DoD PARCA EVM

EVM Policy Initiatives

Mr. John McGregor
PARCA Director for EVM

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A Few Words

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5 Things you should know…

1. **EVM-CR Industry Role**
2. **DoDI 5000.02**
3. **IPMR**
4. **EVMSIG**
5. **MIL-STD-881C**

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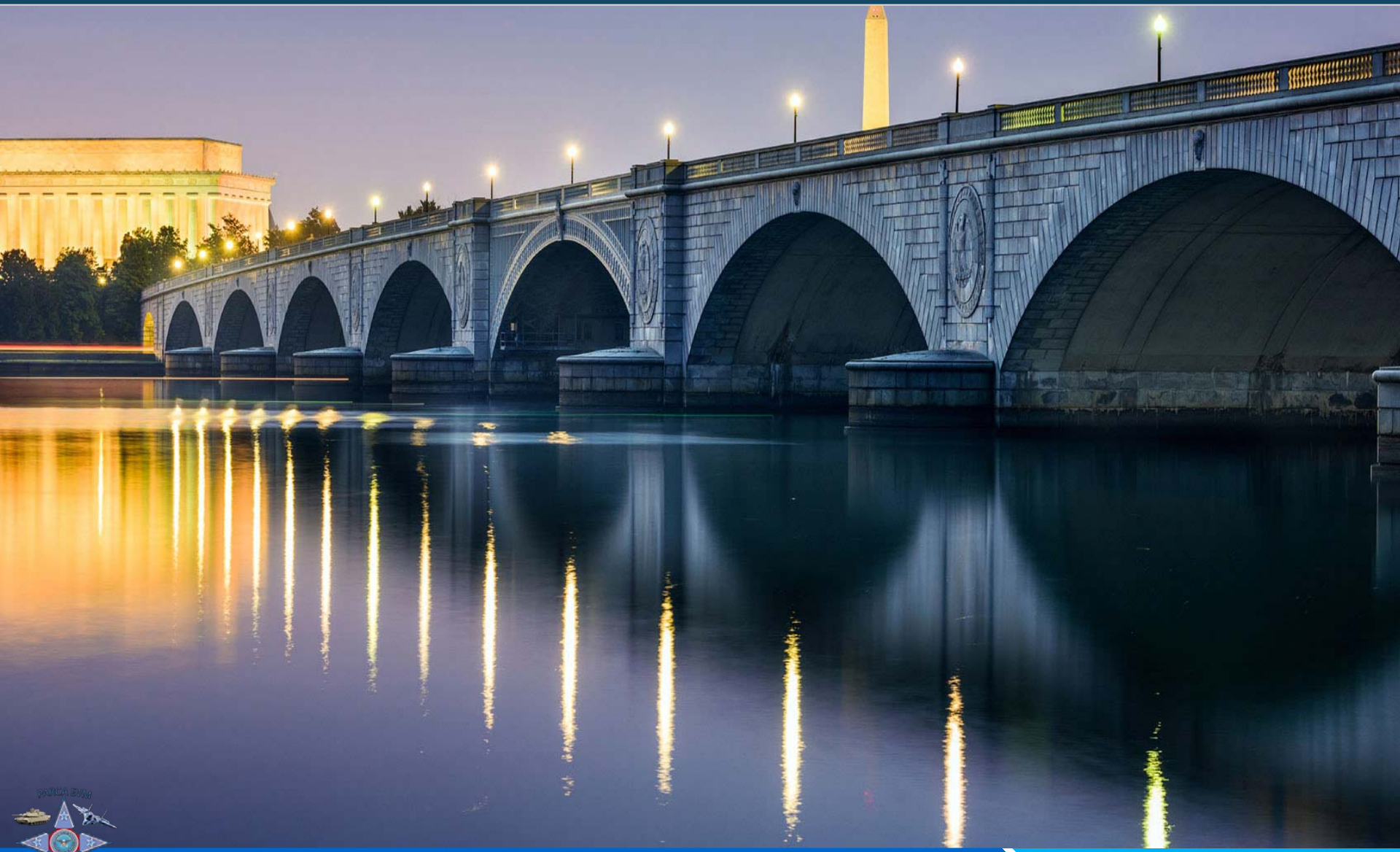
OUSD AT&L PARCA

NDIA IPMD Spring Meeting – 27 Apr 2017



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Organization

Where does PARCA reside in OSD (at least for now)?

- DoD Secretary of Defense
- Office of the Secretary of Defense
- Under Secretary of Defense (Acquisition, Technology, and Logistics)
- **Assistant Secretary of Defense (Acquisition)**

PARCA

DCMA

DAU

Etc…

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Director, Performance Assessments and Root Cause Analyses (PARCA)

Mr. Gary R. Bliss

OSD EVM Policy Holder	Nunn McCurdy Breach Analysis	Program Assessments and DAES Selection	Analysis Team
Mr. John McGregor **Deputy Director for Earned Value Management**	*Mr. Dave Cadman* **Deputy Director for Root Cause Analyses**	*Dr. Peter Eggan* **Deputy Director for Performance Assessments**	*Dr. Philip Anton* **Deputy Director for Acquisition Policy Analysis Center**

PARCA was brought into existence via the reforms in the Weapon Systems Acquisition Reform Act (WSARA) of 2009

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PARCA EVM Division Authorities

The EVM Division of PARCA is responsible and accountable for EVM performance, oversight, and governance across the Department

Policy and Guidance	EVM Competency	Program Interface	EVM Central Repository	Communications and Outreach
Develop, publish, and maintain DOD policy and guidance on EVM	Serve as DoD EVM Functional Lead to influence EVM competency requirements; Coordinate with Defense Acquisition University (DAU)	Review and approve EVM data requirements for MDAP programs in coordination with Services and Defense Agencies; Resolve interpretive differences in EVM policy, practice, and requirements	Responsible for the Earned Value Mgt Central Repository (CR) and maintenance of CR data alignment with the Acquisition Visibility framework; Report EVM data compliance, integrity, and quality to AT&L	Maintain communications with Government and Industry on EVM policy

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5 Things — EVM-CR Industry Role

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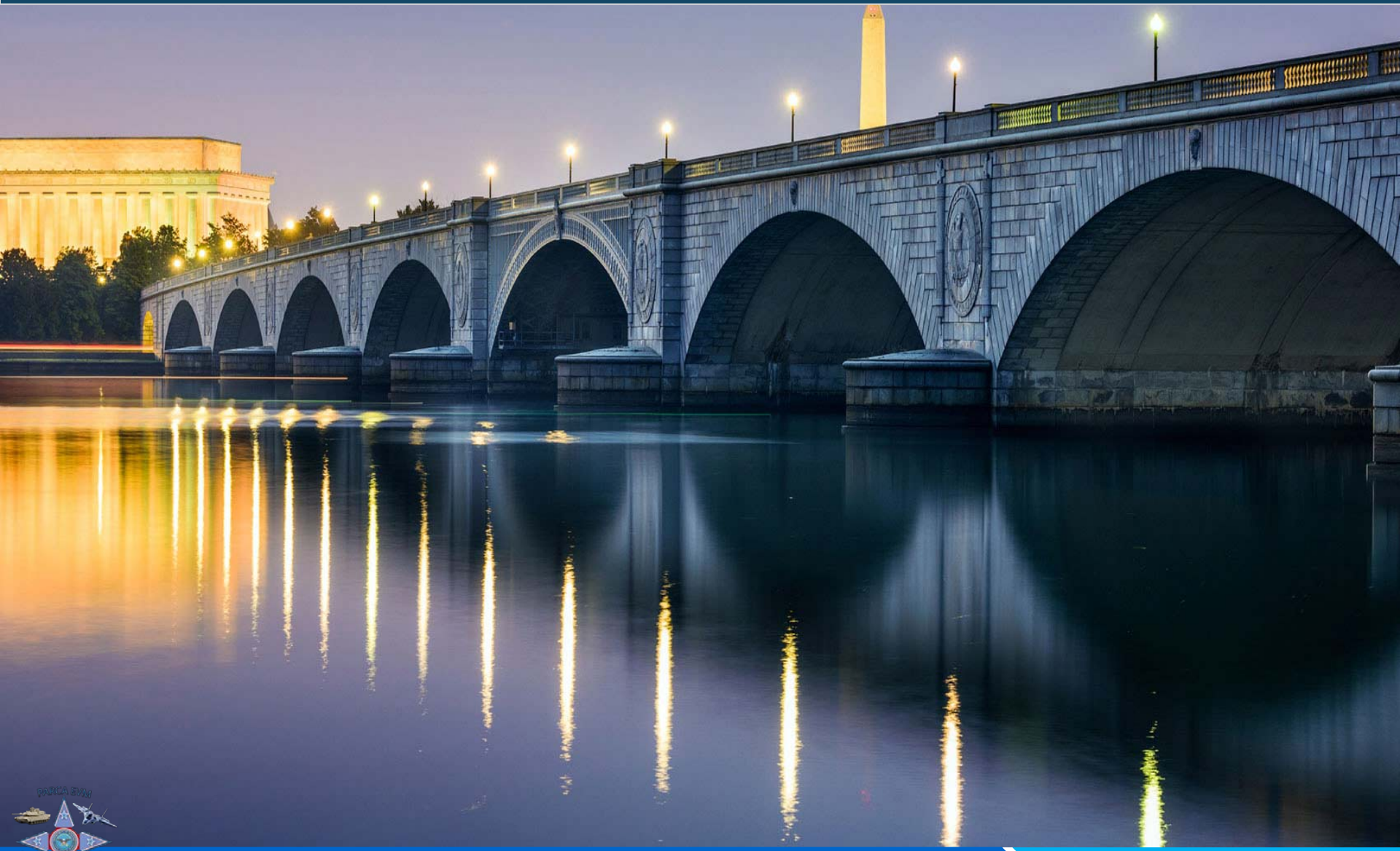

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EVM-CR Industry Reviewer Role

EVM-CR Industry Reviewer Role

- Role is now available
- To date, 1 corporation has provided authorization letter to PARCA; others have indicated letters are in process

What is Needed to Obtain Role

- Corporate Letterhead memo designating the Corporate POC for the EVM-CR who will be responsible for identifying and authorizing corporate reviewers

Corporate POC for the EVM-CR

- Provide to PARCA via email a list of individuals within corporation authorized to access information
- Perform annual validation of Corporate assigned users

