Using EVM at Headquarters

What do they do with all of that data?

Jim Woolsey
Deputy Director for Performance Assessments
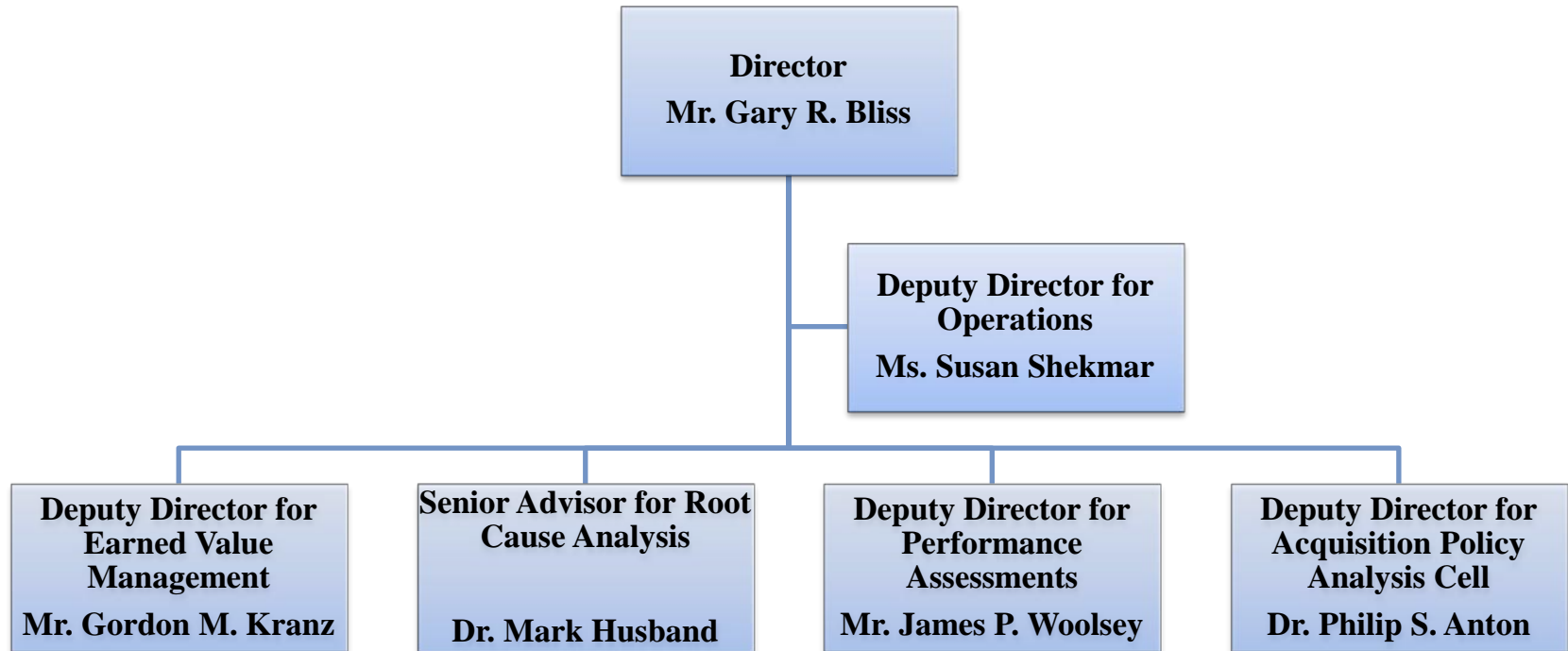*OSD PARCA*

Outline

▸ PARCA

▸ The USD(AT&L)

▸ DAES

▸ Analysis Examples

Performance Assessments and Root Cause Analyses (PARCA)

▸ PARCA was created by the 2009 Weapons System Acquisition Reform Act (WSARA)

