



Reinforcing the Importance of EVMS

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Agenda

- General Thoughts
- NDIA EVMS EIA-748C Intent Guide Cross Reference Checklist
- Common EVMS Findings
- EVM Implementation Observations
- What's Trending



EVM Implementation – General Thoughts

- Projects are 2.5 times more successful and waste 13 times less money when proven project management practices are used
 - PMI Pulse of the Profession 2016
- Earned Value Management (EVM) has proven itself to be one of the most effective performance measurement and feedback tools for managing projects
 - PMI 2005





EVM Implementation – General Thoughts

- The need remains for a discussion on how the EVMS project controls process integrates with the project delivery process
 - Per DOE O 413.3B Project Delivery requires the implementation of an integrated management system
 - For projects >\$100M the certified management system (EVMS) must integrate the key project components of scope, schedule, budget, resources, and risk
 - Contractors have the flexibility to develop and implement effective management systems tailored to meet their respective needs
 - Any differences in approach for EVMS implementation during the project's life-cycle should be addressed as part of the EVMS Description



EVM Implementation – General Thoughts

- Degree of Acceptance
 - The EVM concept is perceived to be useful across industries
 - When implemented properly, the benefits outweigh the costs
 - There is room for improvement
 - People using EVMS need to better understand its purpose, capabilities, and limitations
 - The expertise of those responsible for implementing EVMS vary considerably



EVM Implementation – General Thoughts

“We are reminded by the work of Dr. W. E. Deming, the father of modern quality management, in which he demonstrated that the vast majority of quality problems are rooted in processes—ignored, flawed, or misunderstood by the worker, not in the workers themselves. Clear process definition, documentation, and accompanying roles and responsibilities are vital to assuring that EVMS works as intended and compliant with ANSI Standard 748.”

- Brodkorb, R. (2011). The truth about preparedness for any EVMS assessment by others. Paper presented at PMI® Global Congress 2011—North America, Dallas, TX.



EVM Implementation – Cross Reference Checklist

- EVMS compliance preparedness includes development of a cross-reference matrix mapping the sections of the EVMS Description to the 32 EIA-748 Guidelines
 - Greatly assists the compliance process and serves to assure that all relevant EIA-748 requirements are addressed through documented processes and artifacts



EVM Implementation – Cross Reference Checklist



National Defense Industrial Association
Integrated Program Management Division

Earned Value Management Systems EIA-748-C Intent Guide Appendix Compliance Map Template

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* See the Intent Guide Change History Log for minor updates made on January 30, 2015

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NDIA Intent Characteristics and Attributes

