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

Subj: Improve Training for Program and Project Management and New Voluntary Consensus
Standard for Earned Value Management

Dear Ms. Weichert:

Please consider recommendations for more effective program and project management (P/PM).
Both recommendations require replacing the current Voluntary Consensus Standard (VCS) for
Earned Value Management System (EVMS) with the new VCS from the Project Management
Institute (PMI), *The Standard for Earned Value Management* (*PMI EVM Standard*). The *PMI EVM
Standard* should be used in concert with *A Guide to the Project Management Body of Knowledge*,
(*PMBOK® Guide*).

Implementation of the recommendations will support your memo, dated April 5, 2019, which
defined "P/PM competencies to select, assess, and train program and project management talent
for the 21st century." Implementation of the recommendation to include the PMI documents in the
Capital Programming Guide Supplement to OMB Circular No. A–11 (*Capital Programming Guide*)
will ensure that those managers receive valid, useful EVM data from contractors. EIA-748 does
not provide such assurance.

VCS

The *Capital Programming Guide* states, "All major acquisitions with development effort will include
the requirement for the contractor to use an EVMS that meets the guidelines in EIA Standard-748
(EIA-748) to monitor contract performance. Please consider replacing EIA-748 with a better VCS,
the PMI documents. The justification and benefits follow.

EIA-748 is No Longer a VCS

EIA-748 was originally developed to be a VCS, as defined by *OMB Circular, Federal Participation
in the Development and Use of VCSs and in Conformity Assessment Activities* (*Circular*). If EIA-
748 is to be considered for P/PM or even to continue to be used by federal agencies in their
regulatory activities, it must meet the VCS criteria in the Circular. EIA-748 does not meet either
of the VCS criteria that it be both effective and not "impractical."

Criteria from the Circular follow:

1. "Your agency must use VCSs in its regulatory, procurement, and program activities in lieu of government-unique standards, unless use of such standards would be…inconsistent with applicable law or otherwise impractical."

2. The prevalence of the use of the standard in the national and international marketplaces;

3. "Impractical" includes circumstances in which such use would fail to serve the agency's regulatory, procurement, or program needs; be infeasible; be inadequate, ineffectual, inefficient, or inconsistent with the agency mission or the goals of using VCSs; be inconsistent with a provision of law; or impose more burdens.

4. An agency should consider the problems addressed by the standard and changes in the state of knowledge and technology since the standard was prepared or last revised;

5. Impractical includes circumstances in which such use would be less useful, than the use of another standard.

Inconsistent with Applicable Law/Prevalence of Use

First, the applicable law is the PMIAA which states that the standards be consistent with widely accepted standards for P/PM planning and delivery. EIA-748 is not widely accepted. It is not prevalently used in the national and international marketplaces. 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. 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.

Impractical: Fails to Serve Program Needs/Ineffectual

Since 2009, multiple reports on acquisition reform have consistently concluded that EIA-748 is not effective for meeting program needs.

The first reports stemmed from the Weapon Systems Acquisition Reform Act of 2009 (WSARA), introduced by Sen. McCain. In the WSARA House/Senate conference report, Sen. Susan Collins stated that the 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)…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 resultant 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 technical performance measures (TPM) 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."

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 NDAA for FY 2016, Section 809, directed establishment of an advisory panel (Sec. 809 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 Sec. 809 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." The report concluded that "EVM has been required on most large software programs but has not prevented cost, schedule, or performance issues."

The lack of focus on product in the procurement process was also discussed in Volume 2 of the Sec. 809 Report. "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 Sec. 809 Panel met and was aptly described by one stakeholder as "mission becoming secondary to perfection of the contract."

Inadequate and Outdated

The thirty-two EVMS guidelines in EIA-748 are essentially unchanged since the original standard was issued in 1998. Furthermore, EIA-748 was based on DOD Cost/Schedule Control System Criteria which were established in 1967. EIA-748 fails to address today's P/PM needs, as defined by the PMIAA and subsequent OMB guidance, or to respond to changes in the state of knowledge since it was prepared or last revised. A gap analysis regarding today's needs is provided below.

Less Useful than Another Standard

Your memo of April 5, 2019, defined included four technical competencies for which guidance is absent from EIA-748 but included in the PMI documents:

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).

PMBOK® *Guide* standards or principles that are absent from EIA-748 are included in the gap analysis, Table 1. They are correlated with P/PM technical competencies.