▸ Stood up in January 2010

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                    ┌─────────────────────┐
                    │      Director        │
                    │  Mr. Gary R. Bliss   │
                    └─────────────────────┘
                                │
                    ┌─────────────────────┐
                    │ Deputy Director for  │
                    │     Operations       │
                    │ Ms. Susan Shekmar    │
                    └─────────────────────┘
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Deputy Director for Earned Value Management	Senior Advisor for Root Cause Analysis	Deputy Director for Performance Assessments	Deputy Director for Acquisition Policy Analysis Cell
Mr. Gordon M. Kranz	Dr. Mark Husband	Mr. James P. Woolsey	Dr. Philip S. Anton

www.acq.osd.mil/parca

PARCA Performance Assessments – WSARA's Assignments

1. Carry out performance assessments of MDAPs

2. Issue policies, procedures, and guidance on the conduct of performance assessments

3. Evaluate the utility of performance metrics used to measure cost, schedule, and performance

4. Advise acquisition officials on performance of programs that have been certified after a Nunn-McCurdy breach, are entering full rate production, or are requesting multi-year procurement

Improve visibility into the execution status of MDAPs

The USD(AT&L) and EVM

▶ The USD(AT&L) must understand the status of his acquisition programs.

▶ Mr. Kendall is an engineer, an MBA, and a lawyer with experience in industry, and in government.

▶ He's been using EVM for decades. Knows it. Likes it.

▶ A sign on his door says, "In God we trust; all others must bring data."

If you want a big boss who cares about EVM and data, you're in luck

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How USD(AT&L) Uses the Data

▸ What does he do with it?

- Makes it part of his "mental database"

- Uses it to inform decisions

▸ How does EVM get to the boss?

- Informal meetings

- Memos

- Through the ASD(A), Mrs. McFarland

- Defense Acquisition Board meetings (DABs)

- Defense Acquisition Executive Summary (DAES) meetings

Defense Acquisition Executive Summary

- ▸ The Defense Acquisition Executive Summary (DAES) process allows the USD(AT&L) to routinely evaluate the status of Major Defense Acquisition Programs (MDAPs).

- ▸ DAES runs on a monthly cycle with several steps
  - – Assessments
    - ▪ Program managers and OSD staff evaluate 1/3 of MDAP portfolio each month
  - – Program Selection
    - ▪ Senior OSD officials decide which programs should make formal presentations to the DAES meeting
  - – DAES meeting
    - ▪ Three or four PMs and PEOs brief USD(AT&L) and other senior leadership

- ▸ EVM analysis is prominent in every step

DAES Step One: Assessments

▸ OSD and Program Managers assess programs in 11 categories:

  – Cost, schedule, performance, contract performance, management, funding, test, sustainment, interoperability, production, international

▸ Assessments are color coded, but are supported with detailed narrative explanations

▸ Assessments document programs' status and history, are stored on a shared website, and are read by all levels of staff and leadership

▸ Assessments are the backbone of program selection

DAES Step One: Assessments

▸ EVM data is used in:

– _Cost:_ EVM data aggregated across contracts shows program cost status

– _Schedule:_ EVM data, integrated with IMS data and program milestones is often part of schedule assessments

– _Contract Performance:_ EVM and IMS data are the core of contract performance assessments

– _Management:_ Lack of EVM data or EVM systems problems can produce negative management ratings

PARCA Contract Performance Assessments

▸ PARCA examines the EVM data for every contract on every program being reviewed each month

    – Over 200 since February

▸ Formal schedule analysis is becoming a larger part of the assessments

    – IPMR will help

▸ We have a formal process for examining the data and turning it into useful assessments

USS Pentagon (DDX – 123)

Engineering & Manufacturing Development Contract: DF1986-10-C-0001 (CPAF); $1,384M (30% of $4,582M Budget)

Service: Navy DAES Group: A Phase: EMD Milestone: B (Sep 2010) Last DAES: June 2011 APB: Dec. 2009 Prime: IMAX