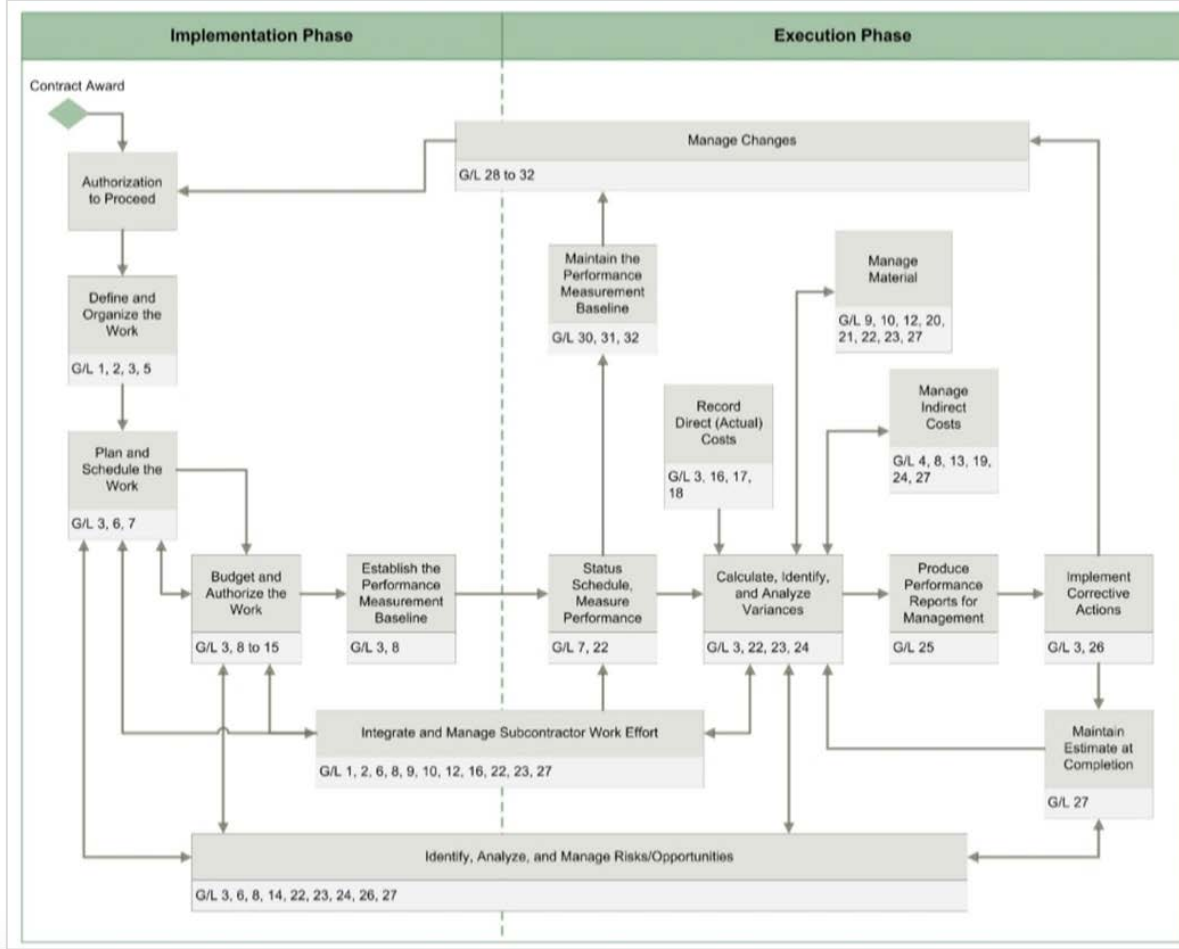


NDIA EVMS CROSS REFERENCE CHECKLIST			
GUIDELINE and QUESTIONS	INTENT		SD REFERENCES
	YES	NO	
ORGANIZATION			
Define the authorized work elements for program. A work breakdown structure (WBS), tailored for effective integration, is commonly used in this process.			
Is a single product-oriented WBS used for a given project extended to the control account level as a minimum?	X		Sect. 2.2.2 WBS Development: 1st Paragraph, deliverable-oriented division of project work for each CNS project, making each project-specific. Para 2 last sent. "For authorized scope, the PP level, as WPs must be distinguishable
Does the WBS include all authorized project work and any revisions resulting from authorized changes and modifications?	X		Sect. 2.2.2 WBS Development: 2nd Paragraph, all the project scope , including all subcomponents defined at the current CD phase." 6th Paragraph WBS Dictionary (WBSD) shall be kept under control with clearly identifiable revision number
Are the following items included in the WBS:			
1) All WBS elements specified for external reporting?		X	While section 5.5.2 states, "The IPMR is used for performance information on projects requiring must reflect the output of the contractor's
2) WBS elements to be subcontracted, with identification of subcontractors?		X	While section 2.2.2, WBS Development: 2nd Paragraph, WBS shall contain all the project scope, in of size), as defined at the current CD phase. Guide requirement that when effort is sub
Identify the program organizational structure including the major subcontractors responsible for accomplishing the organizational elements in which work will be planned and controlled.			
Are all authorized tasks assigned to organizational elements?	X		Sect. 2.4.2 OBS Development: 1st Paragraph, reflects the way the project is functionally organized, the assignment of responsibility, accountability, tasks to be performed. "... Each project
Are major subcontractor and/or inter-organizational			While section 2.4.2 OBS Development: 1st