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5 Things — DoDI 5000.02

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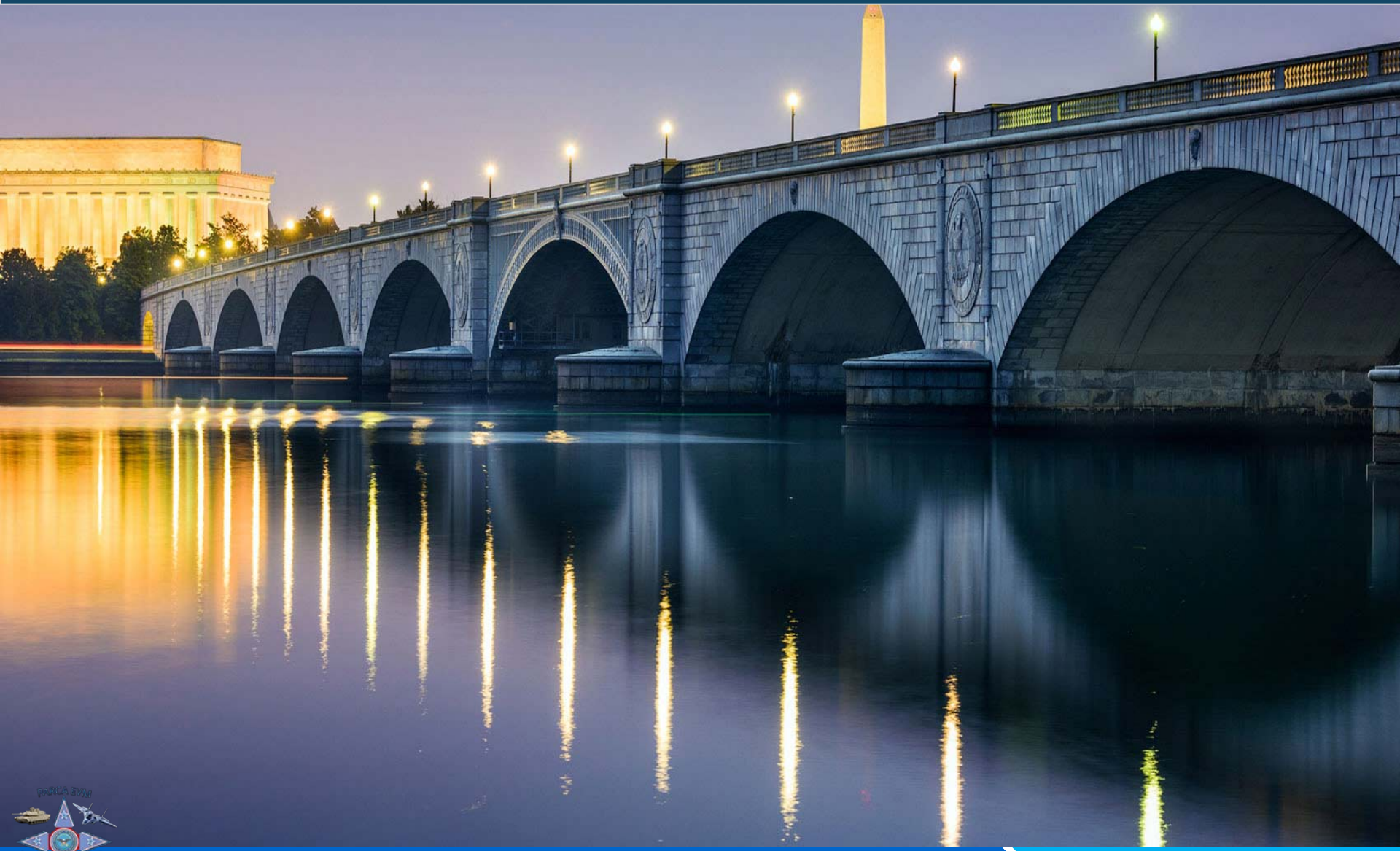

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DoDI 5000.02 EVM Tables

- Earned Value Management Requirements

- Table 8: EVM Application Requirements *(reflects $100M EVMS threshold)*

Contract Value	Applicability	Notes	Source
< $20M	Not required	IPMR Should be used if cost and/or schedule reporting is requested by the PMO	IPMR DID DI-MGMT-81861A*
≥ $20M & < $50M	Required monthly when EVM requirement is on contract	Formats 2, 3, and 4 may be excluded from the contract data requirements list (CDRL) at program manager discretion based on risk	
≥ $50M	Required monthly when EVM requirement is on contract	All Formats must be included in the CDRL	
Additional Information			
For ACAT I contracts, task orders, and delivery orders, IPMR data will be delivered to the EVM Central Repository. The IPMR can be tailored to collect cost and/or schedule data for any contract regardless of whether EVM is required. For information on tailoring the IPMR, refer to the DoD IPMR Implementation Guide (Reference (qj)). Formats and reporting requirements for the IPMR are determined and managed by USD(AT&L) through the office of PARCA. Reporting thresholds are in then-year dollars. DI-MGMT-81861A = Data Item Management-81861 (Reference (ev))			

- Table 9: EVM Reporting *(maintains $50M reporting tailoring threshold)*

Contract Value	Applicability	Notes	Source
< $20M	EVM not required; may be applied at PM discretion based on risk to the Government	Requires business case analysis and MDA approval	Part 7 of OMB Circular A-11 (Reference (c)); DFARS 234.201 (Reference (al)); This instruction
≥ $20M & < $100M	EVM Required; contractor is required to have an EVM system (EVMS) that complies with the guidelines in EIA-748*	The Government reserves the right to review a contractor's EVMS when deemed necessary to verify compliance	
≥ $100M	EVM Required; contractor is required to have an EVMS that has been determined to be in compliance with the guidelines in EIA-748*	The Contractor will provide access to all pertinent records and data requested by the Contracting Officer or duly authorized representative as necessary to permit initial and ongoing Government compliance reviews to ensure that the EVMS complies, and continues to comply, with the guidelines in EIA-748*.	

DoDI 5000.02 EVM Language

Applicability -

- When a contract is cost plus or incentive, is at least $20M, and has at least **18 months of performance**,
- OSD USD(AT&L) & the Services will **review the proposed contract work scope and provide a recommendation of determination of EVM applicability**

Other language -

- For ACAT I contracts, **IPMR data will be delivered to the EVM Central Repository**
- The initiation of an **over-target baseline or over-target schedule must be approved by the Government** program manager

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5 Things — $IPMR_2$ Initiative

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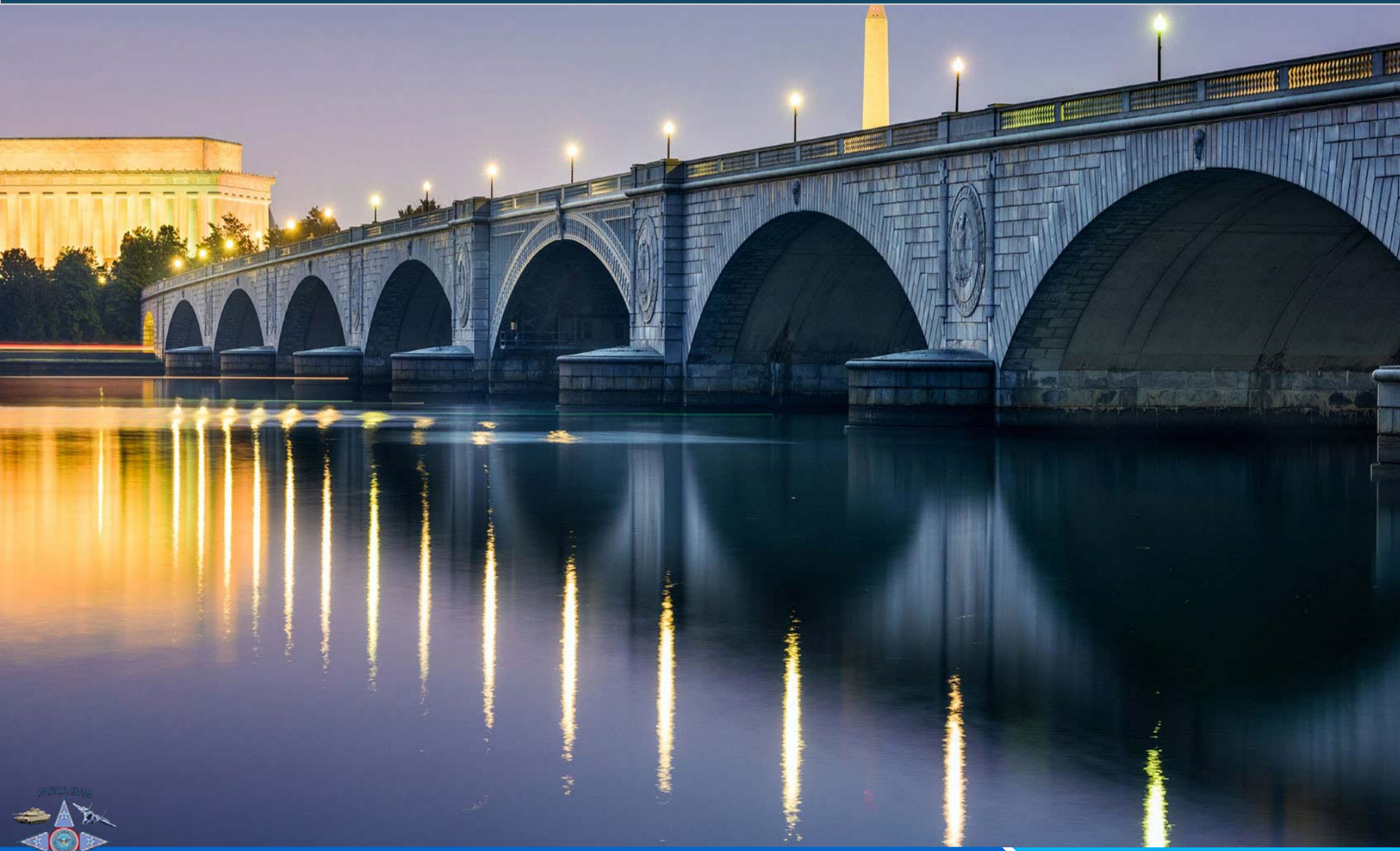

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IPMR Future – Data, not Formats

Singular data receipt for OSD that provides joint situational awareness for EVM performance and supports DCMA compliance activities

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- ***Reduce duplication*** of data in the IPMR Formats
- ***Update data transfer*** mechanism *(i.e., XML to JSON)*
- ***Improve traceability*** between cost and schedule data