The EMD program consists of one (1) active CPAF contract C-0001, which accounts for 30% of the total DDX program budget. As reported in the EV CR [Mar 2013], the EMD contract is 72% complete, 88% spent.
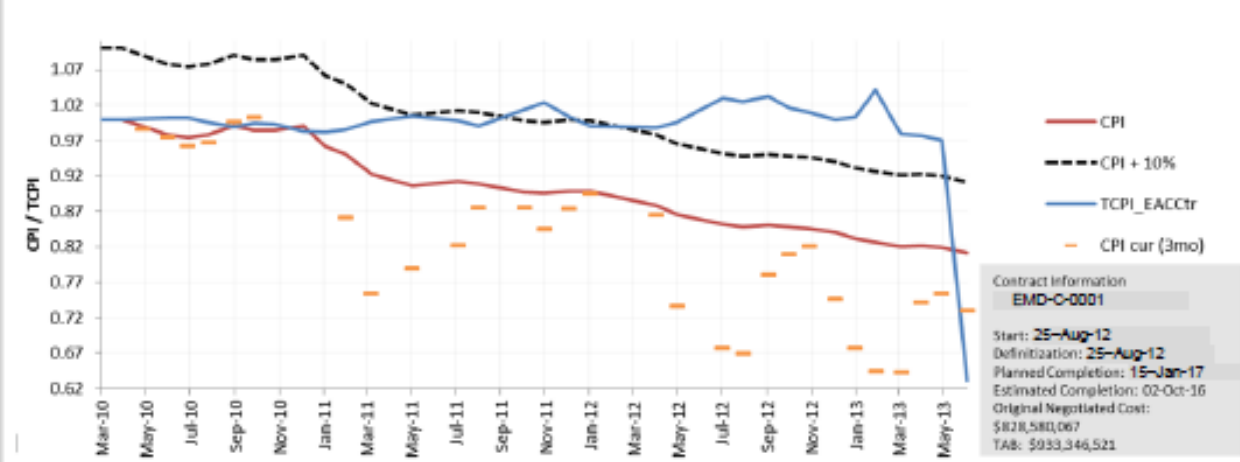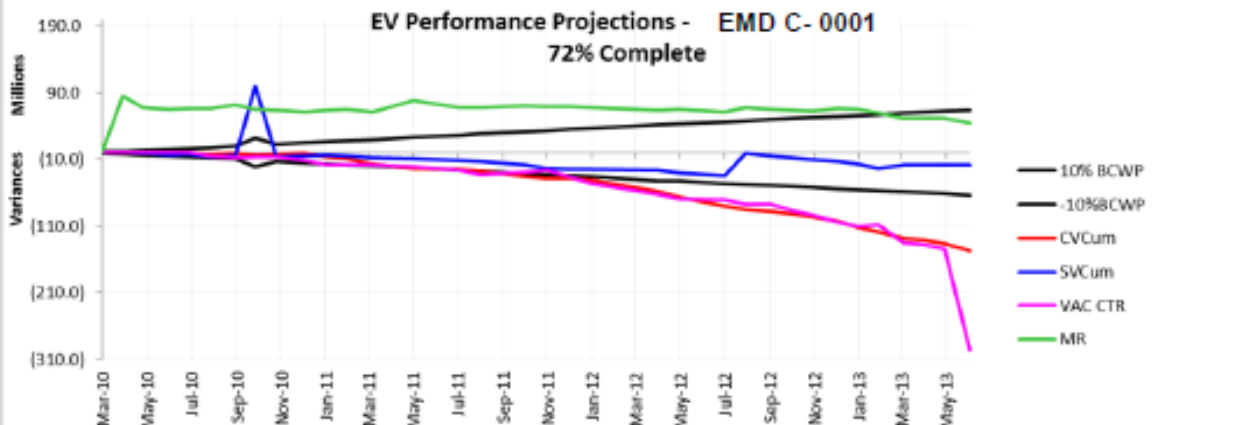
The EMD contract is experiencing significant cost challenges. The EMD contract is on the critical path to delivering DDX-123 on time for sea trials and is experiencing numerous challenges and delays. Specifically, the 6-month current CPI trend is 0.68, and the 12-mo. trend is 0.72, with a CPIcum of 0.81. At this pace (CPIcum 0.81, which is down from 0.87 last period), the contract would complete at ≈ $1,095M ($206M over budget 23%). The driver[s] for the unfavorable cost performance are shipyard construction delays, as well as SW development challenges on the shipboard command and control network.

The CTR EAC of $1,184M represents a $256M 28% VAC to the $928M BAC; and would require future cost performance of 0.63 or better. Given CPIcum, and a CPIcur 12 mo. of 0.72, the CTR EAC appear to be achievable yet significantly over budget.

USS Pentagon
Milestones
Engineering & Manufacturi..

