



# Quick Reference & Background Materials

AV SOA & BI Tools Session

*AVSOA-DAMIR Conference*

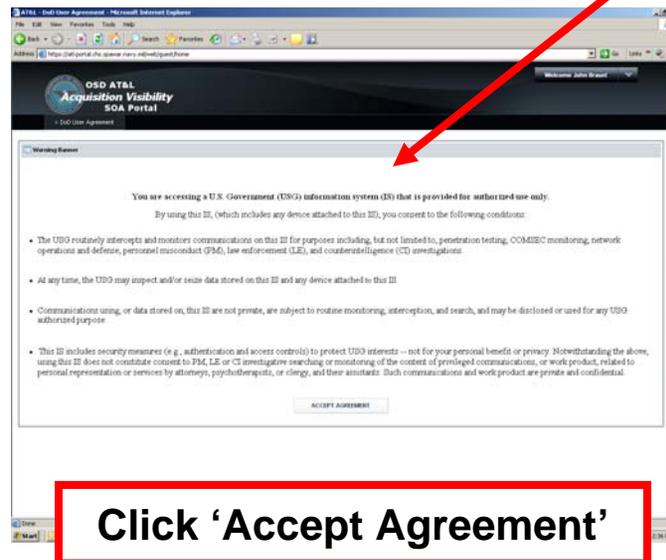
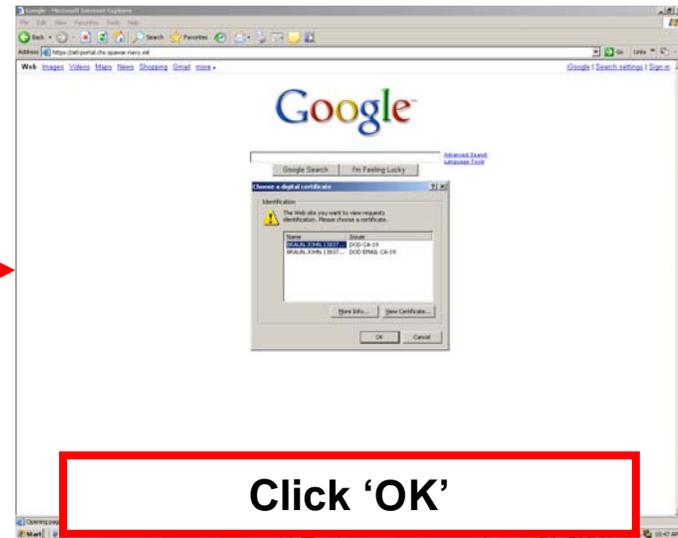
*21-22 October 2009*

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Quick Reference  
As of 10/15/09