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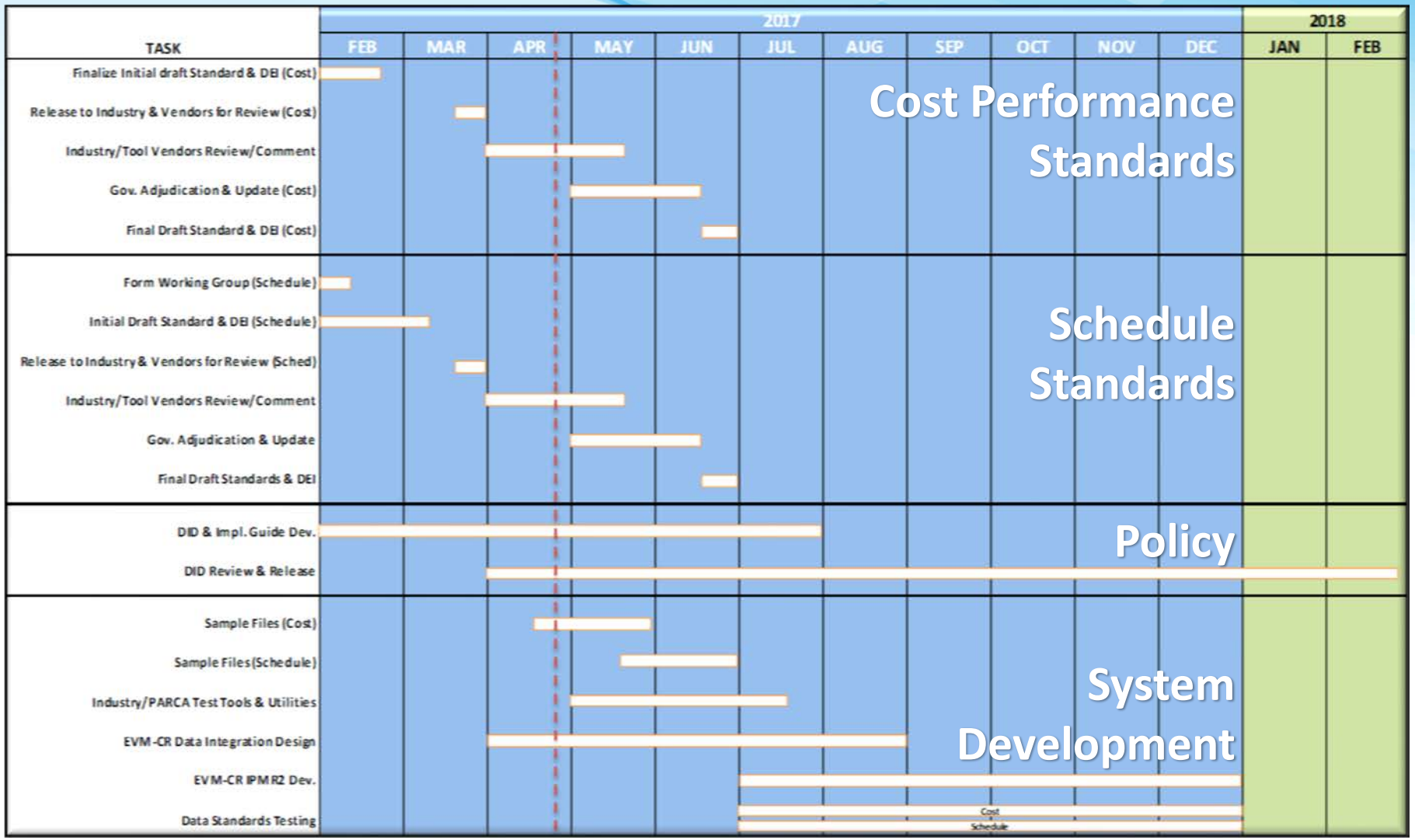
$IPMR_2$ Implementation Plan (April 2017)



$IPMR_2$ Implementation Plan Status

Cost Performance Dataset & Schedule Dataset Standards

- Completed draft file format specifications and DEI in March
- Held introductory overview with EVM software vendors on March 31st
- Held technical discussion forum with EVM vendors on April 7th
- Industry and vendor feedback and adjudication process through June

Policy

- $IPMR_2$ DID updated following adjudication of feedback
- Release date targeted for February 2018

System Development

- Development of Cost Performance and Schedule sample files for June
- Design and build desktop tools for file test and verification for July
- Plan to complete EVM-CR integration capabilities by December 2017 prior to DID update

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5 Things — EVMSIG

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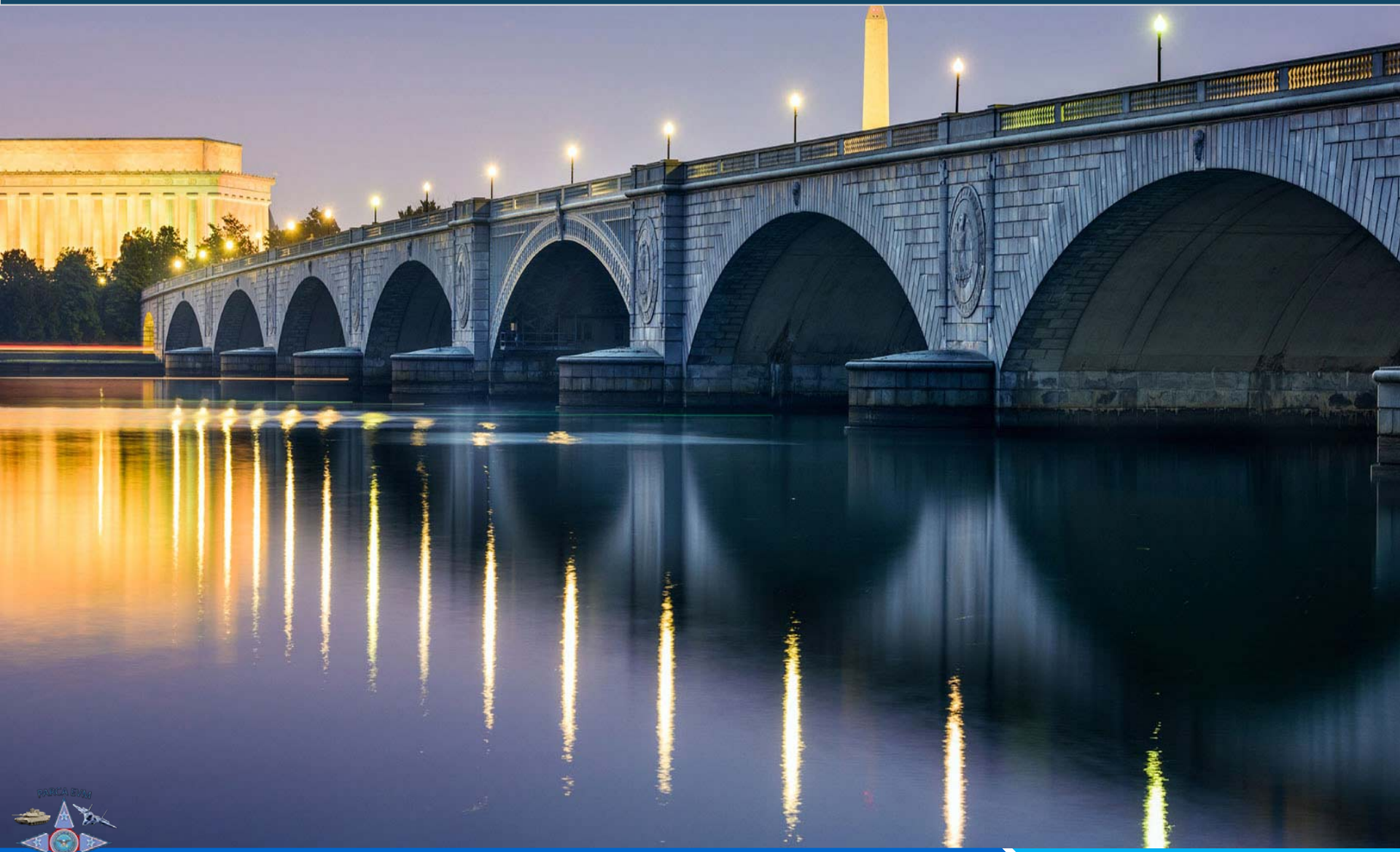

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EVMSIG Update

Accomplishments

- PARCA met with Govt compliance organizations to discuss and incorporate feedback since release of the EVMSIG
- Updated document released and PARCA received 152 industry comments and an additional 34 Govt comments
- PARCA met with NDIA Board to discuss industry comments

Going Forward

- PARCA to meet with Govt compliance constituents in May and Jun to adjudicate comments
- Plan to release document by end of summer

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5 Things — MIL-STD-881C Update

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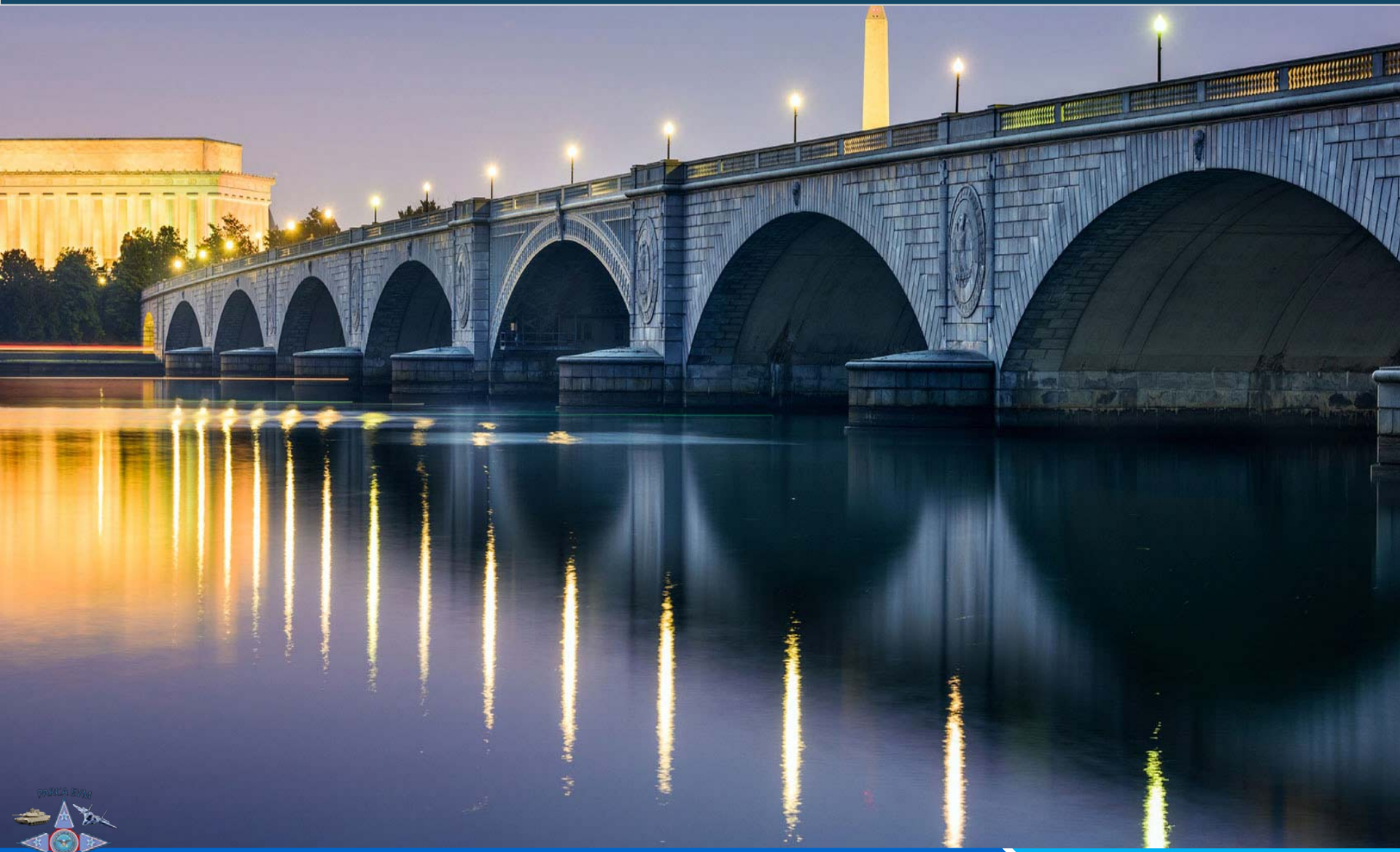

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MIL-STD-881C Update

- Appendices
  - *Updated:* Aircraft Systems, Electronic Systems, Missile Systems, Ordnance Systems, Space Systems, Surface Vehicle Systems, Unmanned Aircraft Systems, AIS Systems, Common WBS Elements
  - *No Update:* Sea Systems, Unmanned Maritime Systems
- Other information
  - Cybersecurity and Sustainment to be reflected in all appendices
  - Lower level WBS can be developed; link to cost estimating model templates to be provided as examples
  - Handling of items such as Warranty and Rate Tooling adjudicated
- Document plan for final review in August 2017