EV Performance Projections - EMD C- 0001
72% Complete

Legend: 10% BCWP, -10%BCWP, CVCum, SVCum, VAC CTR, MR

Legend: CPI, CPI + 10%, TCPI_EACCtr, CPI cur (3mo)

Contract Information
EMD-C-0001
Start: 25-Aug-12
Definitization: 25-Aug-12
Planned Completion: 15-Jan-17
Estimated Completion: 02-Oct-16
Original Negotiated Cost:
$828,580,067
TAB: $933,346,521

Work Performed	Work Scheduled	Performance Metrics	
Range of EACs $888 - $1,184	EAC CTR $1,184	TCPI CTR 0.63	Cost Remaining: $400
	EAC PM $1,102	TCPI PM 0.79	
	EAC CPI $1,095	TCPIcpi. 0.81	
	15% VAC $1,021	TCPI15% VAC 1.06	
	EAC TAB $933	TCPITAB 1.68	
	BAC $888	TCPIBAC 2.41	
Budget Remaining $105 12%	Work Remaining $252 28%	Schedule SPI cum 0.97 / SPI 3mo 0.98 / SV -$19 / BEI / CPLI	ACTUALS: $783
% Spent $783 88%	72% Complete $636 74% Scheduled	Cost CPI cum 0.81 / CPI 3mo 0.73 / CV -$148 / MR $45	

DAES Step Two: Program Selection

▸ Once per month, senior staff get together to decide which programs will brief at the next DAES meeting

▸ Meeting chaired by Dr. Nancy Spruill, Director of Acquisition, Resources, and Analysis

▸ All aspects of programs are considered as criteria

▸ No data is more commonly cited than EVM

DAES Step Three: The Meeting

▸ Meeting starts with review of data submissions and data quality

- This reflects Mr. Kendall's interest in data

▸ Mrs. McFarland may then review assessments by various groupings (e.g. contractor, service, commodity type).

▸ Three or four programs will brief to Mr. Kendall and the assembled leadership

- Standard EVM charts are invariably part of these briefs
- Unique EVM charts are sometimes added to illustrate particular points
- Mrs. McFarland is a particularly active listener

