DoD Acquisition Reform: EVMS-lite to Program/Project Management, Rev 15

—Paul Solomon 9/8/19

More than 20 years ago, the founding fathers of the Earned Value Management System (EVMS) stated their visions for the then-pending EVMS Standard to replace the DoD document, "Cost/Schedule Control Systems Criteria," which had been used since 1967 for capital acquisitions.

Their visions, stated below, have not been realized. A path to effective, integrated program and project management (P/PM) should include changes to regulations and policy to require that EVM be linked with systems engineering, the product scope (features and functions), technical performance measurement (TPM) and risk management. The path should support current policy of the Office of Management and Budget (OMB) and Office of Personnel Management (OPM) and meet the objectives of the Bogus Bonus Ban Act. The path should include elimination of the regulations that require compliance with the EVMS Standard, currently EIA-748-D, in favor of internal management processes that are consistent with the most widely-accepted VCS for P/PM, the *Project Management Institute* (PMI) *Guide to the Project Management Body of Knowledge* (PMBOK® Guide).

The path should start with the following, sequential DoD and OMB actions:

1. DoD tailor EVMS Interpretation Guide (EVMSIG) to incorporate recommendations provided below, called "EVMS-lite." Tailoring reduces the number of guidelines to be covered by compliance reviews from 32 to 20 and modifies four guidelines to emphasize technical performance and to augment "work scope" by adding the product scope including acceptance criteria, rework, and risk responses. This will result in significant cost savings.
2. DoD request to OMB, through the National Institute of Standards and Technology (NIST), that EIA-748-D be replaced with a DoD internal standard that is based on the tailored EVMSIG
3. OMB approve DoD request to replace EIA-748-D based on criteria in OMB Circular A-119 (Circular).
4. DCMA discontinue compliance reviews of 12 EVMS Guidelines that are no longer value-added or cost-justified, as specified in EVMS-lite.
5. DoD issue policy and guidance to provide award fee incentives for contractors to link EV to TPM, product scope, and risk management, if they comply with the four tailored Guidelines in Table 3, below.
6. DoD issue policy and guidance to provide award fee incentives for contractors to achieve verified cost, schedule, and technical performance objectives and to prohibit payment of award fees when programs are over budget or behind schedule by pre-defined thresholds. The TPMs shall be specific, measurable, achievable, relevant, and time-bound that are included in the Systems Engineering Plan.
7. DoD issue policy and guidance to provide award fee incentives for contractors to achieve verified cost, schedule, and technical performance objectives and to prohibit payment of award fees when programs are over budget or behind schedule by pre-defined thresholds. The technical performance measures used for award fee determination shall include some of the specific, measurable, achievable, relevant, and time-bound measures that are included in the Systems Engineering Plan.
8. DoD revise DoDI 5000.02 and other guidance to incorporate these recommendations.

Alternatively, it is recommended that EIA-748-D be revised and approved to include the modifications described in EVMS-lite.

In my opinion, the actions described above may be implemented without the burden and costs of revising DFARS.

Federal law, OMB policy, OPM policy, and recent DoD acquisition reform initiatives signal that the federal government and DoD have started down that path.

Failed Vision

The vision of the founding fathers was formulated in 1996 and translated into the acquisition reform objectives of Senators McCain, Collins, McCaskill, and Ernst, and Chairman (HASC) Ike Skelton.

The intended purpose of an EVMS was announced when DoD accepted industry guidelines for EVMS to replace similar DoD criteria in 1996. DoD encouraged industry to develop a *widely accepted industry or international standard*. Per the announcement, "It has been our vision of acquisition reform to":

- *Adopt … commercial practices in lieu of practices unique to the government.*
- *Rely on our contractors to maintain management control systems that protect the public interest.*
- *Shift responsibility from government to industry.*
- *Support the "insight, not oversight" philosophy underlying DoD acquisition reform initiatives.*

In 1999, Gary Christle, one of the founding fathers of EVM, stated his vision in terms of the following:

- The quality of a management system is determined not by the absence of defects, but by the presence of *management value*.
- *Integrate* cost, schedule, *technical performance*, and *risk management.*

In 2009, DoD submitted a report to Congress which assessed the use of EVM. The report was required by the Weapon Systems Acquisition Reform Act of 2009 (WSARA), introduced by Sen. McCain. The report, *DOD EVM: Performance, Oversight & Governance Report* (DoD Report) reiterated Christle's vision and augmented it with objectives regarding the quality of work performed and the integration of systems engineering processes and products with EVM.