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Questions Contact Us

PARCA EVM Website:
http://www.acq.osd.mil/evm/

PARCA EVM Email:
osd.dodevm@mail.mil

PARCA AEP Program

PARCA Acquisition Exchange Program (AEP) provides a **unique career-development experience** for high-caliber Government civilians or military personnel interested in acquisition and/or EVM

http://www.acq.osd.mil/evm/aep.program.html

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BACKUP

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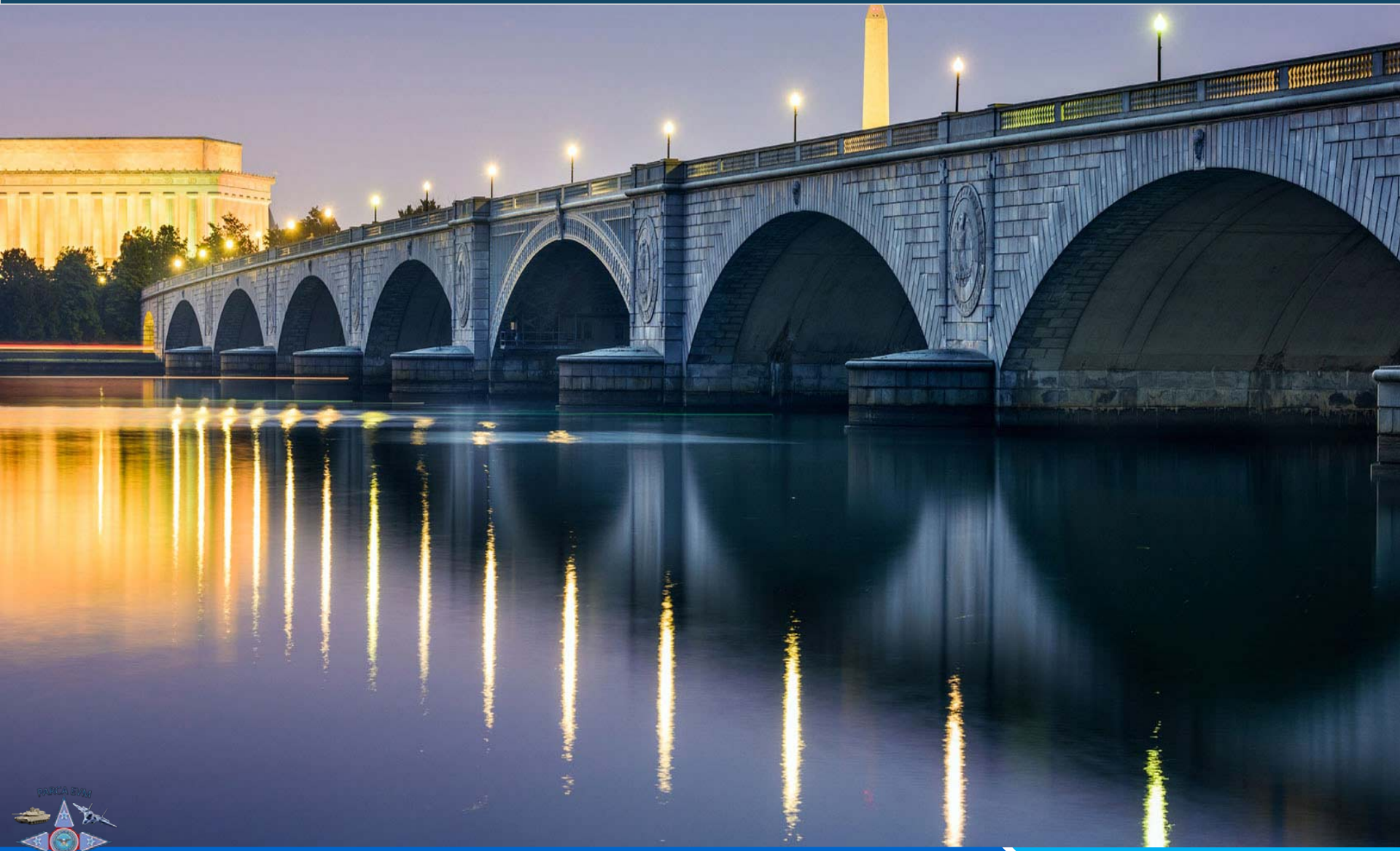

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Policy Initiatives

- **DFARS Update** – Updates ready for OMB release for public comment however on hold due to moratorium on rulemaking
- **EVMSIG Update** – Document out for Govt and Industry review; PARCA met with NDIA IPMD to discuss comments with EVMSIG team; Govt adjudication meetings to follow in May
- **EVMIG Replacement** – Navy initial draft document completed; purpose of document is to house DoD EVM guidance and interpretation in a singular place
- **EVM-CR Industry Role** – Corporate Industry role for EVM Central Repository users now implemented; To date, 1 corporation has supplied authorization letter; Others have indicated letters are being worked; Contact Jen Horner to schedule training

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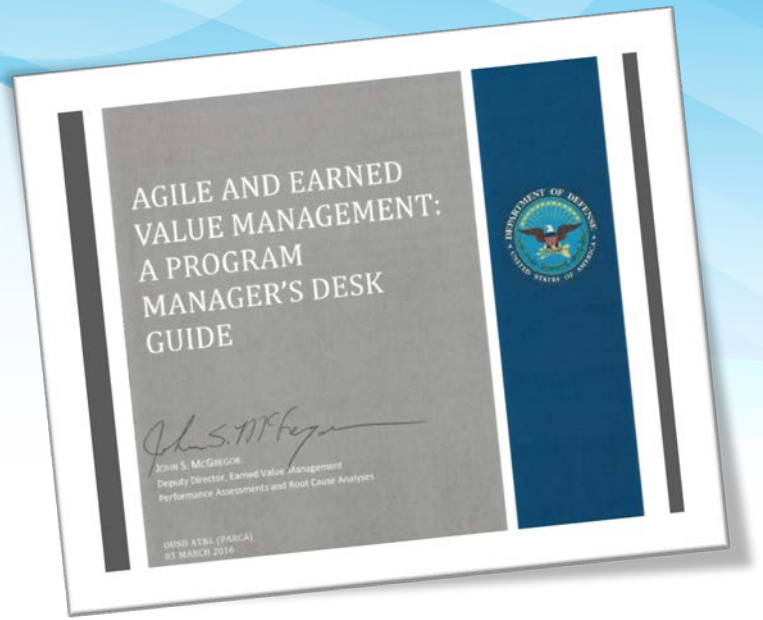
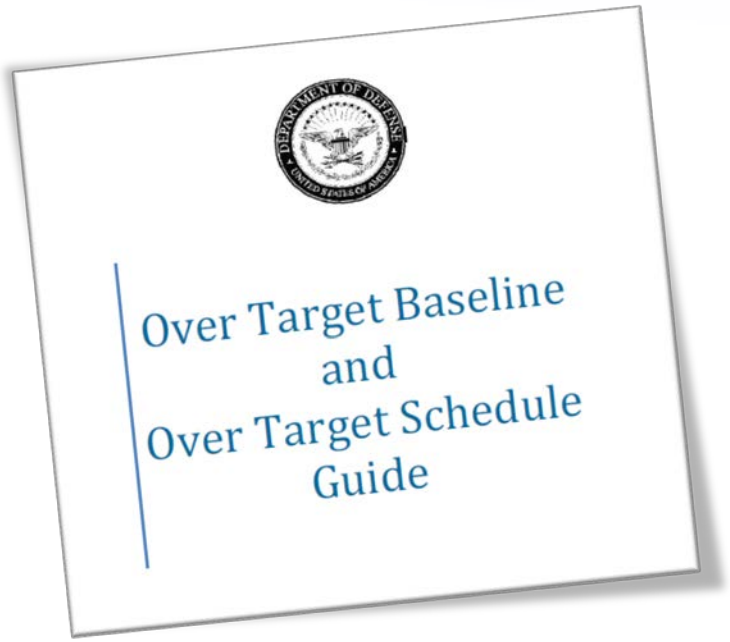
Policy Initiatives (continued)

Agile & EVM PM Desk Guide

– PARCA working on update to guide to cover IBR and further explain relationship of metrics





OTB / OTS Guide Update

– PARCA reviewing comments from Industry and Government

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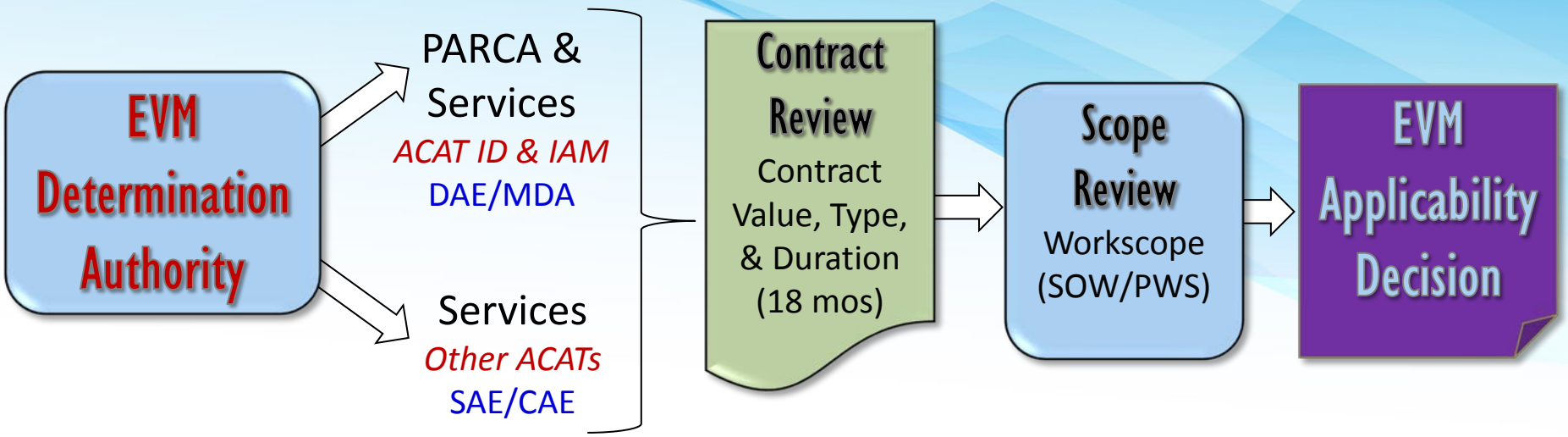
DoDI 5000.02 EVM Applicability Determination



No

EVM Applicability Decision → If *EVM does not apply* then no deviation/waiver required; EVM not on contract

Yes

EVM Applicability Decision → If *EVM applies* then EVM is placed on contract; PMO has option to seek waiver

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PARCA PA UPDATE

NDIA Meeting

Dr. Peter Eggan

PARCA Deputy Director for Program Assessments

April 2017

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Agenda

- Who are we?
- What do we do?
- How do we do it?
- Using EV at the OUSD(AT&L) – some examples
- OSD Senior Leadership and the rest of what we do

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Who are we?