Insights Apart from CPI and SPI

▸ Portfolio views

– Grouping by contractor, commodity, or service

▸ Asking questions about the data and the systems that created it

▸ Combining EVM with other data to examine cost progress and funding
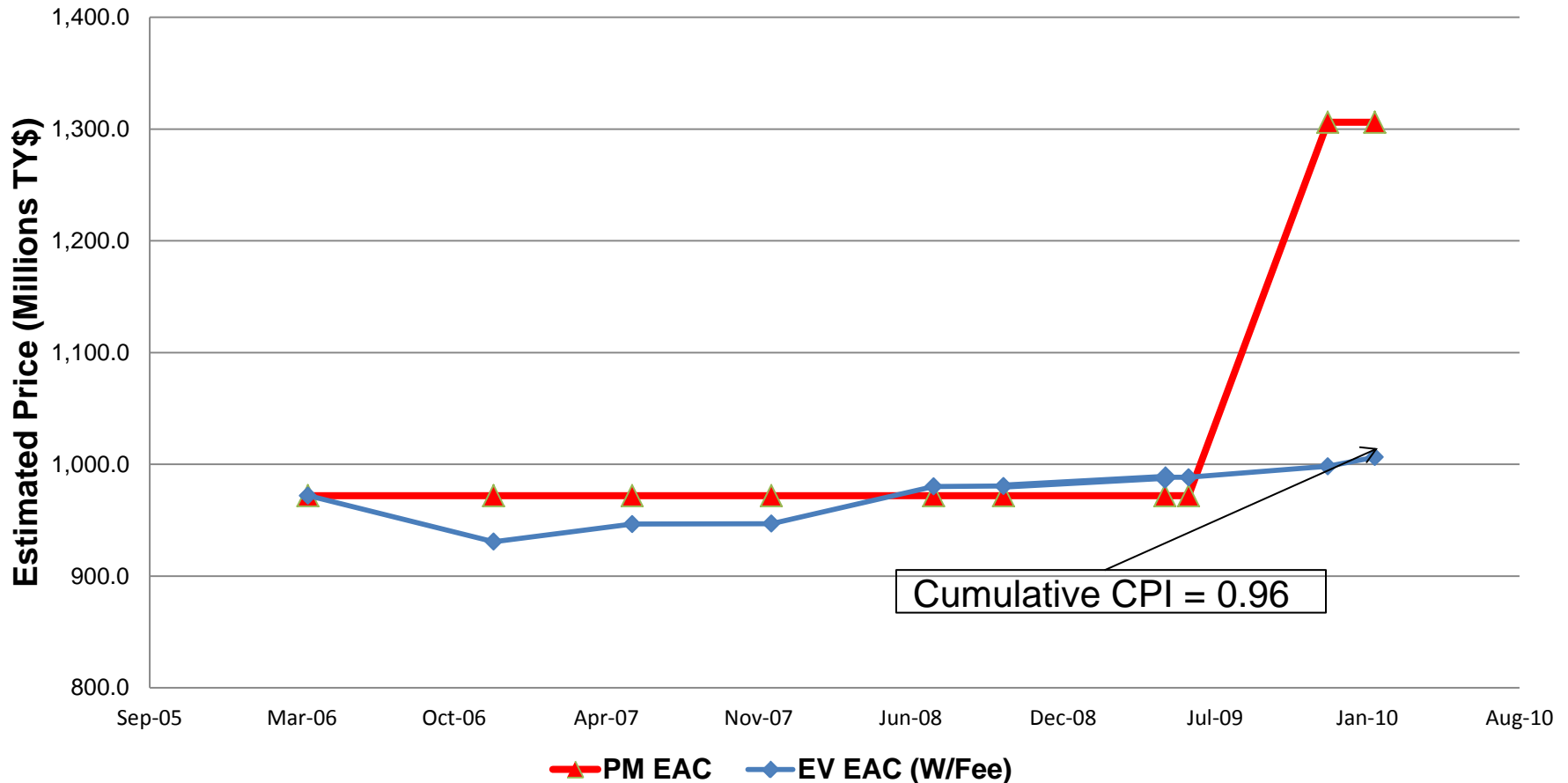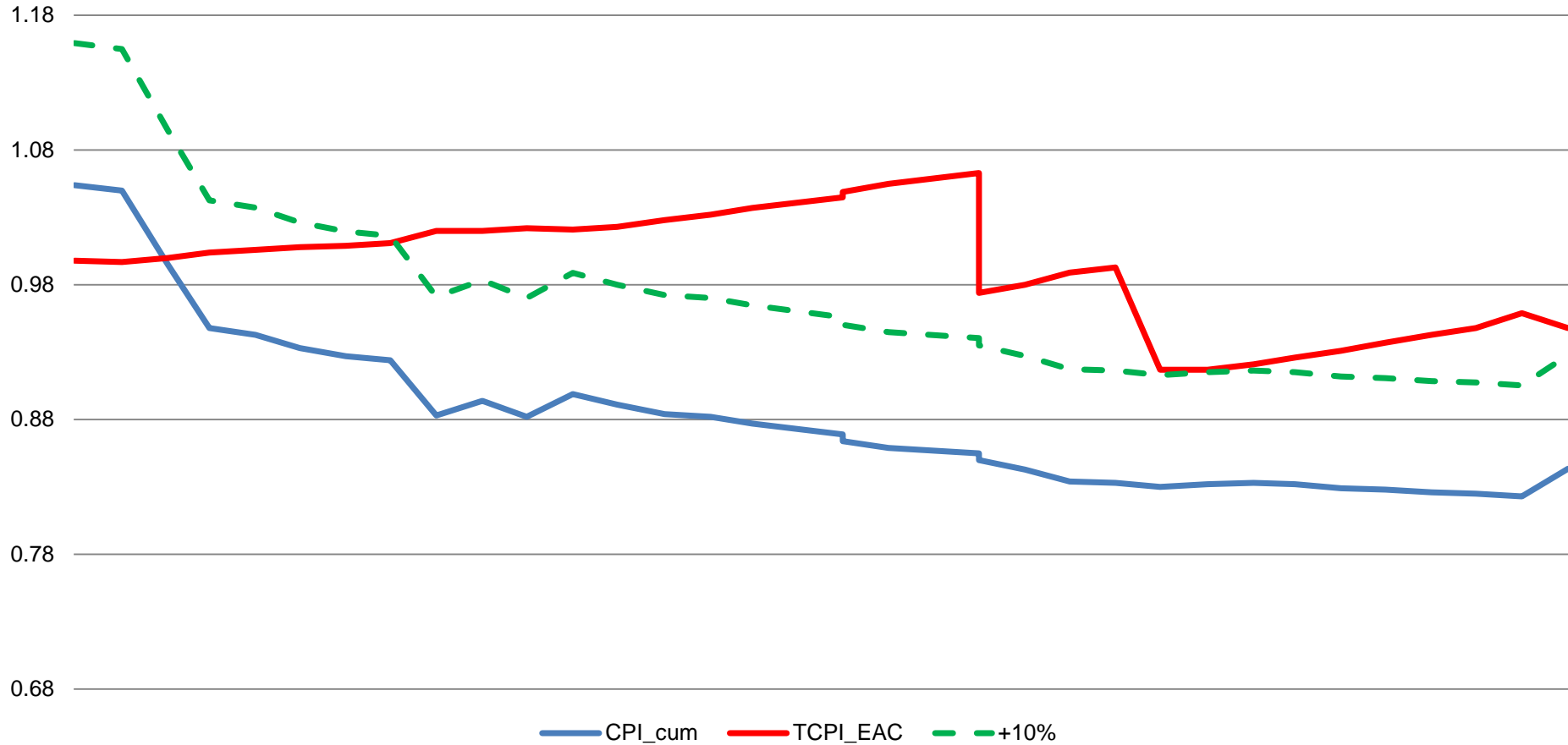
Significant Acquisition Watchlist (SAW)
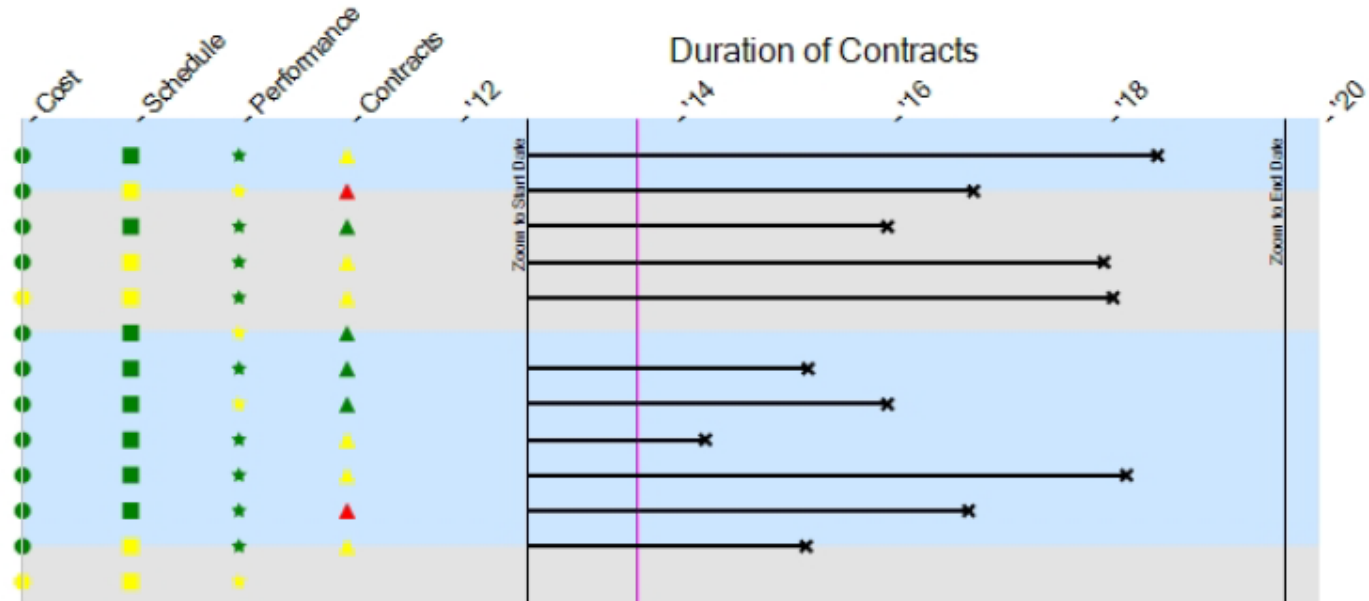
Make the Data Better by Using it, and Asking Questions