Table 1. *PMBOK® Guide* Standards and Principles that are <u>*Absent*</u> from *EIA-748,* correlated with P/PM Technical Competencies		
<u>**Standard or Principle**</u>	<u>**Characteristics**</u>	<u>**P/PM Technical Competencies**</u>
Product scope description	Documents the characteristics of the *product* that the project will be undertaken to create. Progressively elaborates the *characteristics of the product*.	**Quality, Scope**
Product scope	The *features and functions* that characterize a product.	**Quality, Scope**
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, Quality**
Requirements	*Requirements become the foundation of the WBS.* Cost, schedule, quality planning, and procurement are all based on these requirements.	**Requirements, Quality**
Requirements Management Plan	Include...*product metrics* that will be used.	**Requirements**
WBS Dictionary	Includes *quality requirements, acceptance criteria*.	**Quality**
Scope Baseline	Includes *product scope description*, project deliverables, and *defines product user acceptance criteria*. The project WBS, deliverables, and acceptance criteria documented in the scope baseline are considered explicitly while sequencing activities.	**Scope, Quality**
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.	**Scope, Quality,**

Requirements Traceability Matrix	Includes requirements to project (including *product*) scope/WBS objectives, product design, test strategy and test scenarios.	Requirements
Conduct Risk Management	Including planning, identification, risk analysis, response planning, and monitoring risk.	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.	Risk
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.	Requirements, Quality

Clearly, the Table 1 gap analysis provides evidence that the use of EIA-748 is impractical because it is less useful than the *PMBOK® Guide*. Also, risk management and risk responses are specifically included in *PMI EVM Standard*.

To repeat some of the previous findings regarding the historical use of EIA-748:

- Substantial shortcoming of *EVM* is that it *does not measure product quality*.

- Using EVM provides *less value* to a program in which the end user continuously *verifies that the product meets the requirement*."
- EVM has been required on most large software programs but has not prevented cost, schedule, or performance issues.
- Focus on process, not product, takes PMs' attention away from the fundamentals of cost, schedule, and performance, and is one of the major contributors to negative acquisition outcomes.

President's Management Agenda (PMA)

In your testimony before the House Committee on Oversight and Government Reform on May 16, 2018, you discussed the PMA to modernize government for the 21st century. You stated that the Federal Government still operates with many capabilities and processes established in the mid-20th Century—if not earlier—despite dramatic changes in technology, society and the needs of the American people in the digital age. This means constantly seeking to ensure our workforce is equipped with the relevant skills to accomplish the missions the Government is entrusted to carry out.

To support the PMA, our P/PM workforce should be equipped with the P/PM competencies used world-wide by commercial enterprises. Our training should be based on the PMI standards or principles in order to achieve those competencies.

Furthermore, you stated in your testimony that data, accountability, and transparency will provide the tools and framework to deliver better outcomes to the public and to hold agencies accountable to taxpayers. Our acquisition managers cannot be successful unless they receive valid, useful data from contractors. The requirement to replace EIA-748 as a VCS with the PMI documents will improve the validity and reliability of contractor performance data.

Additional information

Additional information regarding EIA-748 shortcomings and the recommendation to use *PMBOK® Guide* are provided in the following article and letters.

- *Defense AT&L Magazine,* "A Contract Requirement Rule for Program Managers," Nov. 2015

- Mulvaney letter, subj: Project Management of High Risk DoD Acquisitions, 1/17/18

- Thornberry letter, subj: Updated NDAA Defense Acquisition Reform - Earned Value, 1/28/18

The additional information may be downloaded from the website, www.pb-ev.com, at the tabs, "Articles and Tutorial" and "Acquisition Reform."

This letter will also be posted at the "Acquisition Reform" tab along with my previous letters to you, dated 7/26/18 and 9/8/19.

Conclusion

EIA-748 is a mid-20th Century relic which is ineffective and impractical. It is recommended that the *Capital Programming Guide* and federal regulations be updated to cite the PMI documents. Finally, the PMI documents should also be used as a source to develop P/PM training.

Please contact me if I can provide further assistance.

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cc:

    Sen. Joni Ernst, SASC

    Sen. Kamala Harris, Homeland Security and Governmental Affairs Committee

    Mr. Kevin Fahey, Asst. Secretary of Defense for Acquisition, DOD