Director, Performance Assessments and Root Cause Analyses (PARCA)

Mr. Gary R. Bliss

OSD EVM Policy Holder	Nunn McCurdy Breach Analysis	Program Assessments and DAES Selection	Analysis Team
Mr. John McGregor Deputy Director for Earned Value Management	*Mr. David Cadman* Deputy Director for Root Cause Analyses	***Dr. Peter Eggan*** Deputy Director for Performance Assessments	*Dr. Philip Anton* Deputy Director for Acquisition Policy Analysis Center

PARCA was brought into existence via the reforms in the Weapon Systems Acquisition Reform Act (WSARA) of 2009

What do we do?

By Statute:

- *Evaluate periodically (or on request) cost, schedule and performance of a program (MDAP) relative to current metrics. Assessments shall:*
  - *Evaluate cost, schedule and performance of a program (MDAP) relative to current metrics, performance requirements, and baseline parameters.*
  - *Determine the extent to which the level of program cost, schedule and performance predicted is likely to result in the timely delivery of a level of capability to the warfighter, consistent with the level of resources to be expended.*
- *Advise acquisition officials on program performance issues after a Nunn-McCurdy breach, prior to FRP authorization, or multi-year procurement.*
- *Issue policies, procedures, and guidance on the conduct of performance assessments.*
- *Evaluate the utility of performance metrics used to measure the cost, schedule, and performance of major defense acquisition programs, …*

Improve visibility into the execution status of MDAPs.

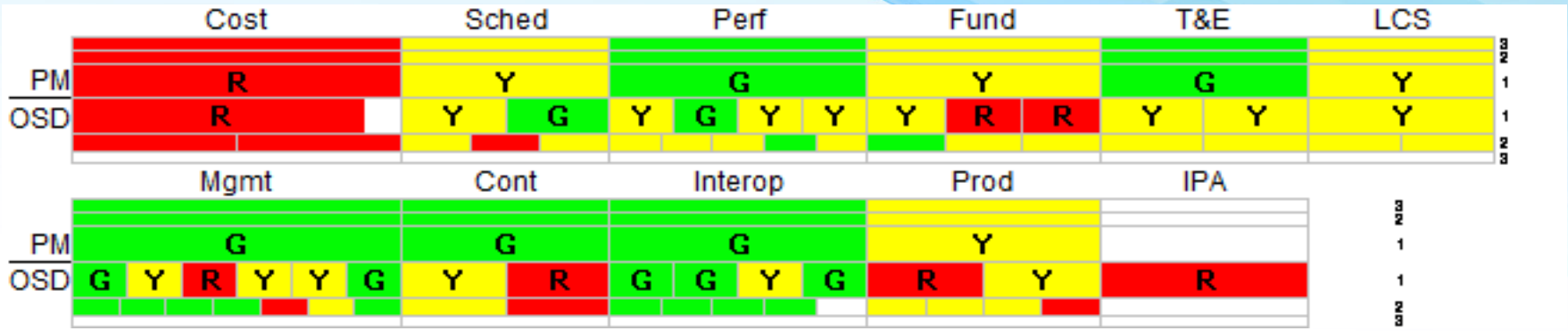
How do we do it?

- Periodic Performance Assessments: Tie these to the Defense Acquisition Executive Summary (DAES) process
  - *DAES divides all MDAPs into three groups – A, B and C – each group assessed quarterly*
  - *Use EV data as the basis for PA assessments – "…one of DoD's and industry 's most powerful program management tools."*
  - *Aggregate performance of all active contracts into a program level assessment*
  - *Document assessment as a Contract Performance Assessment (CPA)*
  - *PARCA examines available EV data for every contract on every program being reviewed each month (329 Assessments on 80 programs in FY 2016)*
- Wrote and published the DAES Assessment Guidance (2012)
  - *Conduct annual reviews of compliance to the Guidance*

CPAs are PARCA's data-centric starting point for understanding program execution, but not the end

How do we do it? (cont.)
Defense Acquisition Executive Summary (DAES)

OSD and Program Managers assess programs in 11 categories



Assessments document programs' status and history, are stored on a shared website, and are read by all levels of staff and leadership. EV data is used in:

<u>Contract Performance</u>: EVM and IMS data are the core of contract performance assessments

<u>Management:</u> Missing or erroneous EVM data or EVM system problems can produce red or yellow management ratings

<u>Cost:</u> EVM data aggregated across contracts shows program cost status

<u>Schedule:</u> EVM data, integrated with IMS data and program milestones, is often part of schedule assessments

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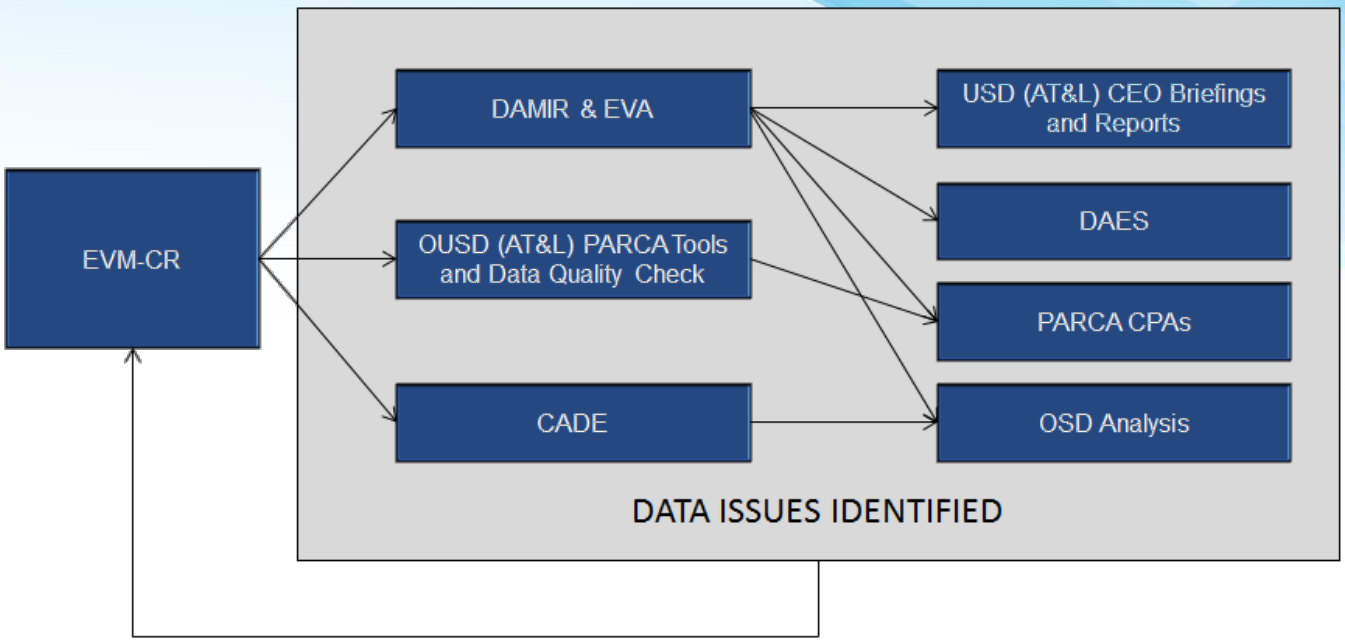
How do we do it? (cont.)
Using EV at the OUSD(AT&L)

What do we do with EV data?



EV data is being used in various OSD systems & tools.

PARCA staff specialists use the EV data to monitor program execution, identify programmatic issues, and inform senior level decisions and meetings.

How do we do it? (cont.)
Data Sources vs. PARCA Statutory Functions

Cost

- Contractor Performance
- Program Cost Performance
- Funding Stability

Schedule

- Contractor Execution
- Program Execution

Performance

- Warfighter Expectations
- System Performance

- **EVM Data (DAMIR, EVM-CR)**
- **Contract Value (DAMIR, EVM-CR)**
- **Production Deliveries (DAMIR, DCMA PAR)**
- **PM/Staff Assessments (DAES, Direct)**

- DOT&E and DASD(DT&E) Annual Reports
- DASD(SE) Annual Report
- **Unit Cost (DAMIR)**
- **Cost Variances (DAMIR)**
- **Budget Data (DAMIR, PB)**

- **APBs (DAMIR)**
- ADMs, CARDs, ICEs (AIR, CADE)
- LCSPs, RAM-C Reports, SEPs, TEMPs (AIR)
- AoA Reports (AIR)
- DASD(DT&E) Assessments (AIR, Direct)
- Capability Requirements (KMDS)
- BLRIP and OA Reports (DOT&E)
- Program Office Engagement (Direct)

Increasing Frequency

Quarterly

Annually

Milestones

Acronyms on next page

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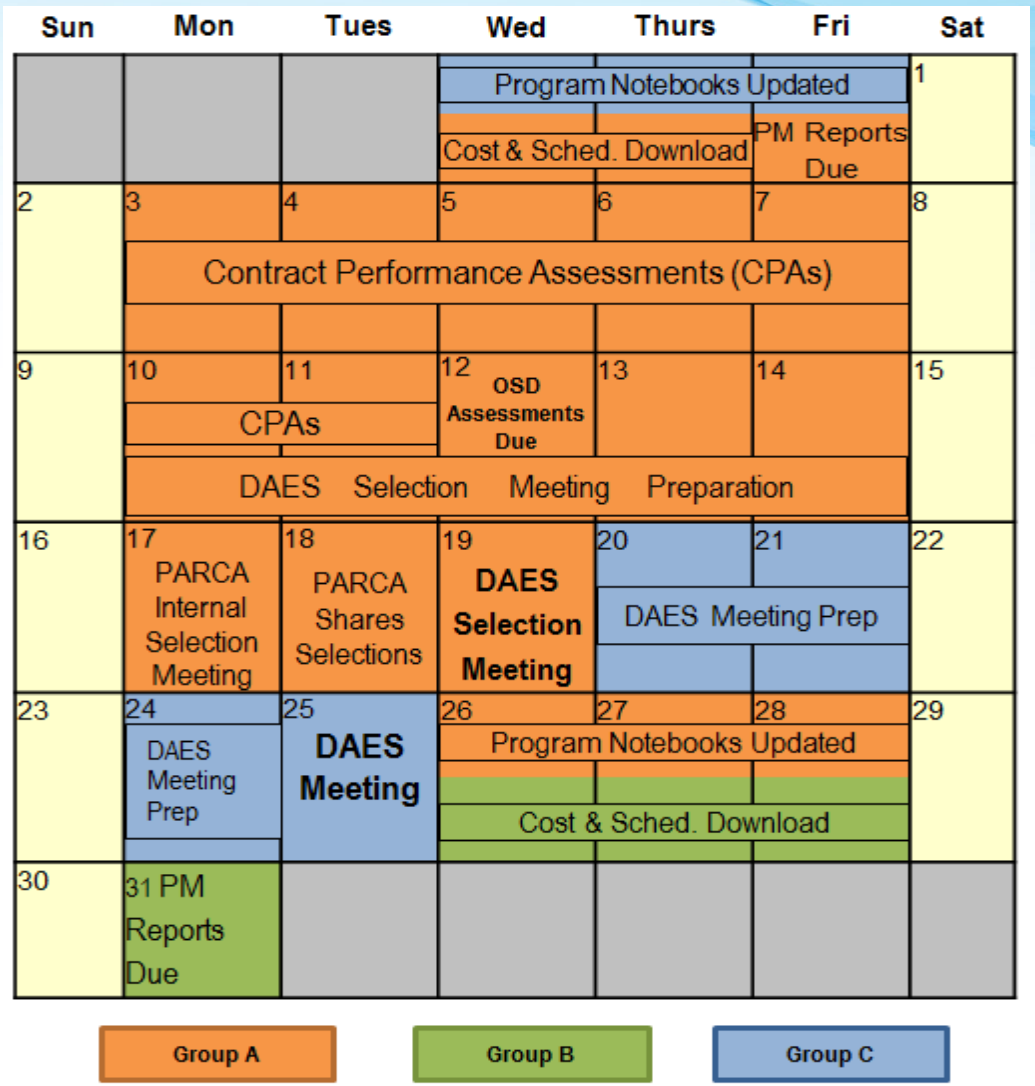
How do we do it? (cont.)
PA's Monthly Battle Rhythm



Overlapping processes for all 3 DAES groups each month.