In 2019, the vision of the founding fathers, as augmented by the DoD Report, has still not been achieved.

Not Widely Accepted

A worldwide survey of EVM users by the PMI, in 2010, disclosed that the private sector has largely ignored EIA-748. When the use of EVM is voluntary and not a contractual mandate, only 17 percent of the respondents used EVM based on EIA-748.

Seventy percent of respondents to the *Grant Thornton 2016 Government Contractors Survey* stated they would not use EVMS if not required to do so. Twenty-eight percent reported having contracts that require use of EVMS. Of those using EVMS, only 37 percent believe it to be a cost-effective management tool and only 25 percent would adopt EVMS voluntarily.

Product Scope, TPMs and Risk Management Not Integrated

2

The failures of EIA-748-D to link technical performance (Quality Gap), risk management, and product requirements (product scope) with EVM, with recommendations, were first targeted in my Technical Note CMU/SEI-2002-TN-016, "Using CMMI to Improve Earned Value Management, October 2002. These issues were repeated in the November 2010 article in *Defense AT&L Magazine*, "Earned Value Management Acquisition Reform." A white paper that I submitted when a consultant to OUSD Office of Performance Assessments and Root Cause Analyses (PARCA) and HQ NAVAIR in 2012 includes recommended revisions to DoD instructions and guides and to DFARS. The white paper included the following Executive Summary.

"Executive Summary:

This project was undertaken to improve the use of EVM within DOD. EVM can be a better program management tool if contractors revised their processes and reports to consistently integrate technical performance with cost and schedule performance and to utilize Systems Engineering (SE) best practices. However, there are no contractual requirements within the acquisition regulations or Data Item Descriptions (DID) to require the following enablers of integrated program management:

1. *Tie the technical baseline to the EV Performance Measurement Baseline (PMB) and*
2. *Tie technical progress to the Technical Performance Measures (TPM) of the program.*

This project was undertaken to address EVM challenges that were addressed in the DoD Report."

Some of the recommendations to PARCA regarding TPM have been incorporated into DoD "guidance" (DoDI 5000.02, Defense Acquisition Guidebook (DAG), and EVMSIG). However, contractors continue to opt not to link EVM to TPM when there is no contractual requirement to do so.

Evidence that the Quality Gap still exists was provided by the Defense Contract Management Agency (DCMA) and by the DoD in the *Section 809 Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulations*, Vol.1, January 2018 (Section 809 Report).

In April 2016, DCMA reported a common, EVM finding of a lack of objective measures to assess performance, including **"Measurement does not indicate technical accomplishment."**

The National Defense Authorization Act for Fiscal Year (FY) 2016, Section 809, directed establishment of an advisory panel (Panel) with a view toward streamlining and improving the efficiency and effectiveness of the defense acquisition process and to make recommendations for the amendment or repeal of regulations. In 2018, the Panel reported that "another substantial shortcoming of *EVM* is that it *does not measure product quality.* A program could perform ahead of schedule and under cost according to EVM metrics but deliver a capability that is unusable by the customer...Traditional measurement using EVM provides *less value* to a program than an Agile process in which the end user continuously *verifies that the product meets the requirement*."

Little Insight and Less Management Value

In the WSARA House/Senate conference report, Sen. Susan Collins stated that the Government Accountability Office (GAO) observed that contractor EVM reporting lacks consistency and leads to inaccurate data and faulty application of the EVM metric. "In other words, garbage in, garbage out." Collins stated that "With improved EVM data quality, both the government and the contractor will be able to improve program oversight, leading to better acquisition outcomes." She concluded that "I believe this amendment (regarding EVM), Senator McCaskill, and I offer would help to strengthen the Department's

acquisition planning, increase and improve program oversight, and help to prevent contracting waste, fraud, and mismanagement." WSARA directed DoD to submit a report to Congress which assessed the use of EVM.