# Accessing the AV SOA Portal

Go to: <https://atl-portal.chs.spawar.navy.mil>



# AVSOA Portal: Homepage

**AVSOA Home:** Link that returns you to this homepage.

**Navigation Tabs:** Change program views based on information needed

**Stack Selection:** Choose between open source and commercial stacks. Option between cache memory or random selection.

**DAMIR:** Business Intelligence (BI) Tool identifies sources of data used to manage MDAPs and MAIS programs.

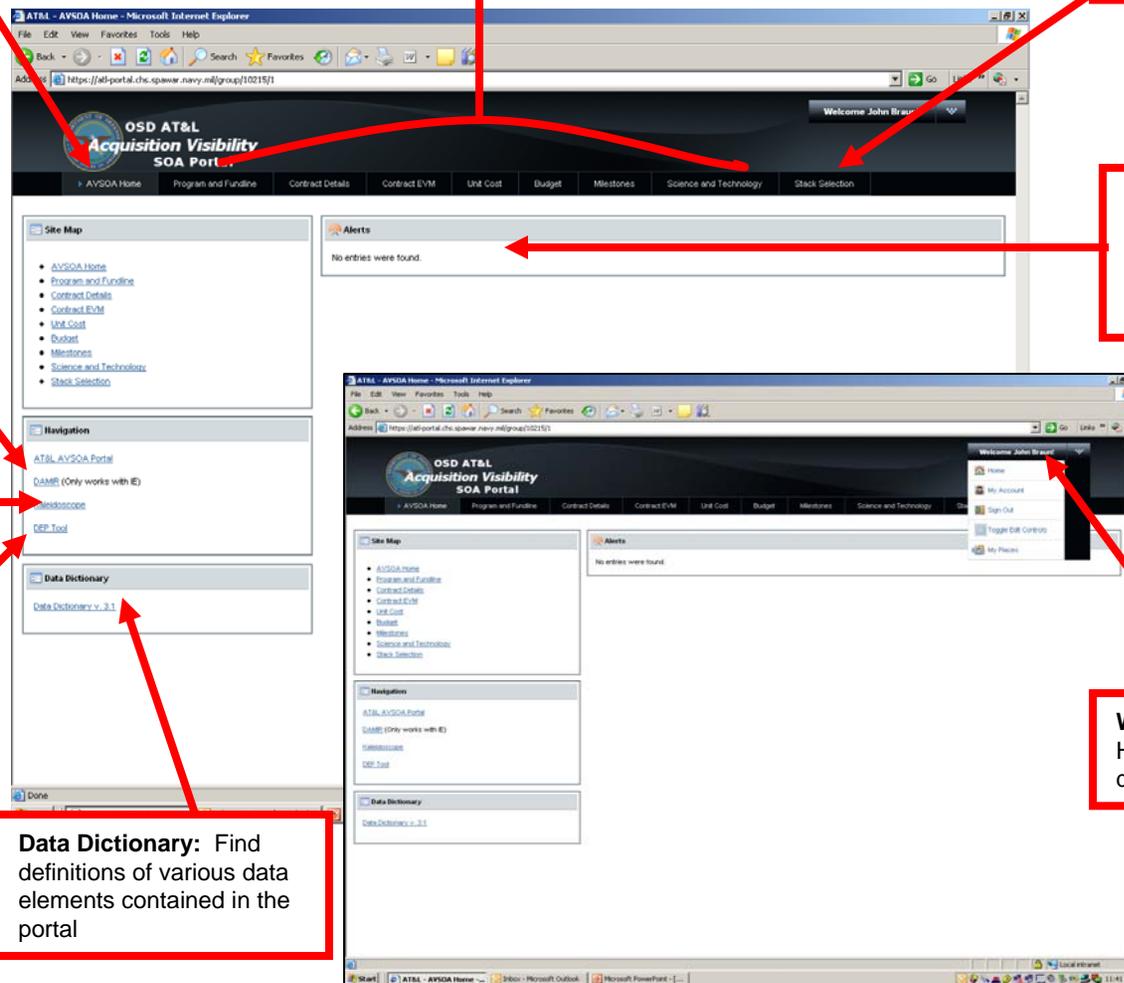
**Kaleidoscope:** BI Tool, allows both aggregate and individual program views by service.

**DEP Tool:** BI Tool that allows the user to find and create program definitions

**Data Dictionary:** Find definitions of various data elements contained in the portal

**Alerts:** This box notifies the user of any problems, changes, or updates that the portal is experiencing.

**Welcome Drop-down:** Hover mouse over drop down to see menu



Quick Reference  
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# AV SOA Portal Navigation (EVM Tab Shown)

**Program currently selected**

**Change program**

**Blue Dots:** click for data element definition/instruction

**Change Program Screenshot**

**Find/Select program:** enter PNO or scroll through the alphabetized list by service

**FOUO / Pre-Decisional**

**FOUO Classification reminder found on each screen**

**Data Exporter:** View in XML or Excel files and decide between Page view and Highlighted Program View

INPUITS (\$M)	BCWS (\$M)	BCWP (\$M)	ACWP (\$M)	CBB (\$M)	BAC (\$M)	MR (\$M)	EAC (\$M)
\$AMOUNTS	32.20	47	40.51	251.77	249.10	0	251.77