Formal process for examining data and turning it into useful assessments

Contract cost and schedule analysis to include identifying lower level drivers.

Comprehensive program risk assessments

Program notebooks

Provide DAES and DAES Selection support to ARA.

Using EV at the OUSD(AT&L)

EV tools and some analytical examples

Earned Value Analysis (EVA) System & 'Thermometer Charts'

EV Trends: "Data Blips"

Schedule Analysis Tools

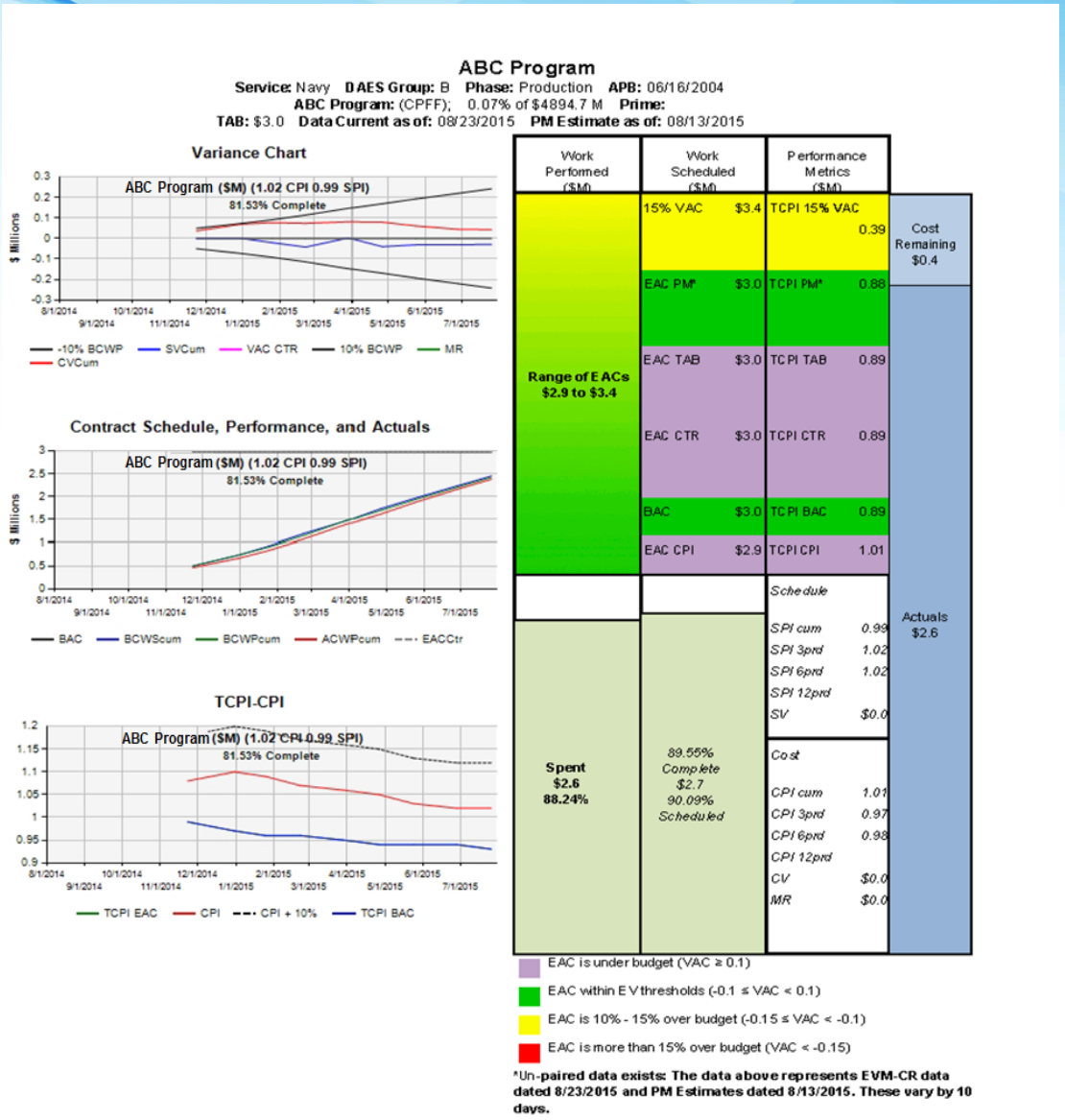
Program Funding vs. Actual Performance

Using Earned Value Data to Show Implications of LRIP Costs

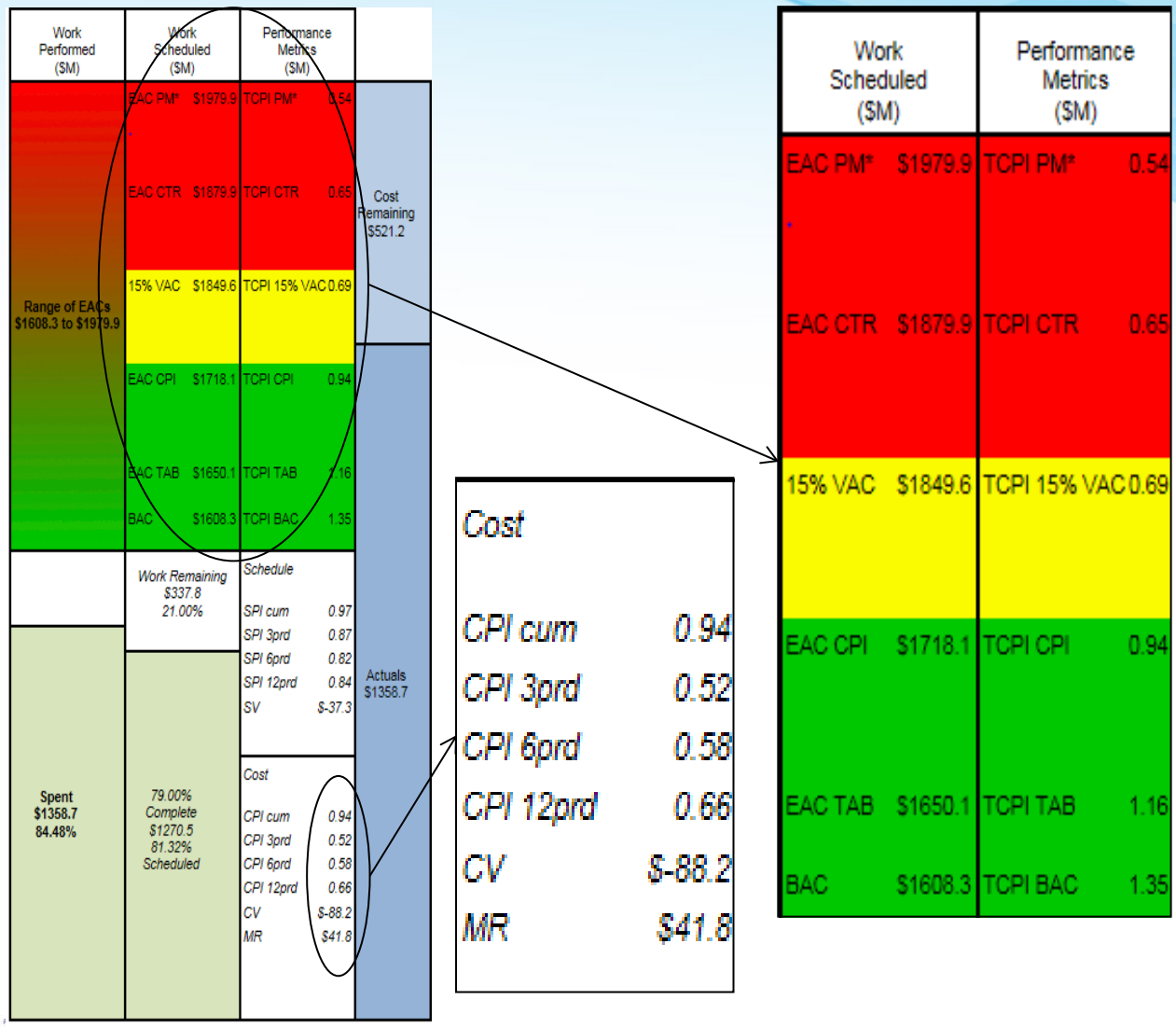
Earned Value Analysis (EVA) System

EVA is a suite of earned value charts and graphs designed to visually illustrate a contract's cost and schedule performance.

EVA serves as a decision support tool that displays EV trends and highlights ranges of EACs used to inform leadership of the contract's overall health and risk.



EVA Thermometer Chart



Cost	
CPI cum	0.94
CPI 3prd	0.52
CPI 6prd	0.58
CPI 12prd	0.66
CV	$-88.2
MR	$41.8

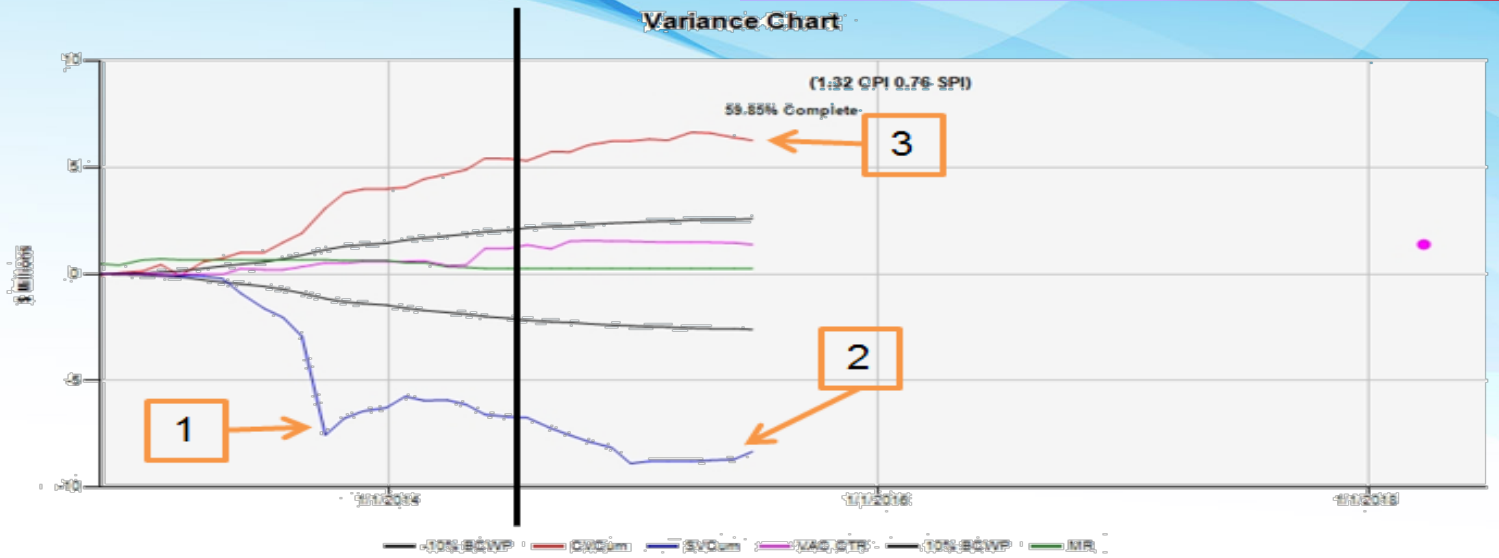
Work Scheduled ($M)		Performance Metrics ($M)	
EAC PM*	$1979.9	TCPI PM*	0.54
EAC CTR	$1879.9	TCPI CTR	0.65
15% VAC	$1849.6	TCPI 15% VAC	0.69
EAC CPI	$1718.1	TCPI CPI	0.94
EAC TAB	$1650.1	TCPI TAB	1.16
BAC	$1608.3	TCPI BAC	1.35

