THE DoD ADAPTIVE ACQUISITION FRAMEWORK AND PROJECT MANAGEMENT STANDARDS
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The DoD Adaptive Acquisition Framework (AAF) includes an overarching policy to "Employ Performance Based-Acquisition Strategies." Per DoDD 5000.01 Defense Acquisition System **(**DAS), "Performance-based strategy" means a strategy that supports an acquisition approach structured around the results to be achieved as opposed to the manner by which the work is to be performed. This white paper provides guidance to employ that strategy when selecting standards for program and project management (P/PM).

Legislation to require the use of a project management standard was the Program Management Improvement and Accountability Act of 2016 (PMIAA). It requires OMB to:

- Adopt and oversee implementation of government-wide standards, policies, and guidelines for P/PM for executive agencies;
- Establish standards and policies for executive agencies *consistent with* **widely accepted standards** P/PM *planning and delivery*;

The standards and guidance of the Program Management Institute (PMI) will help the PM to meet both AAF and OMB objectives.

This white paper augments the 2015 article in *Defense Acquisition Magazine* (formerly *Defense AT&L*), "A Contract Requirement Rule for Program Managers," (https://www.dau.edu/library/defense-atl/DATLFiles/Nov-Dec2015/Solomon.pdf) by mapping PMI clauses to corresponding AAF policies and to the current *Defense Acquisition Guidebook* (DAG). It also cites assessment/advisory reports by the Government Accountability Office (GAO), the Defense Contract Management Agency (DCMA), and the *Section 809 Report of the Advisory Panel on Streamlining and Codifying Acquisition Regulations*, Vol. 1, January 2018 (Section 809 Report).

AAF Policies and Defense Acquisition Guidebook (DAG)

Per DoDD 5000.02, the Defense Acquisition System (DAS) will be designed to acquire products that satisfy user needs with measurable and timely improvements to mission capability. The policies that govern the DAS include four key elements: risk, technical performance, technical baseline (or product scope), and requirements traceability.

The AAF includes four policy publications that cover those elements (Table 1). Excerpts from the policies are in Tables 2-5. The DAG also covers those subjects (Table 6).

Table 1 AAF Policies				
	Overarching Policies		**Acquisition Pathway Policy**	**Functional Policy**
	DoDD 5000.01	**DoDD 5000.02**	**DoDD 5000.85**	**DoDI 5000.88**
Element	**DAS**	**Operation of the AAF**	**Major Capability Acquisition**	**Engineering of Defense Systems**
Risk	X	X	X	X
Technical Baseline	X	X	X	X

Technical Performance		X	X	X
Requirements Traceability				X

Table 2: DoDD 5000.01		
Element	**Section**	**Excerpt**
Technical Performance	1.2.a	Deliver *Performance* at the Speed of Relevance.
Technical Performance	1.2.g.	Employ a Disciplined Approach.
Technical Performance	1.2.g.(2)	Program goals for cost, schedule, and *performance parameters* (or alternative quantitative management controls) will describe the program over its life cycle. Approved program baseline parameters will serve as control objectives.
Technical Performance	1.2.k	Employ *Performance* Based-Acquisition Strategies. "Performance-based strategy" means a strategy that supports an acquisition approach structured around the ***results to be achieved*** as opposed to the manner by which the ***work*** is to be performed.
Risk	1.2.a.(1)(e)	Actively Manage Risk.

Table 3: DoDD 5000.02		
Element	**Section**	**Excerpt**
Risk Technical Performance	4.1.b.(6)	Establish a risk management program to ensure program cost, schedule, and *performance* objectives are achieved, and to communicate the process for managing program uncertainty.
Technical Baseline	4.1.b.(7)	When consistent with pathway requirements, develop engineering plans and processes applicable to the pathways to mature technology, conduct necessary systems engineering tradeoffs, and produce and manage appropriate *technical baselines* through the use of systems engineering technical reviews.

Table 4: DoDD 5000.85		
Element	**Section**	**Excerpt**
Technical Performance	3.c.3	Management activities will be designed to achieve the cost, schedule, and *performance* parameters specified in the MDA-approved acquisition program baseline and include product support considerations.
Technical Baseline	3.11.b.(1)	A critical design review assesses *design maturity*, design build-to or code-to documentation, and remaining risks, and establishes the initial *technical baseline*.

Technical Baseline Technical Performance	Appendix 3C 3C.3(3)(c)	EVM provides a disciplined, structured, objective, and quantitative method to integrate *technical work scope*, cost, and schedule objectives into a single cohesive contract baseline plan called a *performance measurement baseline* for tracking contract performance.