CV (\$M)	% CV	SV (\$M)	% SV	VAC (\$M)	% VAC	SPI	TCPI	CPI	TCPLCPI	% Scheduled	% Complete
6.49	Not Available	14.00	45.97	-2.87	-1.07	1.45	0.96	1.16	-0.2	12.92	18.87

## Quick Reference

*As of 10/15/09*

# AT&L AV SOA Contacts

- Point of Contact: Dr. Joel Haines
  - [AVSOAaccess@osd.mil](mailto:AVSOAaccess@osd.mil)
  - [Joel.Haines@osd.mil](mailto:Joel.Haines@osd.mil)
- Help Desk
  - Call 1 - 800 - 838 -1816
- We appreciate your feedback
  - [AVSOAfeedback@osd.mil](mailto:AVSOAfeedback@osd.mil)

## **NUNN-MCCURDY (NM) UNIT COST BREACHES**

Unit cost reporting is required by 10 USC §2433. A "Nunn-McCurdy" unit cost breach occurs when a Major Defense Acquisition Program (MDAP) experiences an increase of at least 15% in Program Acquisition Unit Cost (PAUC) or Average Procurement Unit Cost (APUC) one above the unit costs in the Acquisition Program Baseline.

For programs with unit cost increases of at least 25%, a SECDEF certification is required. Certification responsibility has been delegated to the Under Secretary of Defense (AT&L) (OUSD (AT&L)), who, by law, must certify that:

- Such acquisition program is essential to the national security
- There are no alternatives to such acquisition program which will provide equal or greater military capability at less cost
- The new estimates of the program acquisition unit cost or procurement unit cost are reasonable
- The management structure for the acquisition program is adequate to manage and control program acquisition unit cost or procurement unit cost

If a certification is not provided to Congress by the due date (30 days after the Selected Acquisition Report (SAR) is due to Congress), funds for RDT&E, procurement, and military construction may not be obligated for major program contracts (>\$40M). If a certification is provided later, funding obligations may only resume after 30 days of continuous session of Congress following submission of the certification.

If a unit cost breach is due to a termination or cancellation of the program, certification is not required.

By law, a Program Manager is required to notify his Service Acquisition Executive when there is a reasonable cause to believe there is at least a 15% increase in PAUC or APUC. This is a potential breach pending a determination by the Secretary of the Military Department, who is responsible for notifying Congress of programs that have breached unit cost thresholds.

To support certification for programs with at least 25% unit cost increases, the Military Departments submit written information to OUSD(AT&L) addressing the four statutory certification requirements.

**AV SOA: 148 Data Elements**

<b>Program Administration</b>
Program Name
Program Number (PNO)
Program URI (Uniform Resource Identifier)
Sub-Program URI
Sub-Program Name
Budget Activity Identifier
PE (Program Element)
Budget Line Item (formerly Procurement Line Item(PLI))
PM Management Reserve
Project Code
<b>Unit Cost</b>
Current Baseline (APB): Total Procurement Cost
Current Baseline (APB): Total MILCON Cost
Current Baseline (APB): Total O&M Cost
Current Baseline (APB): Total Development Quantity
Current Baseline (APB): Total Procurement Quantity
PAUC (Program Acquisition Unit Cost) - Current Estimate
APUC (Average Procurement Unit Cost) - Current Estimate
Estimate Type
Base Year - Original APB
Base Year - Current APB
Original APB Date
Current APB Date
Program Completion Year
Escalation Index
Department Regular Code
Main Account Code
Appropriation FY (Fiscal Year)
Current Estimate - Research, Development, Test & Evaluation (RDT&E) costs
Current Estimate - Procurement Costs
Current Estimate - Military Construction (MILCON) Costs
Current Estimate - Operation & Maintenance (O&M) Costs
Current Estimate - Development Quantity
Current Estimate - Procurement Quantity
Original Baseline (APB): Total RDT&E Cost
Original Baseline (APB): Total Procurement Cost
Original Baseline (APB): MILCON Cost
Original Baseline (APB): O&M Cost
Current Estimate - RDT&E (BY) - Total for all years
Current Estimate - Procurement (BY) - Total for all years
Current Estimate - MILCON (BY) - Total for all years