Per the DoD Report, the "utility of EVM has declined to a level where it does not serve its *intended purpose*" and contractors "keep EVM metrics favorable and problems hidden." Regarding the reliability of contractor's data, the reported stated, "If good TPMs are not used, programs could report 100 percent of EV even though behind schedule in validating requirements, completing the preliminary design, meeting the weight targets, or delivering software."

HASC Chairman Ike Skelton marked up the NDAA for FY 2011 to require DoD to review acquisition guidance, including DoD Instruction 5000.02, to "consider whether measures of quality and technical performance should be included in any EVM system.

The Section 809 Report concluded that "EVM has been required on most large software programs but has not prevented cost, schedule, or performance issues."

In my opinion, DCMA EVMS compliance reviews provide false assurance that the contractor Cost Performance Reports convey valid, reliable information. A contractor may be found compliant with Guideline 7 if its progress assessment is based only on the quantity of work performed and not technical performance. Per the WSARA EVM Report, "If good TPMs are not used, programs could report 100 percent of EV even though behind schedule in validating requirements, completing the preliminary design, meeting the weight targets, or delivering software."

Contractors are reimbursed for costs incurred to perform the *work* scope regardless of progress towards achieving the acceptance criteria of the *product scope* because cost-reimbursement contract vehicles are "best efforts" contracts. The "best efforts" clause ensures that the government bears the risk that it will receive nothing for the costs expended except contractor's best efforts. Nonetheless, contractors should be required to report progress towards completing the product scope even if being reimbursed for all costs to perform the work.

The lack of focus on product in the procurement process was discussed in Volume 2 of the Section 809 Report. Per Volume 2, "The current system focuses on process, not product. Former ASN(RDA) Sean Stackley said this focus takes PMs' attention away from the fundamentals of cost, schedule, and performance, and is one of the major contributors to negative acquisition outcomes. This perspective is shared by many stakeholders with whom the Section 809 Panel met and was aptly described by one stakeholder as "mission becoming secondary to perfection of the contract."

Industry Warnings of Poor Contractor Behavior and EVM Metrics

Even the defense industry has warned that contractors may provide unreliable EVM metrics. A NDIA Letter to DoD, May 11, 2007, with attached position paper, "Award Fee Incentive Provisions Using EVM Reporting," admitted that:

"..in recent years, some defense contracts have misused these incentives (to achieve program contractual outcomes) by tying achievement of certain EVM cost and schedule metrics to award and incentive fees and thereby *sacrificing objective program status reporting* in favor of *"making the number."*…A greater

4

risk posed by the use of these monthly incentives is that they can provide the wrong focus (i.e., **management of data and reports**). Managing a program using these data outcomes could cause contractors to …taking other **actions that might be less than optimal in order to maintain high ratios between budgeted cost and schedule and actuals**…EVM will reveal the truth about a program but meanwhile at-completion projections become constrained and **project managers will not receive reliable information on contract status throughout most of the Program.**"

A similar warning was issued by Council of Defense and Space Industry Associations (CODSIA) in a letter to DoD, Ref: DoD Report to Congress on Implementation of EVM: Request for Industry Input, July 2, 2009. CODSIA warned that incentivizing contractors based on performance data could promote "poor behavior." The pertinent CODSIA excerpt follows:

"In addition, inappropriate contractual incentives, such as focus on incentivizing or penalizing contractors based on performance data, **promote poor behavior** in the establishment of program baselines and EVMS implementations. An example would be the continuing use of incentives based on reported performance metrics, such as the cost performance index (CPI) and/or schedule performance index (SPI).

Law: Project Management Standard

Legislation to require the use of a widely accepted project management standard was the Program Management Improvement and Accountability Act of 2015 (PMIAA). It requires the Office of Management and Budget (OMB) to:

- Adopt and oversee implementation of government-wide standards, policies, and guidelines for program and project management for executive agencies;
- Establish standards and policies for executive agencies *consistent with* **widely accepted standards for program and project management** (P/PM) *planning and delivery*;
- Establish a 5-year strategic plan for program and project management.