The Thermometer Chart provides EVM data in three distinct ways:

- *Work Performed*
- *Worked Scheduled*
- *Performance Metrics*

It identifies how much work and schedule remain, helps in understanding whether EACs are realistic, and whether the budget is sufficient to meet estimates.

Data Blips



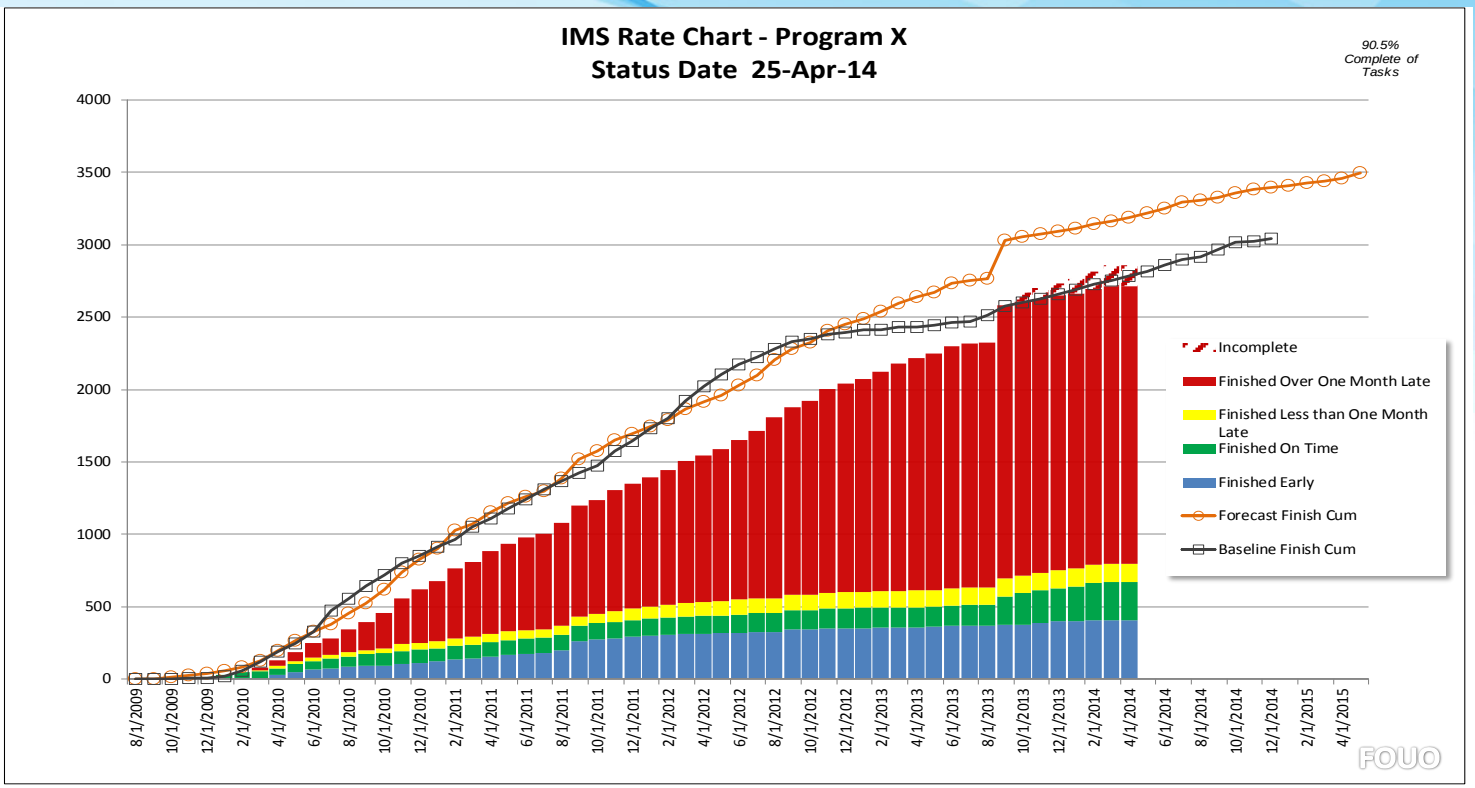
09/29/2013: The SVcum of -$7.5M is primarily due to ....
06/28/2015: The SVcum of -$8.3M is primarily due to ....
06/28/2015: The CVcum of $6.3M is primarily due to ...

Data Blips are used to brief senior leadership contract cost and schedule trends and to provide them with call outs of major events and root causes.

Used by:

PARCA Leadership at DAB / DAES Meetings / AT&L Deep Dives
USD(AT&L) and ASD(A) to prepare for previous CEO Briefings

Schedule Analysis



PARCA is using IMS and IMS analysis to evaluate program performance.

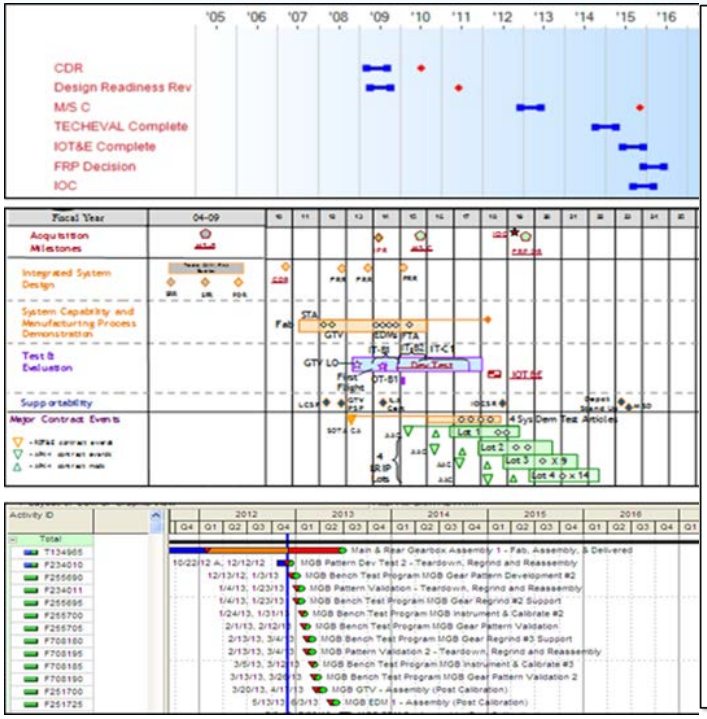
Example: IMS task execution

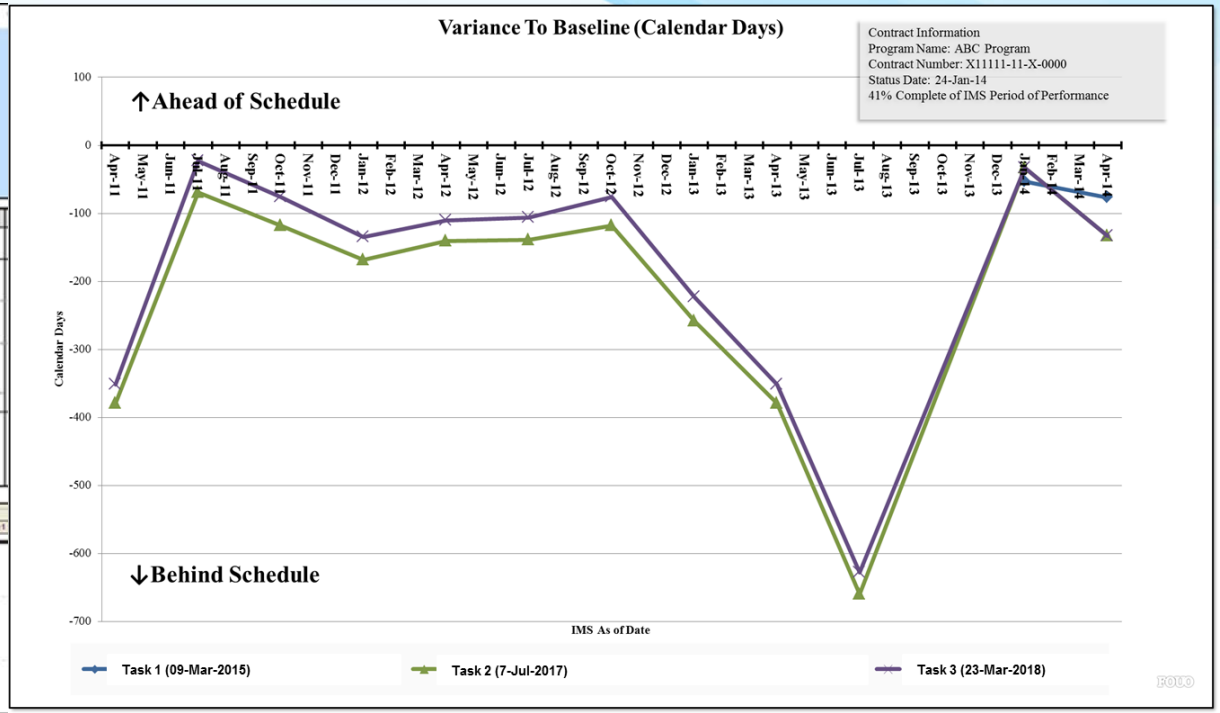
PARCA is excited about the continued implementation of IPMR and the development of integrated cost and schedule analysis tools.

Tracking status with each IMS submission ("inchstones")

The Goal: Evaluate progress to achieving long term schedule goals.

