

Paul Solomon
3307 Meadow Oak Drive
Westlake Village, CA 91361
Paul.solomon@pb-ev.com

May 5, 2024

The Honorable William LaPlante USD(A&S)
1010 Defense Pentagon
Washington, DC 20301-1010

Subj: DFARS Revision EVMS Case Fails to Meet Congressional Needs and GAO Recommendations

Dear USD LaPlante:

The scope of the revision in DFARS Case 2024-D017 (Earned Value Management (EVM) Systems) is too narrow to meet Congressional needs and GAO recommendations to use Agile principles and outcome-based metrics in weapon programs. The current scope “exempts contracts and subcontracts *primarily* for the procurement of *software* from the EVM requirement.” The scope should be expanded to exempt *all weapon programs* using Agile for software development, including programs that are not on the software acquisition pathway.

Congressional Needs

The NDAA for FY 2024 included Sec. 815, Modifications to EVMS Requirements. That vote relied on the unfavorable assessment of EVM in the Section 809 Panel Report and GAO’s recommendation to use outcome-based metrics. Congressional intent was recently expressed in statements by HASC Vice Chair Robert Wittman.

Sec. 809 Panel Report:

“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*.”

Chair Wittman:

“Look at how contracts are put together. You focus on performance, you focus on *outcomes*, you focus making sure that we are staying on time and on schedule. You have to create some incentives there to make sure that we are doing that.

Our job is not about process. It’s about outcomes.”

Chair Wittman’s statement echoed the assessment in the Sec. 809 Report that “The current system focuses on process, not product. Former ASN(RDA) Sean Stackley said this focus takes program manager’s attention away from the fundamentals of cost, schedule, and performance, and is one of the major contributors to negative acquisition outcomes.”

NDAA for FY 2024, Sec. 815, Modifications to EVMS Requirements:

The DFARS case includes a narrower scope than Sec. 815. The provision exempts “*all* software contracts and subcontracts from EVM requirements.” However, the DFARS case restricts the exemption to contracts that are “*primarily* for the procurement of software.”

GAO Findings and Recommendations

GAO made recommendations regarding the broader scope, the total, software-intensive weapon system, as follows:

1. Software Acquisition: Additional Actions Needed to Help DOD Implement Future Modernization Efforts, GAO-23-105611, Apr 5, 2023

DoD’s ability to respond to evolving threats and compete with strategic competitors, such as Russia and China, is increasingly determined by its ability to rapidly develop and deploy software-intensive systems, such as *weapons...systems*. Sustaining a competitive advantage requires that DOD be able to deliver software-based capabilities faster than its adversaries.

2. DEFENSE SOFTWARE ACQUISITIONS Changes to Requirements, Oversight, and Tools Needed for Weapon Programs, GAO-23-105867, July 2023

Per the report, GAO assessed the extent to which DOD has:

- (1) policy and guidance that establish requirements processes to support the use of an Agile software development approach in *weapon programs*,
- (2) policy and guidance to provide direction for overseeing Agile software development approaches in weapon programs, and
- (3) enabled weapon program adoption of modern engineering tools for Agile, including systems engineering (SE) and software engineering.

Excerpts of GAO-23-105867 Findings:

DOD has not incorporated Agile principles into its policies and guidance for programs using Agile to develop software on other pathways (other than the software acquisition pathway).

By not incorporating Agile principles into requirements policy and guidance for *all* programs using Agile for software development, DOD may not use processes and documents, such as the CNS and user agreements, that can support the timelines and flexibility needed for Agile software development and help encourage regular user engagement and feedback. As a result, these programs risk delivering capabilities that do not reflect changing user needs, new technologies, or an evolving understanding of the system.

DOD has taken steps to develop acquisition policies and guidance for programs on the software acquisition pathway that include oversight mechanisms such as the use of metrics and value assessments that measure Agile development outcomes. However, DOD has not included such details in corresponding policies or guidance for *weapon programs* that are using Agile development approaches but are on other acquisition pathways.

Without incorporating the oversight of Agile software development into acquisition policy and guidance for *all* programs, such as the use of metrics, including *outcome-based metrics*, and continually assessing the value of capability delivered to support iterative software development, acquisition officials may not be able to conduct effective oversight. This could result in greater risk of programs not meeting the needs of operational users in a timely and cost effective manner.

GAO Recommendations

GAO recommendations follow:

1. Incorporate Agile principles into requirements policy and guidance for **all programs using Agile** for software development. This should include a Capability Needs Statement and User Agreement.
2. Incorporate oversight of Agile development of software into acquisition policy and guidance for **all programs using Agile**. This should include use of metrics, including **outcome-based metrics**, and continually assessing the value of capability delivered to support iterative software development.

Outcome-based Metrics Plus SE = Integrated Program Management

The white paper, **Outcome-based Metrics Plus Systems Engineering = Integrated Program Management, Rev. 2**, includes a justification to exempt weapon system contracts from the EVM requirement and an implementation plan that will meet congressional needs and GAO recommendations. An excerpt follows:

A path to effective, Integrated Program Management should include changes to regulations and policy to no longer require EVM. However, if EVM is used, it must be linked with SE, the product scope (features and functions), technical performance measurement, other outcome-based metrics, and risk management. The path should support current policy of the OMB and Office of Personnel Management (OMB). The path should include elimination of the OMB policy and FAR/DFARS requirement for compliance with the EVMS Standard, EIA-748.

It is recommended that the flawed DFARS case be fixed to cover weapon systems that use Agile for software development. It is also recommended that DoD incorporate oversight of Agile development of software into acquisition policy and guidance for all programs using Agile. Policy and guidance should include use of outcome-based metrics. By replacing earned value with output-based metrics, program managers will

1. Have early warning of software failures such as the F-35 program and
2. Have tools and metrics to rapidly develop and deploy software-intensive weapons systems.

This recommendation regarding software-intensive weapon systems augments my previous letter, Subj: Outcome-based Metrics for LGM-35A Sentinel; Same Failures and Needs as F-35 TR-3/Block 4, dated April 3. The previous bottom line is repeated: ***“Use Outcome-based Metrics that Work to Build a Product that Works”*** (not a SOW).

The NDIA has made no significant changes to the EIA-748 guidelines since Sen. Collins stated, in 2009, 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), 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.”

Accordingly, please collaborate with Chair Wittman to markup the NDAA for FY 2025. Authorize GAO to expand the scope of the 2009 assessment to include weapon systems and to determine the management value and validity of EVM vs. outcome-based metrics. I expect that GAO will provide evidence to support a future exemption of all contracts from EVM requirements. In the meantime, please issue guidance for

program managers to tailor-in requirements that EV be based on outcome-based metrics or quality, not on the quantity of work performed.



Paul J. Solomon

CC:

Hon. Robert J. Wittman, HASC Hon. Heidi Shyu, (USD(R&E))
Hon. Donald Norcross, HASC Hon. Andrew Hunter, AF Asst. Sec. for AT&L
Hon. Adam Smith, HASC Nickolas Guertin (ASN RD&A)
Hon. Elizabeth Warren, SASC Shelby Oakley, GAO
Hon. Susan Collins, Senate Defense Appropriations Subcommittee
Anthony Capaccio, Bloomberg News