Senator Joni Ernst, one of the sponsors of the PMIAA, expressed her legislative intent in a November 2015 press release. "This bipartisan legislation puts our federal government back on track by streamlining efforts and outlining strategies to correct widespread deficiencies, lax oversight and unnecessary cost overruns incurred by preventable delays in meeting stated program goals and deadlines. 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." Clearly, it was *not* her legislative intent to continue the mandate for EIA-748-D, a standard that is not used in the private sector.

Although neither Sen. Ernst nor PMIAA cite a particular standard, subsequent actions by the GAO indicate that the PMBOK® Guide is the only standard that qualifies as widely accepted and often used in the private sector. It is now clear that the legislative intent of the Senate and House was to go down a path that ends with policies and processes that are consistent with PMBOK® Guide. GAO Report GAO-18-217, Feb. 2018, cited House Report 114-537's provision for GAO to review the career paths, development, and incentives for program managers. The GAO report relied heavily on PMI input. An excerpt from the GAO report follows:

> *"We reviewed documentation from the **Project Management Institute**, a not-for-profit association that provides **global standards for project and program management**. We also selected and spoke with four commercial companies identified by the **Project Management Institute** as leading organizations for developing program managers to learn about their practices."*

Also, in 2015, per Senate report 114-162, Sen. McCain showed his interest by offering an amendment to require the GAO to "issue a report examining the effectiveness of the legislation on improving Federal P/PM in conjunction with the annual GAO High Risk list."

I have taught EVM to commercial IT companies in India and South Korea for use on fixed-price, product development IT contracts. Their EVM processes and best practices were based on PMBOK® Guide, the only widely-accepted project management standard that includes the "product scope" (technical baseline). EIA-748-D includes only the "work scope" and is silent on product requirements and risk management. Pertinent IT companies' best practices are described in my article in *The Measurable News*, "Performance-Based EV in Commercial IT Projects," 2010 Issue No. 2.

The best practices of one of these companies, Samsung SDS, include:

- Defining the requirements baseline for each planned product release
- Tracing the requirements baseline to the schedule and work packages
- Tracking status of each requirement
- Monitoring technical performance with meaningful variance analysis
- Accounting for deferred functionality
- Planning and measuring rework
- Making negative adjustments to EV for accurate status

Applicability to DoD

PMIAA gave a potential waiver to DoD by stating it is not applicable to DoD "to the extent that the provisions…are substantially similar to or duplicative of…policy, guidance, or instruction of the Department related to program management.''

However, current DoD policy, guidance, and instruction related to program management and EVM are *not similar* to or consistent with the most widely accepted guide for P/PM, PMBOK® Guide. Part 2 of the PMBOK® Guide is accredited by the American National Standards Institute (ANSI) and must be updated every four to five years. The assertion of dissimilarity was made in the November-December 2015 *Defense AT&L* article, "A Contract Requirements Rule for Program Managers (PM)." A PM's needs that are covered by the PMBOK® Guide but are not mentioned in EIA-748-D include the technical or product baseline, requirements management and traceability, risk management, and project procurement management.

PMBOK® Guide includes standards and principles that meet the needs of P/PM but are *absent* from EIA-748-D (Table 1).

