Earned Value Management in a Production Environment

PMSC
29 - 30 January 2013
Clearwater, FL

Team Roster

Earned Value Management in a Production Environment Working Group

Name	Company
✓ Scott Gring	Lockheed Martin
• Kim Herrington	Bell Helicopter
• Beau Willis	US Navy
✓ Edward Silvia	Raytheon
• Ron Tripson	Orbital, Inc.
• Kenly Burkhart	General Dynamics
• Toni Dooley	Boeing
✓ John Kanicsar	Orbital
• Brad Temple	Rockwell Collins
• Brett Rhodes	Pratt & Whitney
• Blake Crenshaw	Raytheon
• David Bates	PWC
• Deborah Duffy	Pratt & Whitney
✓ Dave Pantano	Lockheed Martin
• Melissa Slaughter	Delta Resources
• Toni Dooley	Boeing
• Dave Roberts	Accenture
• Karen Frisk	Pratt & Whitney
• Amy Tersinar	Rockwell Collins
• Peter Romeo	General Dynamics
✓ Keith Lee	Dassian
✓ Jim Davis	SAP
✓ Jeff Carr	BAE

✓ = In Attendance Today

Progress to Date

Earned Value Management in a Production Environment Working Group

- EVM in a Production Environment Whitepaper Released — October 2011
- Follow-on Brainstorming — January 2012
- Phase II Scope Proposed — March 2012
- Phase II Scope Defined and Approved by Working Group — March 2012
- Phase II Effort Initiated — April 2012
- Working Group Facilitator Transition — May 2012
- Phase II Working Group Sessions — June 2012 – March 2013

Average of 9 Working Group Members per Session

Prod vs Dev EVM Questionnaire using the DCMA Cross Reference Checklist as a Guide

Earned Value Management in a Production Environment Working Group

EVM Inquiries from the Existing DCMA Cross-Reference Checklist	Does Production Differ from Development?		How is production different than development?	What is recommended for production?	Relevant Source Document Reference (Doc Title / Chapter / Paragraph) (as Available)
EVMS Guidelines/Management Characteristics	**YES**	**NO**			
I. ORGANIZATION					
1. Define the authorized work elements for program. A work breakdown structure (WBS), tailored for effective internal management control, is commonly used in this process.					
a. Is only one CWBS used for the contract					
b. Is all contract work included in the CWBS including a complete definition of work scope requirements?					
c. Are the following items included in the CWBS:					
(1) Contract line items and end items (if in consonance with MIL-STD-881 latest edition)?					
(2) All CWBS elements specified for external reporting?					
(3) CWBS elements to be subcontracted, with identification of subcontractors?					
(4) Control account levels?					
2. Identify the program organizational structure including the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled.					
a. Are all authorized tasks assigned to identified organizational elements? (This must occur at the control account level as a minimum. Prepare exhibit showing relationships.)					
b. Is subcontracted work defined and identified to the appropriate subcontractor within the proper WBS element? (Provide representative example.)					
3. Provide for the integration of the company's planning, budgeting, work authorization and cost accumulation processed with each other, and as appropriate, the program work breakdown structure and the program organizational structure.					
a. Are the supplier's management control systems listed above integrated with each other, the CWBS, and the organizational structure at the following levels: (Use matrix to illustrate the relationships.)					
(1) Total contract?					
(2) Control account?					
4. Identify the company organization or function responsible for controlling overhead (indirect costs).					
a. Are the following organizational elements and managers clearly identified:					
(1) Those responsible for the establishment of budgets and assignment of resources for overhead performance?					
(2) Those responsible for overhead performance control of related costs?					
b. Are the responsibilities and authorities of each of the above organizational elements or managers clearly defined?					
5. Provide for integration of the program work breakdown structure and the program organizational structure in a manner that permits cost and schedule performance measurement by elements of either or both structures as needed.					
a. Is each control account assigned to a single organizational element directly responsible for the work and identifiable to a single element of the CWBS?					
b. Are the following elements for measuring performance available at the levels selected for control and analysis:					
(1) Budgeted cost for work scheduled?					
(2) Budgeted cost for work performed?					
(3) Actual cost of work performed?					