EVM Implementation – Common EVMS Findings

- CAM ownership, inattention to EVMS responsibilities
- Lack of integrated processes and management systems
- Lack of cost and schedule integration
- Work authorization policies and procedures not followed
- Lack of vertical and horizontal schedule traceability (logic network critical path)
- EV techniques not reflecting actual accomplishment
- Lack of alignment between the time-phased plan (WS) and resource allocation
- Zero budget work packages and



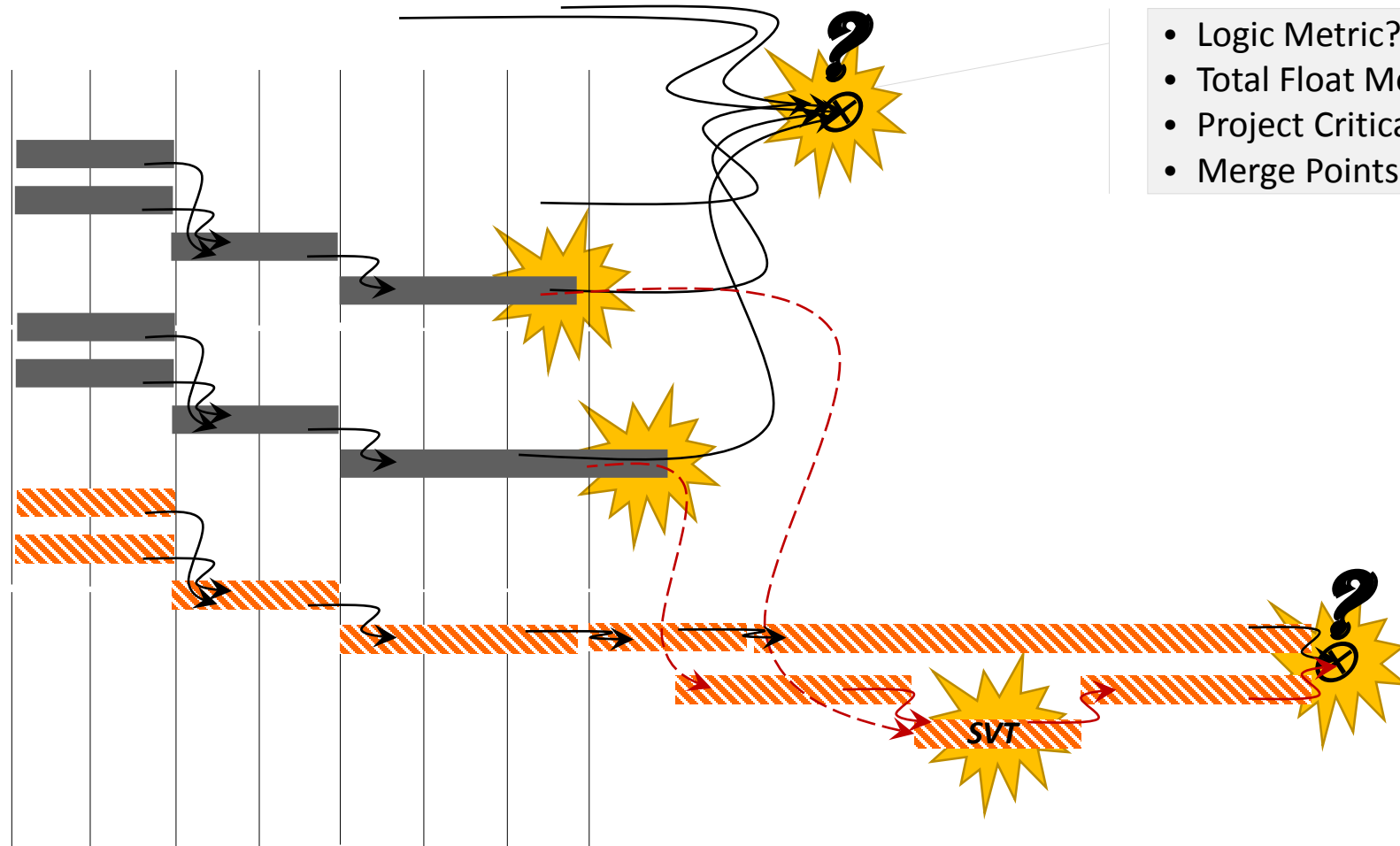
- Budget/data reconciliation issues
- Baseline fluctuations and frequent replanning
- Current period and retroactive changes
- Improper use of Management Reserve (MR)
- Untimely, unrealistic Estimates at Completion
- Material performance and accounting misalignment
- Lack of predictive variance analysis (impact and time)