Table 1. *PMBOK® Guide* Standards and Principles that are Absent from *EIA-748-D*	
Standard or Principle	**Description**
Product scope description	Documents the characteristics of the product that the project will be undertaken to create. Progressively elaborates the characteristics of the product.
Product scope	The features and functions that characterize a product.
Requirements Documentation	Requirements baseline; unambiguous (measurable and testable), traceable, complete, consistent, and acceptable to key stakeholders. Components include, functional requirements, non-functional requirements, quality requirements, and acceptance criteria.
Requirements	Requirements become the foundation of the WBS. Cost, schedule, quality planning, and procurement are all based on these requirements.
Requirements Management Plan	Include…product metrics that will be used.
WBS Dictionary	Includes quality requirements, acceptance criteria.
Scope Baseline	Includes product scope description, project deliverables, and defines product user acceptance criteria.
Control Scope	The process of monitoring the status of the project and *product* scope and managing changes to the scope baseline. Completion of the *product scope* is measured against the product requirements.
Requirements Traceability Matrix	Includes requirements to project (including *product*) scope/WBS objectives, product design, test strategy and test scenarios.
Conduct Risk Management	Including planning, identification, risk analysis, response planning, and monitoring risk.
Risk Responses in Baselines	Schedule baseline. Changes in the schedule baseline are incorporated in response to approved changes in schedule estimates that may arise from agreed-upon risk responses. Cost baseline. Changes in the cost baseline are incorporated in response to approved changes in cost estimates that may arise from agreed-upon risk responses.
Project Procurement Management	Project documents that can be considered as inputs to this process include: • Requirements documentation may include…technical requirements the seller is required to satisfy, and • Requirements traceability matrix…links product requirements from their origin to the deliverables that satisfy them. • Work Performance Data contains seller data on project status such as technical performance activities that have started, are in progress, or have completed; and costs that have been incurred or committed. • Work Performance Information includes information on how a seller is performing by comparing the deliverables received, the technical performance achieved, and the costs incurred and accepted against the SOW budget for the work performed.

PMBOK® Guide covers traditional EVM topics including scheduling (including network diagrams), Performance Management Baseline, control accounts, work packages, earned value, variance analysis, estimate at completion, and management reserve.

Finally, the PMI maintains a certification program for expert use of the PMBOK® Guide. The experts receive the Project Management Professional (PMP) certification held by more than 650,000 practitioners worldwide. Currently, most contractors obtain specialized training for their employees to implement or maintain the narrowly used EIA-748-D or hire consultants. The transition to a widely accepted standard may increase the supply of resources, reduce the training and salary costs for DoD-EVM process specialists, and reduce program management costs.

Consequently, a plan for evolution to standards and policies that are consistent with PMBOK® Guide and a tailored, reduced set of EIA-748-D guidelines is recommended. For federal agencies other than DoD, the first step down that path was the PMIAA mandate to OMB to establish standards and policies for executive agencies consistent with widely accepted standards for P/PM planning and delivery. For DoD, the Section 809 Panel took the first step down that path with its recognition that EVM does not measure product quality.

EIA-748-D Is No Longer a Voluntary Consensus Standard per OMB Circular Criteria

The EVMS Standard was originally developed to be a Voluntary Consensus Standard (VCS), as defined by *OMB Circular, Federal Participation in the Development and Use of VCSs and in Conformity Assessment Activities* (Circular). If EIA-748-D is to be considered for P/PM or even to continue to be used by federal agencies in their regulatory activities, it must be a VCS per the criteria of Circular. There are three reasons why EIA-748-D is disqualified from being a VCS, as follows:

1. The standard must be "***effective*** and otherwise suitable for meeting agency regulatory, procurement, or program needs."
2. Circular stipulates that "all federal agencies must use VCSs in lieu of government-unique standards in their procurement and regulatory activities, ***except*** where inconsistent with law or ***otherwise impractical.***"

Per Circular, in evaluating whether to use a standard…an agency should consider the following:

(1) 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***;

EIA-748-D is no longer a VCS because it is "***otherwise impractical***." It fails to serve DoD's procurement and program needs. It is not prevalently used in the national and international marketplaces. It is a *de facto* government standard. Most importantly, EIA-748-D does not address the state of knowledge and technology since it was last revised. It is still silent on the product or technical baseline, risk management, and on tracing the requirements baseline to the schedule and work packages. The Quality Gap has not

been closed. Consequently, EIA-748-D is not effective or suitable to meet the regulatory, procurement, or program needs of DoD and the other federal agencies.