Table 5: DoDI 5000.88		
Element	**Section**	**Excerpt**
Technical Baseline Technical Performance Requirements traceability Risk	3.4 Program Technical Planning and Management a. Systems Engineering Plan (SEP)	(3) … the SEP will contain these elements, unless waived by the SEP approval authority: (b) The engineering management approach to include *technical baseline management; requirements traceability; configuration management*; *risk*, issue and opportunity management; and technical trades and evaluation criteria. (c) The software development approach to include architecture design considerations; software unique risks; software obsolescence; inclusion of software in technical reviews; ***identification, tracking, and reporting of metrics for software technical performance,*** process, progress, and quality; software system safety and security considerations; and software development resources. (g) ***Specific technical performance measures and metrics, and SE leading indicators to provide insight into the system technical maturation relative to a baseline plan.*** Include the maturation strategy, assumptions, reporting methodology and maturation plans for each metric with ***traceability of each performance metric to system requirements and mission capability characteristics.*** (k) The timing, conduct, and ***entry and exit criteria for technical reviews***. (l) A ***description of technical baselines*** (e.g., concept, functional, allocated***,*** and ***product***), baseline content, and the technical baseline management process.
Technical Baseline Technical Performance	3.4.c Configuration and Change Management	(3) Provide for ***traceability*** of mission capability to system requirements to ***performance*** and execution ***metrics.***
Risk	3.4 f. Risk, Issue, and Opportunity Management	(2) Risk management plans will address risk identification, analysis, mitigation planning, mitigation implementation, and tracking. ***Technical risks and*** issues will be reflected in the program's Integrated Master Plan (IMP) and Integrated Master Schedule (IMS).

Table 6: DAG on Risk, Technical Performance, Technical Baseline, and Requirements Traceability		
Chapter	**Element**	**Excerpt**

1–3.4.4 Planning Pitfalls	Risk Technical Performance	Concerns for PMs: • Risks and their mitigations are disconnected from EVM/Work Breakdown Structure (WBS)/Integrated Master Schedule/Integrated Master Plan (EVM/WBS/IMS/IMP) planning and processes. • Program planning/execution does not link Technical Performance Measures with EVM/Risk Management/WBS/IMS/IMP.
1–4.2.16 EVM	Risk Technical Performance	PM obtains integrated cost, schedule, (technical) performance, and risk information at an appropriate level of summarization to monitor program execution. Cost … is always viewed within the context of schedule, technical performance, and risk. The PM uses EVM as an integrated program management tool to provide Joint situational awareness of contract status and to assess the cost, schedule, and technical performance of contracts for proactive decision-making. To be useful as a program management tool, PMs incorporate EVM into their acquisition decision-making processes, with actionable data provided by EVM The underlying management control systems used to plan and control contract performance complies with Electronic Industries Alliance Standard-748 EVMS (EIA-748).
1-4.2.16.3.3 Metrics in Award Fee	Technical Performance	Award fee criteria reflect the quality and utility of the EVM data for those purposes. EVM and the associated metrics can be used to underpin the understanding of technical accomplishment.
3–2.7 Systems Engineering Role in Contracting	Technical Performance Requirements traceability	The PM should ensure that the EVMS, tied to any incentive, measures the quality and technical maturity of technical work products instead of just the quantity of work. If contracts include EV incentives, the criteria should be stated clearly and should be based on technical performance. EV incentives should be linked quantitatively with: • Technical Performance Measurement (TPM) • Progress against requirements • Development maturity • Exit criteria of life-cycle phases • Significant work packages and work products
3–4.1.5.1 Risk Management	Risk Technical Performance	Risk mitigation activities should include assigned resources reflected in the IMP, IMS, and EVM baselines. Programs should use appropriate TPMs and metrics to aid in monitoring the progress of mitigation plans.

3–4.1.4 Requirements Management Process	Requirements Traceability	Bi-directional traceability also ensures that higher-level requirements are properly flowed to lower-level requirements and system element designs so that there are no "childless parent" higher-level requirements (i.e., each high-level requirement is ultimately being addressed by lower-level requirements and system element designs).

Why a PMI Standard and Guide?

The *PMI Standard for EVM*, ANSI/PMI 19-006-2019 (*PMI EVM*) in concert with PMI's *A Guide to the Project Management Body of Knowledge* (*PMBOK Guide*) covers all of the P/PM elements in the previous tables. The GAO report, GAO-20-44 *Improving Program Management* states that these documents are generally recognized as leading practices for P/PM

EVM (PMI Version)

Per *PMI EVM*, EVM System (EVMS) is a set of principles, methods, processes, practices, and tools for managing project performance. When EVM is used in concert with the Process Groups, Knowledge Areas, and processes defined in *PMBOK Guide*, the project manager, the broader project team, and relevant stakeholders will be able to understand project progress and gain insight into future performance based on the analysis and interpretation of project performance information.

The *DoD EVMS Interpretation Guide* (EVMSIG) asserts that EVM is a "best practice" for program management. However, when DoD requires contractors to implement EVMS, it cites a different standard, EIA-748. That standard lacks the four qualities, listed above, that GAO used as a benchmark when it examined Office of Management and Budget standards for P/PM. In my opinion, the PMI publishes the "gold standards" for P/PM.

EVM (DoD Version)

Per EVMSIG, the data provided by the EVMS must be timely, accurate, reliable, and auditable. Industry must implement the EVMS in a disciplined manner consistent with the 32 Guidelines contained in EIA-748.