Source: NDIA Earned Value Management System
Guideline Scalability Guide November 2016



EVM Implementation Observation

Illustrative Example for Lack of Horizontal Schedule Traceability





EVM Implementation Observation

- The importance of controls in the project management effort
 - Project controls is a project management function responsible for the implementation of the management system
 - Project controls coordinates with the project manager and control account managers to develop and maintain the project's performance measurement baseline
 - Project controls generate the project's cost and schedule information while the project manager and control account managers consume the information generated to support informed decision-making for the project
 - Project controls is the first line of defense for the effective implementation of the management system



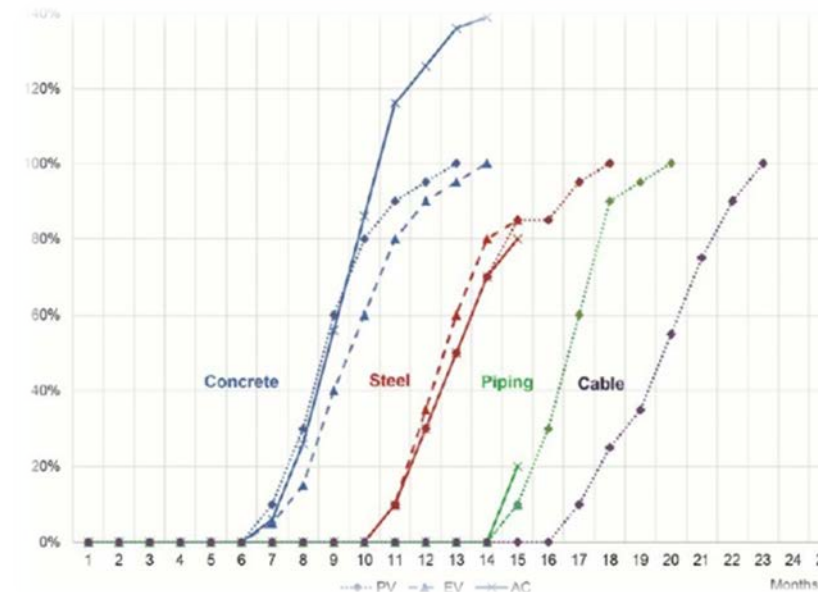
EVM Implementation Observation

- Correlation is needed between the time-phased plan (BCWS), the earned value methods selected, and the allocation of resources and costs
 - The time-phased budget must be consistent with the actual way work will be executed and measured to allow for an accurate portrayal of performance



EVM Implementation Observation

- EVM Methods for measuring construction work progress sometimes missing from the EVMSD:
 - Units Completed
 - Cable/Wire Pulling
 - Concrete Placed
 - Asphalt Paved
 - Excavated Soil
 - Weighted or Equivalent Units
 - Structural Steel Erection





What's Trending

- Future EIA-748 EVMS Standard Update
- NDIA Intent Guide Rewrite
 - Opportunity to influence the application of EIA-748 EVMS compliance towards the uniqueness of design and construction efforts
- PM-1 EVMS Certification is contractor and site specific
- PM-1 Certified EVMS Description Revision Approvals
- Next Round of RSAV Anticipated in late Spring or early Summer
- Development of the Planning and Scheduling Amplification Guide
- Work towards Automating the EVMS Compliance process continues – for those that want to participate
- EVMS Memorandum of Agreement (MOA)



Questions?

PM Office of
Project Management