OMB Memo: Improving the Management of Federal Programs and Projects through Implementing the PMIAA, June 25, 2018

On June 25, OMB issued a memo which establishes initial implementation guidance to begin a coordinated and Government-wide approach to strengthen P/PM practices in Federal agencies and improve Government performance. The memo identified a provisional set of principle-based program management standards that should be applied to internal management processes and be incorporated or aligned with existing program management policies and processes. Appendix 4, Table 1 included "Initial Program Management Standards and Principles" that should be considered when developing program implementation plans. These standards and principles are in the areas of Contracting and Acquisition Management (regarding product scope), Project Management (especially keying in on the OMB definition of project which includes "product"), Requirements Management, and Risk Management. The PMBOK® Guide includes these same standards and principles, as described in Table 1 (of this white paper) *PMBOK® Guide* **Standards and Principles that are Absent from** *EIA-748-D*.

There is a significant discrepancy between the OMB memo and the PMIAA regarding the use of external standards. The language in the OMB memo is less stringent than that of the PMIAA. The PMIAA requires establishment of standards that are "consistent with *widely accepted* standards for P/PM. The OMB memo allows "Standards Developed by External Consensus Standards Bodies," without specifying that the standards be "widely accepted." So, EIA-748-D would not be disqualified under the OMB memo criteria.

The language in the OMB memo is also less stringent than that of Circular. Circular also includes requirements that the agency determine if the standard is practical and effective. It is recommended that OMB and DoD resolve this discrepancy with the concurrence of the appropriate legislative oversight committees.

If the less stringent language in the OMB memo is retained, then agencies may utilize standards developed internally for managing agency programs, but they must generally align and be equivalent to the standards and principles described in Appendix 4, Table 1 of the OMB memo. In that case, agencies may develop internal management processes that utilize both EVMS-lite (based on a tailored EIA-748-D) and a set of tailored standards and principles derived from the PMBOK® Guide, such as those in Table 1, above.

OPM/OMB Memo: PMIAA P/PM Competencies

Finally, on April 5, 2019, OPM, in consultation with the OMB and the Program Management Policy Council, issued a memo which defined "P/PM competencies to select, assess, and train program and project management talent for the 21st century." The memo included four technical competencies which are absent from EIA-748:

1. Quality Management - Knowledge of the principles, methods, and tools of quality assurance, quality control, and reliability used to ensure that a project, system, or product fulfills requirements and standards.
2. Requirements Management - Knowledge of the principles and methods to identify, solicit, analyze, specify, design, and manage requirements.

3. Risk Management - Knowledge of the principles, methods, and tools used for risk assessment and mitigation, including assessment of failures and their consequences.
4. Scope Management - Knowledge of the strategies, techniques, and processes used to plan, monitor, and control project scope; includes collecting requirements, defining scope, creating a work breakdown structure, validating scope, and controlling scope to ensure project deliverables meet requirements (i.e., features, functions).

The PMBOK® Guide Standards and Principles in Table 1 are consistent with OPM/OMB objectives.

Recommended Four Step Plan for Acquisition Reform

It is recommended that DoD, OMB, and GAO implement the following four step, sequential plan.

Step 1: DoD actions:

1. DoD review its policy, guidance, and instructions to determine if PMIAA is applicable to DoD because its provisions, regarding a widely accepted standard for program and project management, are *not* substantially similar to or duplicative of…policy, guidance, or instruction of the Department related to program management.'
2. DoD tailor EVMSIG and classify it as an internal standard that incorporates EVMS-lite recommendations. The internal standard will be based on a subset of EIA-748-D guidelines and is tailored to accomplish the following objectives:
    - Link EVM with systems engineering planning and execution, product scope, technical performance measurement (TPM) and risk management.
    - Reduce DCMA compliance review costs.
    - Reduce contractor compliance costs.
3. DoD request to OMB, through the NIST, that EIA-748-D be replaced with the DoD internal standard.
4. DCMA discontinue compliance reviews of 12 EVMS Guidelines that are no longer value-added or cost-justified, as specified in EVMS-lite.
5. DoD issue policy and guidance to provide award fee incentives for contractors to link EV to the product scope, TPM, and risk management by complying with the four tailored Guidelines in Table 3, below.
6. DoD revise DoDI 5000.02 and other guidance to incorporate these recommendations.