A Failed EV System – No Connection Between CPI and Reality
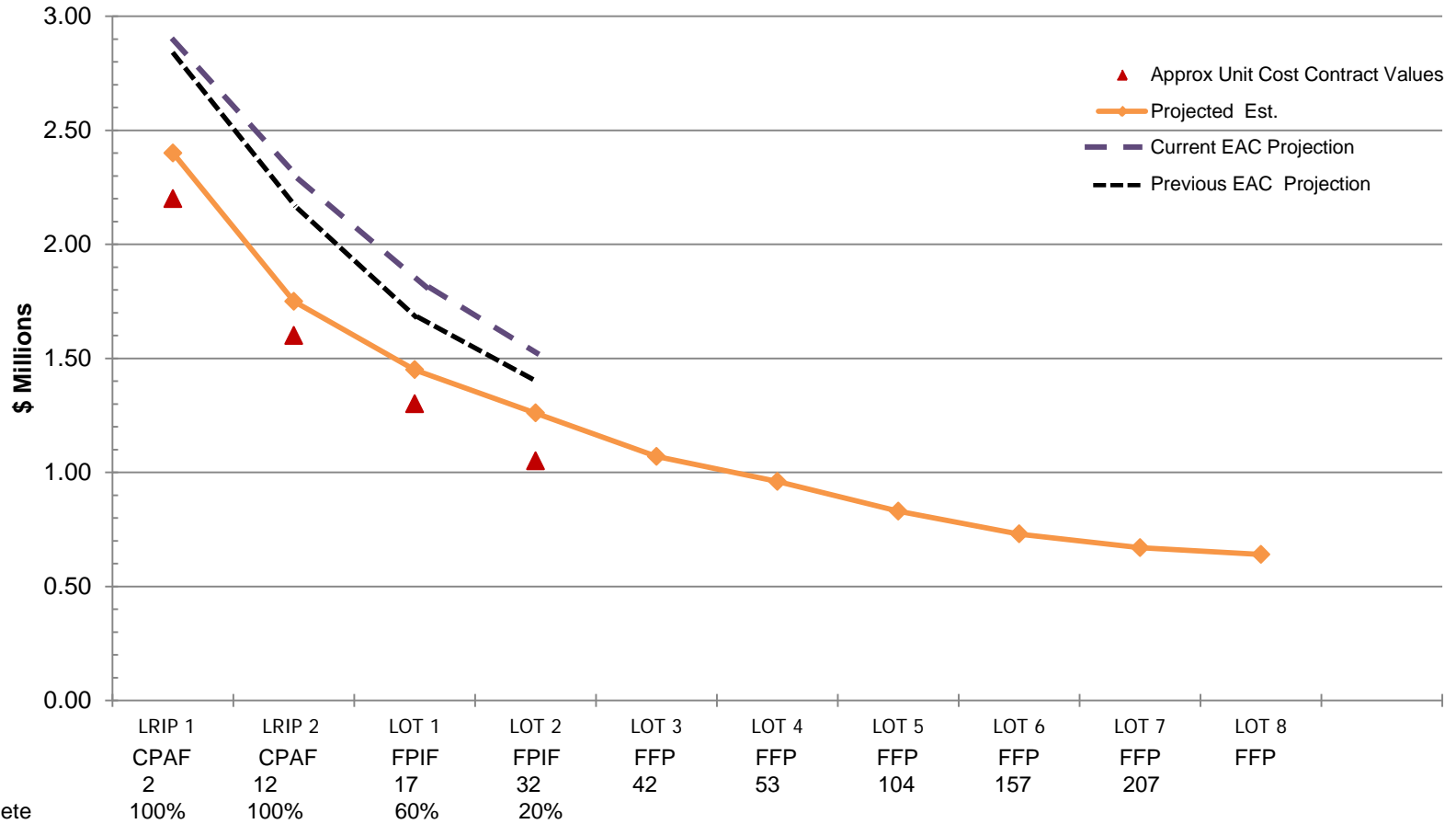