Prod vs Dev EVM Questionnaire using the DCMA Cross Reference Checklist as a Guide – Consolidated Inputs

Earned Value Management in a Production Environment Working Group

	A	B	C	D	E	F	G
1				Comments			
2	EVM Inquiries from the Existing DCMA Cross-Reference Checklist	Does Production Differ from Development?		How is production different than development?	What is recommended for production?	Relevant Source Document Reference (Doc Title / Chapter / Paragraph) (as Available)	Working Group Assessment
3	EVMS Guidelines/Management Characteristics	YES	NO				
211	c. Are retroactive changes to BCWS and BCWP prohibited except for correction of errors or for normal accounting adjustments?	; ; ; Yes;	; ; X; ;x	; ; ; MRP systems typically use "Part Master Data" that reflect the properties of the labor operations steps and material data. Changes to this data will affect all open orders within the factory, including those that have already been earned. Subsequent failure and rejection of a part after installation could cause a "de-earn" of performance.;	; ; ; Retroactive changes must be controlled. Any changes within the MRP system that could generate retroactive changes should be summarized and applied to the current month so that prior month BCWS and BCWP are not altered.;	; ; ; Personal Experience;	Further discussion required
212	31. Prevent revisions to the program budget except for authorized changes.						
213	a. Are procedures established to prevent changes to the contract budget base (see definition) other than those authorized by contractual action?	; ; ; ;	; ; X; ;x	MRP allows for retroactive changes; ; ; ;	BCWS and BCWP need to be controlled and MRP reconcilied with EAC except when baselined. ; ; ; ;	; ; ; ;	Concurrence - is further discussion required?
214	b. Is authorization of budgets in excess of the contract budget base controlled formally and done with the full knowledge and recognition of the procuring activity? Are the procedures adequate?	; ; ; ;	; ; X; ;x	; ; ; ;	; ; ; ;	; ; ; ;	Concurrence - is further discussion required?
215	32. Document changes to the performance measurement baseline.						
216	a. Are changes to the performance measurement baseline made as a result of contractual redirection, formal reprogramming, internal replanning, application of undistributed budget, or the use of management reserve, properly documented and reflected in the Cost Performance Report?	x; ; ;	; ; X; ;x	MRP does not have a baseline or ability to controlled changes. ; ; ; ;	Raise level of control to IMS level. ; ; ; ;	; ; ; ;	Further discussion required

Prod vs Dev EVM Checklist Project
Today's Discussions & Path Forward

Earned Value Management in a Production Environment Working Group

- 2nd Quarter 2012 Formally Kicked Off Phase II – Use of EVM in Production Compliance Checklist
- Over-riding Assumption is that we are Focused on Production Programs where EVM is applied (e.g. CP, FPI, or FFP (If business case approved))
- Discussion s in the Following Areas:

✓	Organization	Medium
✓	Planning, Scheduling, and Budgeting	Heavy
✓	Accounting Considerations	Light
✓	Analysis and Managerial Reports	Medium
➤	Revisions and Data Maintenance	Medium

- Current Work Package Under Phase II Control Account includes 40 Pages to be Discussed
  - ✓ 39 Pages Complete out of 40 (QBD); Physical % Complete = 97.5%
  - ➤ 216 of 219 Line Items Reviewed; 3 Line Items Remain on the Critical Path

➤ **Consideration for the Next Step**

1. A stand-alone NDIA Production EV cross-reference checklist
2. A revised NDIA Production EV White Paper utilizing the Phase 2 assessments as input
   - A proposed update to the PASEG Production Section (13.2) utilizing the Phase 2 assessments as foundational input
   - A revised DCMA cross-reference checklist showing development and production side by side