Step 2: GAO actions:
1. Verify that DoD completed above actions.
2. As required by PMIAA, examine the effectiveness of the following on improving Federal program and project management: (1) The standards, policies, and guidelines for P/PM issued under section 503(c) of title 31, United States Code, as added by subsection (a)(1).
3. Include the results of its examinations in its "GAO Report on Effectiveness of Policies on Program and Project Management," in conjunction with the High Risk list.

Step 3: OMB approve DoD request to replace EIA-748-D with an internal standard.

Step 4: DoD establish a 5-year strategic plan for P/PM that is consistent with PMIAA and OMB objectives and leads to use of standards and policies that are consistent with PMBOK® Guide.

EVMS-lite

The rationale for and implementing details of EVMS-lite were included in my letter to Chairman Thornberry, 11/17/13, Subj: Expanded NDAA Defense Acquisition Reform – EV.

Excerpt: "It is also recommended that DOD policy be revised to require contractor compliance with three (now four) amended or tailored EVMS guidelines and to remove compliance with eight (now twelve) guidelines. In my opinion, the cost savings by eliminating compliance with…guidelines will offset any cost increases that may be incurred because of the tailored guidelines."

Eliminate Mandate to Comply with 12 Guidelines

The rationale for eliminating compliance with twelve guidelines includes:

- Control and reporting by Work Breakdown Structure (WBS) is sufficient. There is no need for reporting by organization.
- DCAA audits are sufficient; DCMA compliance review is redundant
- Compliance adds cost but no management value

The following twelve guidelines should be tailored for development programs (Table 2).

Table 2: Eliminate mandate to comply with 12 EIA-748 guidelines		
Guide-line #	Guideline Topic	Rationale to remove compliance requirement
2.1b	Identify organizational structure	Control by product (WBS) is sufficient. Non-value added regulatory requirement (NVARR).
2.1d	Control overhead (OH)	DCAA audits are sufficient; DCMA compliance review is redundant. (NVARR)
2.1e	Measure performance by WBS or OBS	Control by product (WBS) is sufficient. (NVARR)
2.2d	Identify cost elements (labor, material etc)	(NVARR)
2.2f	Control account budget = sum of work and planning packages	(NVARR)
2.2h	Establish OH budgets	DCAA audits are sufficient; DCMA compliance review is redundant. (NVARR)
2.2j	Target cost goal is reconciled with sum of internal budgets plus MR	(NVARR)
2.3c	Summarize direct costs into organizational elements	(NVARR)
2.3d	Record indirect costs consistent with the OH budgets	DCAA audits are sufficient; DCMA compliance review is redundant. (NVARR)
2.3e	Identify unit costs, equivalent unit costs, or lot costs	Not needed for development programs. (NVARR)
2.3f	Material accounting system provisions	DCAA Material Management and Accounting System (MMAS) audits are sufficient. DCMA compliance review is redundant. (NVARR)
2.4d	Summarize variance analyses by OBS and/or WBS	Control by product (WBS) is sufficient. (NVARR)

Tailor Four Guidelines

Four guidelines that should be tailored to close the Quality Gap and to add risk management are in Table 3. The tailoring will increase focus on technical requirements, requires use of TPMs, and add "product scope" including rework, acceptance criteria (technical baseline) and risk responses to the authorized baseline.

Table 3: Modify language of 4 EIA-748 guidelines with regard to contractor compliance		
Guide-line #	Guideline Topic	Tailored Guideline
1	Define the authorized work.	Add, "Including the work necessary to produce the product scope of the program, including rework and risk responses. The product scope is the technical baseline and includes the features and functions that characterize a product or result and acceptance criteria."
6	Scheduling the work	….requirements of the program. Add "including the product scope (including acceptance criteria), rework, and risk responses."
7	Identify physical products, milestones, technical performance goals, or other indicators that will be used to measure progress.	Add, "All technical performance measures that have been identified at major technical reviews shall be used to measure progress in appropriate work packages."
30	Control retroactive changes.	Add, "Retroactive changes to earned value, including negative adjustments to correct cumulative earned value so that it is consistent with achieved vs. planned technical performance, must be made to improve the accuracy of performance measurement data."