Cumulative CPI = 0.96

PM EAC   EV EAC (W/Fee)

Program Not Adjusting to Poor Performance

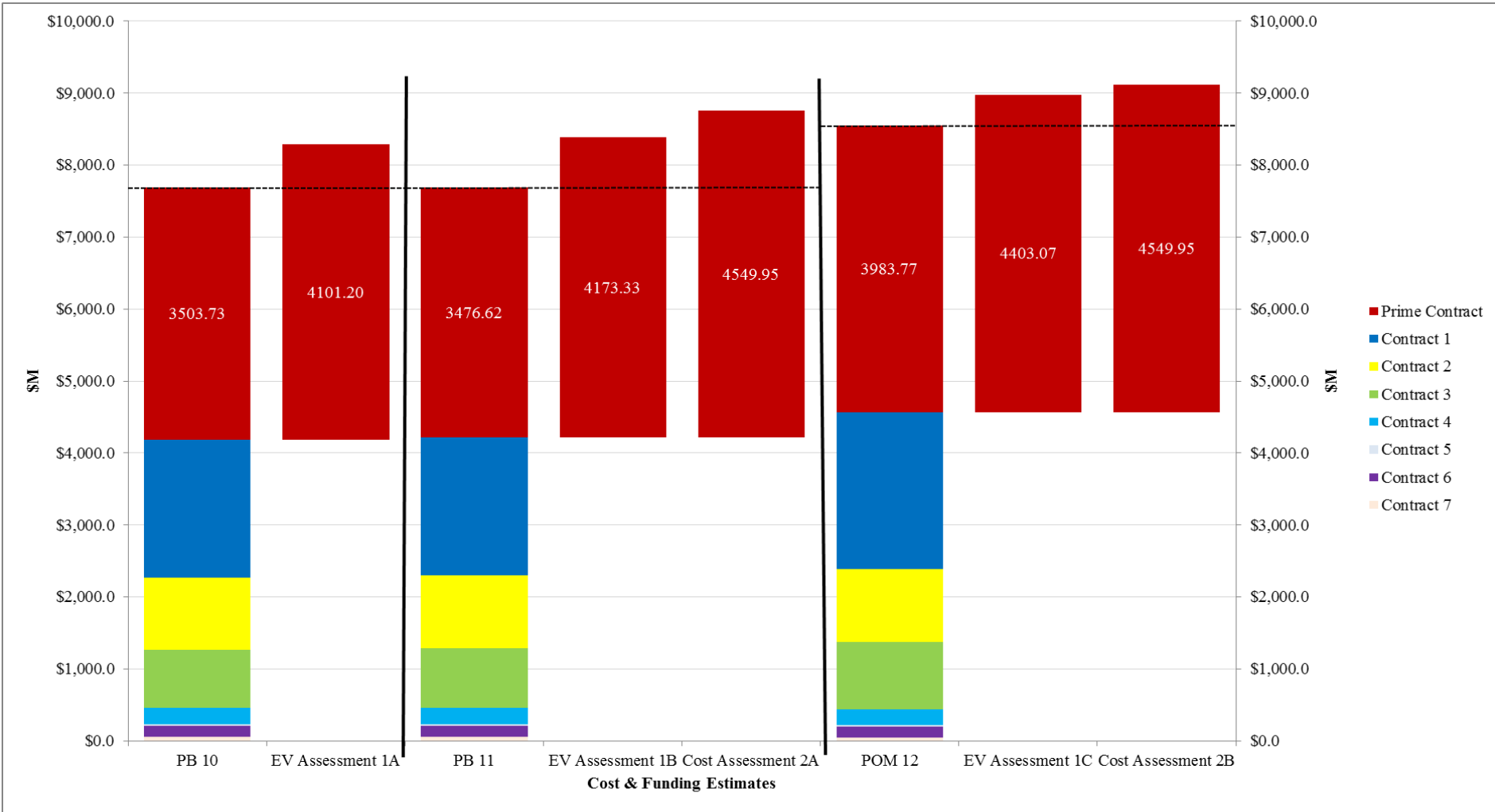# Analysis Example - Using Earned Value Data to Show Implications of LRIP Costs

Notional Data
Estimated Average URF Price by Lot

Legend:
- ▲ Approx Unit Cost Contract Values
- Projected Est.
- Current EAC Projection
- Previous EAC Projection

Y-axis: $ Millions (0.00 to 3.00)

	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 on CUM Current Period CPR

Summary

▸ Your EVM data is reviewed at the highest levels in OSD

▸ EVM data is a critical element of routine program monitoring, formalized by DAES

▸ The data is used beyond DAES for analysis and decision making

▸ PARCA is responsible for both EV Policy and for using the data to help decision-makers

In God we trust; all others must bring data