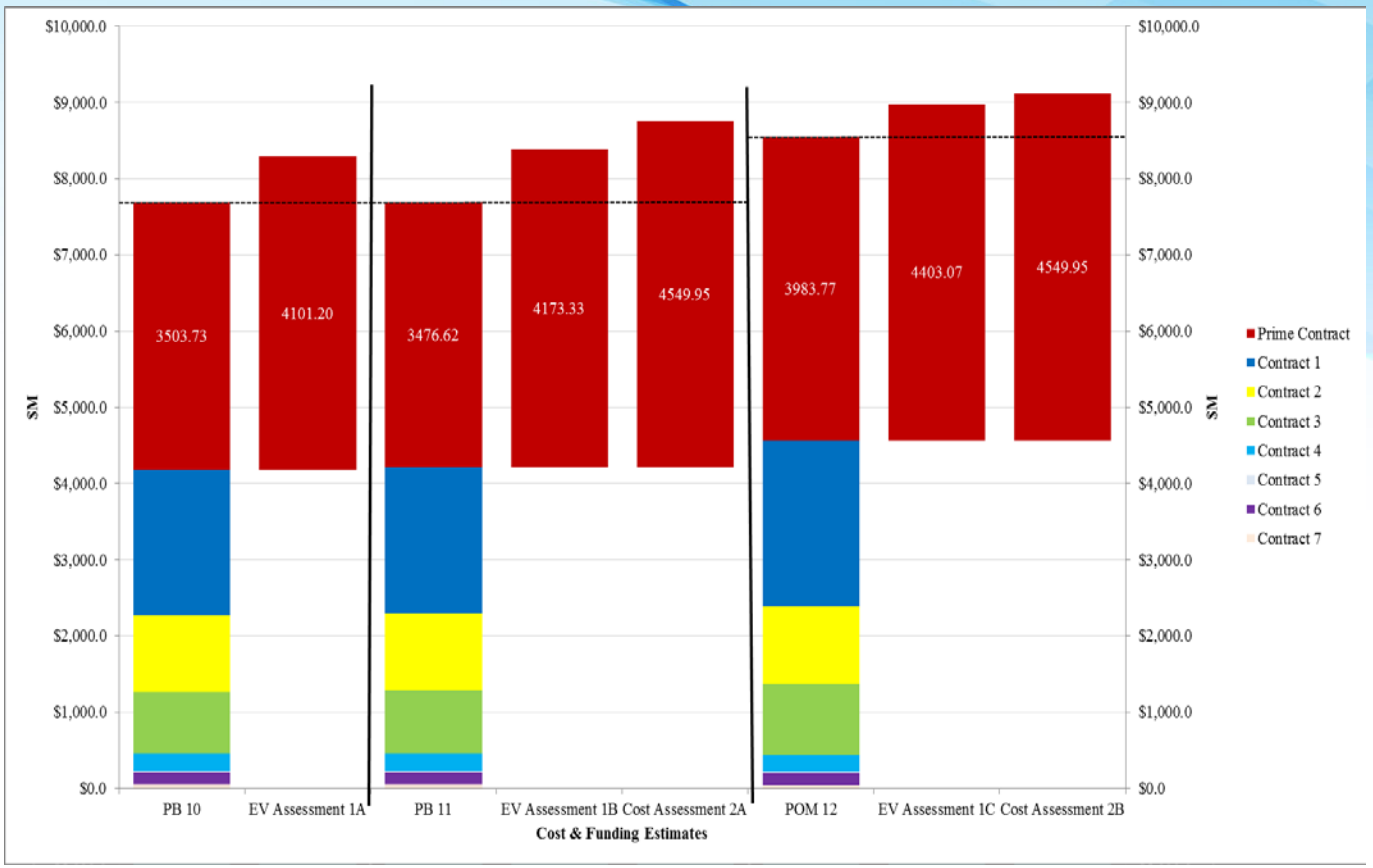
The Approach: Track progress to near term events that drive those future schedule goals.





Monthly progress showed activities falling behind resulting in re-plan

Program Funding vs. Actual Performance



Example:

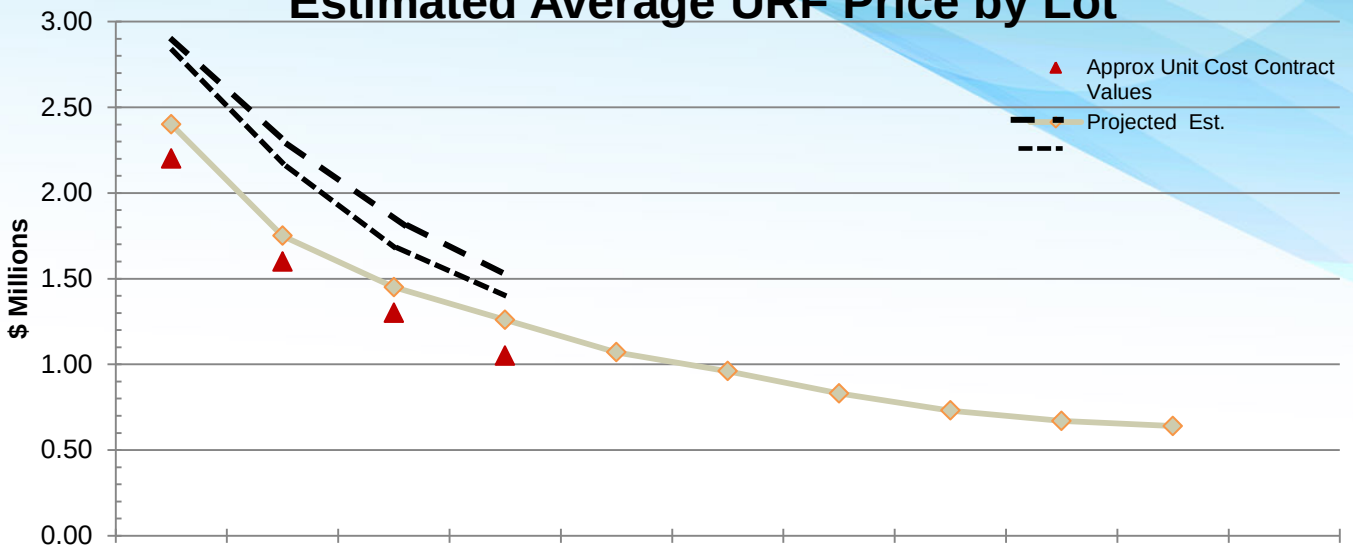
Funding for this program was below multiple independent EACs.

PARCA uses EV data to develop EV assessments based on historical performance and compares that to other EACs (PM / CTR / DCMA) and the current funding profile.

Using EV data to show implications of LRIP costs

Notional Data

Estimated Average URF Price by Lot



	LRIP 1	LRIP 2	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	
Contract Type	CPAF	CPAF	FPIF	FPIF	FFP	FFP	FFP	FFP	FFP	FFP	
Quantity	2	12	17	32	42	53	104	157	207		
Contract % Complete	100%	100%	60%	20%							EAC projection based CUM Current Period

This chart compares unit costs to contract value predictions throughout production.

If current performance does not meet projections there may be a future funding shortfall that will negatively impact the execution of the program's acquisition strategy.

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OSD Senior Leadership and the rest of what we do

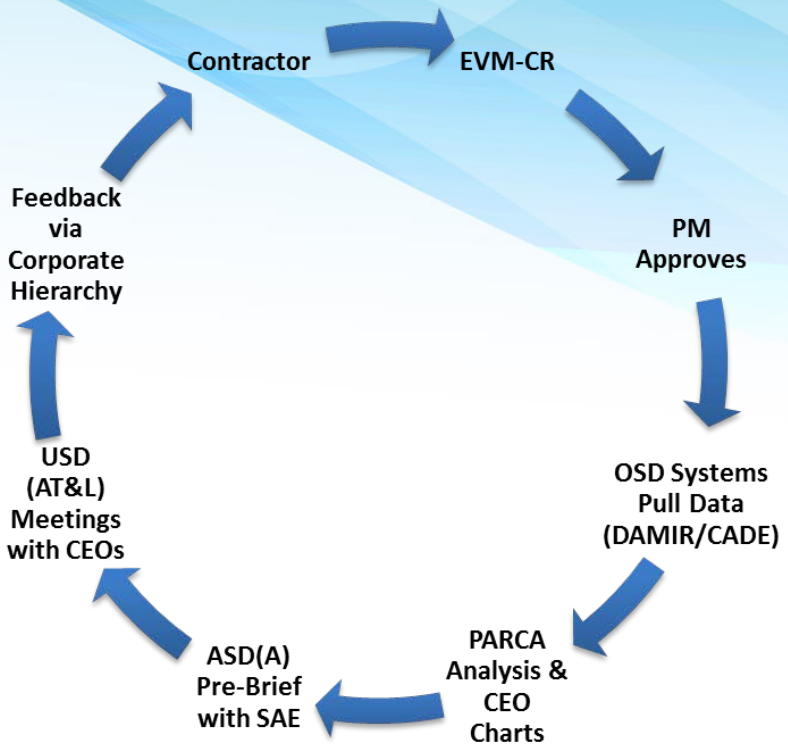
- Advise acquisition officials on program performance issues (statutory requirement):
  - *Semi-annually after Nunn-McCurdy recertification*
  - *Prior to Full Rate Production (FRP) authorization*
  - *Prior to Multi-year Procurement (MYP) authorization*
  - *Takes form of a Memo from D, PARCA to USD(AT&L)*
- Support USD(AT&L) quarterly meetings with industry CEOs
- Evaluate the utility of performance metrics used to measure the cost, schedule, and performance of major defense acquisition programs, … (statutory requirement):
  - *Funded a number of studies on the Defense Acquisition System*
  - *Currently executing a study on early indicators of risk in software intensive programs.*

EV Data & CEO Briefings

The USD(AT&L) and SAEs meet with Industry CEOs on a quarterly basis.

Program execution status is a key agenda item.

PARCA analysis highlights contract tasks with EV performance outside of standard thresholds (0.95 for CPI & SPI).



EV is used to facilitate programmatic discussions between the USD(AT&L) and Industry CEOs.

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Questions Contact Us

PARCA Website:
http://www.acq.osd.mil/evm/aep.program.html

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PARCA AEP Program

PARCA Acquisition Exchange Program (AEP) provides a unique career-development experience for high-caliber individuals interested in acquisition and acquisition-related career fields.

Perform acquisition oversight for a portfolio of MDAPs, understand how OSD uses EV data to review programs and make milestone decisions, interact with senior OSD officials, and expand your individual skills!

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Acronym List

AoA – Analysis of Alternatives

AIR – Acquisition Information Repository

APB – Acquisition Program Baseline

BLRIP – Beyond Low-Rate Initial Production

CADE – Cost Assessment Data Enterprise

CARD – Cost Analysis Requirements Document

DAES – Defense Acquisition Executive Summary

DAMIR – Defense Acquisition Management Information Retrieval

DASD(DT&E) – Deputy Assistant Secretary of Defense for Developmental Test and Evaluation

DASD(SE) – Deputy Assistant Secretary of Defense for System Engineering

DCMA – Defense Contract Management Agency

DOT&E – Director, Operational Test and Evaluation

EVM-CR – Earned Value Management – Central Repository

ICE – Independent Cost Estimate

KMDS – Knowledge Management and Decision Support

LCSP – Life Cycle Support Plan

OA – Operational Assessment

PAR – Performance Assessment Report

PB – President's Budget

SEP – System Engineering Plan

TEMP – Test and Evaluation Master Plan

RAM-C – Reliability, Availability and Maintainability - Cost