My recommendation to implement EVMS-lite were included in a white paper submitted as a consultant to PARCA in 2012. The white paper was incorporated into an article in *CrossTalk, the Journal of Defense Software Engineering*; "Basing Earned Value on Technical Performance," Jan. 2013.

Cost Estimate for EVMS-lite

In my opinion, there will be a significant reduction in recurring, compliance review costs if EVMS-lite is implemented with elimination of compliance reviews for twelve EVMS guidelines, offset by the additional costs for compliance reviews of the four tailored guidelines. Also, there may be a net cost decrease to contractors and subcontractors because of eliminating the requirement to comply with 12 EVMS guidelines. Of course, contractors may choose to voluntarily comply with those guidelines if they perceive management value.

Contractors are already *expected* to utilize systems engineering/risk management practices per DoDI 5000.02 and the Systems Engineering Plan Outline Version 2 (SEP). However, neither DoDI 5000.02 or SEP are effective if DoD program managers cannot impose these practices on contractors. Currently, there are no mandates in DFARS to require contractors to integrate systems engineering and risk management with earned value management. So, program managers are hobbled.

Implementation of alignment with or adoption of PMBOK® Guide

To be cost effective, it is important to specify which elements of PMBOK® Guide should be cited and reviewed for incorporation into P/PM policies and processes. I recommend that the scope be narrow and

be focused on the topics in Table 3 plus requirements traceability, risk management, and procurement management.

The specific recommended actions follow:
1. Replace requirement to comply with EIA-748-D guidelines with requirement to comply with tailored guidelines to be developed based on the PMBOK® Guide.
2. PARCA shall develop compliance guidelines based on the PMBOK® Guide and shall publish the new guidelines in a revision to the EVMSIG. The revision will be renamed "DoD Program and Project Management Interpretation Guide (PPMIIG)."
3. The PPMIIG should be based on the following:
    i. The PPMIIG equivalent of 20 EIA-748-C earned value guidelines remaining after eliminating the 12 guidelines in Table 2.
    ii. The tailored guidelines in Table 3.
    iii. Guidelines to be developed that incorporate the standards and principles of Table 1.
4. DCMA will revise its compliance review procedures to cover compliance with the PMIIG.
5. DCMA will retrain or augment its compliance review staff to add the systems engineering skills necessary to review compliance with the topics in the guidelines to be developed that incorporate the standards and principles of Table 1.

It is important to note that the use of the "product scope" is optional in the PMBOK® Guide. Therefore, the wording of the new guidelines and the PPMIIG should unambiguously require use of the product scope to preclude contractors from continuing to exploit the "Quality Gap" loophole.

EIA-748-E Alternative

The National Defense Industrial Association Integrated Program Management Division (NDIA) is the steward of EIA-748. To lower compliance and oversight costs and to improve the quality and validity of P/PM information, it is recommended that NDIA consider revising EIA-748--D to replicate EVMS-lite and submitting it to SAE International for approval. Although the resultant EIA-748-E might still be a *de facto* government standard and not meet Circular criteria, DoD could consider requesting approval from OMB to use EIA-748-E to meet both Circular and PMIAA requirements.

Conclusion

DoD should discontinue use of EIA-748-D because it is impractical and ineffective. It fails to serve DoD's procurement and program needs. It has failed to keep current with changes in the state of knowledge and technology and is less useful than the PMBOK® Guide. The end of the path should be a set of internal management processes and/or a VCS for P/PM, as required by the PMIAA and OMB/OPM policy. PMBOK® Guide is the most widely accepted P/PM VCS and its components should be included in the internal management processes.

Alternatively, NDIA should revise EIA-748 to be consistent with EVMS-lite.

The recommendations above are needed to fulfill the visions of EVM's founders, to implement the acquisition reforms and legislative intentions of senators and congressmen, to halt systemic findings like those in the DoD Report, and to comply with the PMIAA.

Note: All articles and references, except the PARCA white paper, are available at www.pb-ev.com.