However, EVM, as implemented by contractors that comply with EIA-748 guidelines, does not provide the PM with integrated cost, schedule, (technical) performance, and risk information that is needed to monitor program execution. Compliance with EIA-748 guidelines provides no assurance that data provided by those contractors is accurate or reliable with regard to technical performance, technical maturity, or risk. Topics that are not covered by EIA-748 guidelines are the technical baseline (or "product scope" in PMI terminology), progress against requirements, requirements traceability, risk, risk management, risk mitigation, and project procurement management. One guideline is "Identify physical products, milestones, technical performance goals, ***or*** other indicators that will be used to measure progress." PMs are not required to measure progress towards technical performance goals.

The 2015 article cited EIA-748 shortcomings in detail and will not be replicated herein. However, some of the key takeaways follow. In 2009, the DoD reported to the House and Senate oversight committees that the "utility of EVM has declined to a level where it does not serve its intended purpose." Per the report, the PM should ensure that the EVM process measures the quality and technical maturity of technical work

products instead of just the quantity of work performed. The report stated that EVM can be an effective program management tool only if the EVM processes are augmented with a rigorous systems engineering (SE) process and SE products are costed and included in EVM tracking.

More recent assessments provide similar findings. In April 2016, the 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 2016, Section 809, directed establishment of an advisory panel to streamline and improve 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*." (Section 809 Report*).*

It's Still Broke, So Fix It

Although DoD policies and guides for P/PM cite EIA-748, AAF's overarching policies permit tailored acquisition approaches that a PM can employ to seek better P/PM standards. If the DFARS clause for EIA-748 is applicable, the PM should consider tailoring in and getting Milestone Decision Authorities (MDA), other Decision Authorities (DA) approval to obtain the better P/PM information and to address the issues that are included in the following Tables 2 through 6. As discussed in the 2015 article, the conditions cited in DoD's 2009 report to Congress persist. Implementation of EVM by DoD is still "broke." So, the PM should consider augmenting or replacing EIA-748 with better P/PM standards.

PMBOK Guide includes topics and guidance that meet the AAF needs for P/PM but are *absent* from EIA-748, as shown in Table 7. *PMBOK Guide* should be a key component of the fix.

Table 7 *PMBOK® Guide* Topics and Guidance that are Absent from EIA-748	
Topic/Section	**Guidance**
Project scope statement 5.3.3.1	**Includes *product scope description*, project deliverables, and defines product user acceptance criteria.** **Product scope description progressively elaborates the characteristics of the product.**
Product scope 5.6	**The features and functions that characterize a product.**
Collect Requirements 5.2	*Requirements* **become the foundation of the WBS. cost, schedule, quality planning, and procurement are all based on these requirements.** **Requirements need to be included in the scope baseline and to be measured once project execution begins.**
Requirements Management Plan 5.1.3.2	**Metrics that will be used and the rationale for using them** **Traceability structure that reflects the requirement attributes captured on the traceability matrix.**
WBS Dictionary 5.4.3.1	**Includes quality requirements, acceptance criteria.**
Control Scope 5.6	**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 5.2.3.2	**Includes requirements to project (including *product*) scope/WBS objectives, product design, test strategy and test scenarios.**
Conduct Risk Management 11	**Including planning, identification, risk analysis, response planning, and monitoring risk.**
Risk Responses in Baselines 6.5.3.1 7.3.3.1.	**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 12.3.1.2 12.3.3.2	**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.**

Tailoring In and Decision Authority Approval of This Approach

As stated in DoDI 5000.02, "PMs have broad authority to plan and manage their programs consistent with sound business practice. The AAF acquisition pathways provide opportunities for MDAs/DAs and PMs to develop acquisition strategies and employ acquisition processes that match the characteristics of the capability being acquired." PMs will "tailor in" the regulatory information requirements that will be used to describe the management of the program. In this context, "tailoring-in" means that the PM will identify, and recommend for MDA/DA approval, the regulatory information that will be employed to document program plans and how that information will be formatted and provided for review by the DA. Statutory requirements will not be waived unless a statute permits.

If PMs choose to use EVM based on EIA-748, PMs should consider tailoring five guidelines to increase focus on technical requirements, require the use of technical performance measures, and add "product scope" including rework, acceptance criteria, and risk responses to the authorized baseline.

Twelve EIA-748 guidelines should be tailored out. In other words, eliminate compliance with guidelines for which compliance adds cost but no management value.

Additional justification for tailoring EIA-748 guidelines is provided in the companion white paper, "DoD Acquisition Reform: *EVMS-lite* to Program/Project Management."

PM Success

A PM needs accurate, reliable EVM information from contractors that is based on measurements of *product quality* and progress towards *meeting the product requirements.* The PM has improved chances of success if contractors use practices from widely accepted P/PM standards and guides that cover risk, technical performance, technical baseline, and requirements traceability to the IMS and work packages.

The closing recommendation in the 2015 article is still pertinent:
"Acquisition reforms should include requirements for the PM and contractors to use *PMBOK Guide* for EMD contracts that are above specified threshold values. The PM finally will have valid information and tools needed to properly relate cost, schedule and technical accomplishment, manage risk and achieve the contract's cost, schedule and performance parameters."

It should be augmented with: "Also use *PMI EVM* in concert with *PMBOK® Guide* to achieve AAF objectives."