



* **P**roduction / **M**anufacturing / **N**aval **C**onstruction
Earned **V**alue Working Group
(PMNC EV Working Group)

* This is a Name Change to Engage /
Embrace Ship Construction Members

PMSC
18 – 19 June 2013
Arlington, VA



Team Roster

Production / Manufacturing / Naval Construction Earned Value Working Group

<u>Name</u>	<u>Company</u>	<u>Name</u>	<u>Company</u>
✓ Scott Gring	Lockheed Martin	✓ Marty Doucette	EVM Services
✓ Kim Herrington	Bell Helicopter	✓ Kathy Pelletier*	BAE Systems
• Beau Willis	US Navy	✓ David Johnson*	Marinette Marine
✓ Edward Silvia	Raytheon	✓ Brian Bartlett*	Marinette Marine
• Ron Tripson	Orbital, Inc.	✓ Phil Norris*	Austal USA
• Toni Dooley	Boeing	✓ Joseph Runkel*	Austal USA
✓ John Kanicsar	Orbital	✓ Kathy Boatwright*	Deltek
• Brad Temple	Rockwell Collins	✓ Keith Kerr	RG Consulting
• 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		
• Cynde Christle	General Dynamics		
• Ruth Fleming	Rockwell Collins		
• Peter Romeo	General Dynamics		
• Sabrina Davis	General Dynamics		
• Jim Ashton	General Dynamics		

*** First Time Attendees – Interested in Continuing**

**30 Members – 97%
have attended at
least one meeting in
the past 12 months**

✓ = In Attendance Today



Name Change

- 👍 Our Working Group Name Change was Encouraged by one of Our Members as being more Representative of the Diverse and Varied Nature of the Definition “Production Program”
- 👍 We are Now the Production / Manufacturing / Naval Construction Earned Value Working Group, or
- 👍 **PMNC EV Working Group**



Progress to Date



Production / Manufacturing / Naval Construction Earned Value 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 – June 2013
- ⇒ Call for Authors for Draft Appendix to Prod EV Whitepaper June 2013

Meetings Conducted Every Month Since May 2012
Average of 7 Working Group Members per Session



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



Production / Manufacturing / Naval Construction Earned Value 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)
	YES	NO			
EVMS Guidelines/Management Characteristics					
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



Production / Manufacturing / Naval Construction Earned Value 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-e am" 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 reconciled with EAC except when baseline. ; ; ; ;	;;;;	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 Questionnaire using the DCMA Cross Reference Checklist as a Guide – Summarized Results



Production / Manufacturing / Naval Construction Earned Value Working Group

1. Organization
 - **Guideline 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.*
2. Planning, Scheduling, & Budgeting
 - **Guideline 6** - *Schedule the authorized work in a manner which describes the sequence of work and identifies significant task interdependencies requires to meet the requirements of the program.*
 - **Guideline 10** - *To the extent it is practical to identify the authorized work in discrete work packages, establish budgets for this work in terms of dollars, hours, or other measurable units. Where the entire control account is not subdivided into work packages, identify the far term effort in larger planning packages for budget and scheduling purposes.*
3. Accounting Considerations
 - **Guideline 21** - *For EVMS, the material accounting system will provide for: (1) Accurate cost accumulation and assignment of costs to control accounts in a manner consistent with the budgets using recognized, acceptable, costing techniques. (2) Cost performance measurement at the point in time most suitable for the category of material involved, but no earlier than the time of progress payments or actual receipt of material. (3) Full accountability of all material purchased for the program including the residual inventory.*
4. Analysis and Managerial Reports
 - **Guideline 22** - *At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system: (1) Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance. (2) Comparison of the amount of the work budget earned the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.*
 - **Guideline 23** - *Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management.*



Prod vs Dev EVM Checklist Project

Today's Discussions & Path Forward



- 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))

✓ **Planned Team Discussions in the Following Areas:**

- | | |
|---------------------------------------|--------|
| • Organization | Medium |
| • Planning, Scheduling, and Budgeting | Heavy |
| • Accounting Considerations | Light |
| • Analysis and Managerial Reports | Medium |
| • Revisions and Data Maintenance | Medium |

✓ **Completed Team Discussions Work Package Under Phase II Control Account**

- 40 Pages Complete out of 40 (QBD); Physical % Complete = 100%
- 219 of 219 Line Items Reviewed

➤ **Next Steps**

- ✓ Identify Key Topical Areas for Detailed Analysis and Draft Write-ups
- 2) Assign Authors for ½ - 1 ½ Page Draft Write-ups
- 3) Complete Drafts, Team Review, Consolidate into a Single Appendix to the Production EV Whitepaper
- 4) Re-issue the White Paper (adjudicating the Jim Henderson Comments) with Appendix