of code etc. Many control account managers reported “95% complete,” based on those numbers and “held” it at 95% until the requirement are finally met. Consequently, the reported earned value was overstated and the cost overrun understated when compared with achieved vs. planned technical performance. Yet, DCMA must find that account “compliant” with the guideline because the use of TPMs is optional.

Finally, the current NDIA plans do not meet the intent of Sen. Ernst who stated “By adopting ***widely accepted management standards that are often used in the private sector***, these commonsense reforms ensure that taxpayer dollars are safeguarded by increasing accountability throughout the federal government. I’m delighted that my colleagues in the Senate recognize the epidemic of mismanagement that’s eating away at the effectiveness of our federal government.”

I recommend that you coordinate with the NDIA IMPD to jointly develop a plan that is based on the white paper. In my opinion, it would be counter-productive and a waste of appropriated funds to implement EIA-748-D, if it even gets the votes, and to plan for its successor, “Next Generation EVM Standard.”

Letter to then-President elect Trump, 11/13/16, DoD Acquisition Reform - Under Budget and Ahead of Schedule

Unfortunately for taxpayers, contractors often exploit permissive EVMS guidelines and submit monthly contract performance reports (CPR) that *overstate cost and schedule performance* and *understate the estimated completion costs and schedule*. The CPRs often *fail to provide an early warning of pending funding shortfalls and delays to providing working weapons to the warfighters.*

The biggest loophole in the EVMS guidelines allows contractors to report progress in terms of percent complete that is based on flawed, misleading metrics. In construction terms, contractors may report cost and schedule performance based on the number of actual vs. planned architectural drawings, or floors built, even if the rising structure will not meet building codes, seismic risks etc. Contractors are not required by the EVMS guidelines to assess and report progress that is based on *achieved vs. planned technical performance or quality (Quality Gap)*.

Conclusion

Please read my previous letter to you that provides a path for successful implementation of PMIAA for all agencies, including DoD.

The article may be downloaded from the “Articles and Tutorial” tab at www.pb-ev.com.

Please contact me if I can provide further assistance.

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