<b>Unit Cost (cont'd)</b>
Current Estimate - O&M (BY) - Total for all years
Current Estimate - Development Quantity
Current Estimate - Procurement Quantity
Original Baseline (APB): Development Quantity
Original Baseline (APB): Procurement Quantity
Current Baseline (APB): Total RDT&E Cost
<b>Budget</b>
Original Quantity
Current Quantity
Scheduled Quantity
Delivered Quantity
Budget Fiscal Year
OTB (Over Target Baseline) - Date
OTB - BAC Adjustment (\$)
OTB - SV Adjustment (\$)
OTB - CV Adjustment (\$)
NCC - Original
NCC (Negotiated Contract Cost) - Current
Target Price - Current
Target Price - Original
Estimated Price - Contractor
Estimated Price - PM
Ceiling Price - Current
Ceiling Price - Original
Ceiling Price - Contractor's Estimated
Ceiling Price - PM's Estimated
Completion Date (when BCWS = BAC)
TAB (Total Allocated Budget)
ACWP (Actual Cost of Work Performed)
Current President's Budget RDT&E Submission
Current President's Budget Procurement Submission
Current President's Budget MILCON Submission
Current President's Budget O&M Submission
Current President's Budget Development Quantity Submission
Current President's Budget Procurement Quantity Submission
RDT&E POM/BES Submission
Procurement POM/BES Submission
MILCON POM/BES Submission
O&M POM/BES Submission
POM/BES Development Quantity
POM/BES Procurement Quantity

**Background Information***As of 10/15/09***AV SOA: 148 Data Elements**

<b>Earned Value</b>
Contract Number
Contract Modification Identifier
Contract Modification Date
Contract Type Code
Contractor Name
Contractor Division
CAGE Code (Commercial And Government Entity Code)
Contractor Location - City
Contractor Location - State
Contractor Location - Zip Code + 4
Contractor Location - Province
Contractor Location - Country
Contract Award Date
Contract Definitization Date
Contract Effort Number
Contract Effort Name
Contract Effort Start Date
Contract Effort Completion Date
Report Type
Reporting Period End Date (formerly Report Date)
Government-Contractor Share
System Name
System Phase
IBR (Integrated Baseline Review) Date
ECD (Estimated Completion Date) - Contractor
ECD - PM
ECD - PM Significant Effort Completed
ECD - Original PM ECD
PAUC (Program Acquisition Unit Cost) - Original APB
APUC (Average Procurement Unit Cost) - Original APB
PAUC (Program Acquisition Unit Cost) - Current APB
APUC (Average Procurement Unit Cost) - Current APB
BAC - Contractor (Budget At Completion)
BAC - PM
BCWP (Budgeted Cost of Work Performed)

<b>Earned Value (cont'd)</b>
BCWS (Budgeted Cost of Work Scheduled)
CBB (Contract Budget Base)
EAC - Contractor (Estimate At Completion)
EAC - Contractor Best Case
EAC - PM
EAC - Contractor Worst Case
MR (Management Reserve)
VAC (Variance At Completion)
% VAC
PM VAC
% Complete
TCPI (To Complete Performance Index)
TCPI - CPI
% Schedule
CPI (Cost Performance Index)
SPI (Schedule Performance Index)
CV (Cost Variance)
% CV
SV (Schedule Variance)
% SV

<b>Science &amp; Technology</b>
Critical Technology Element(s)
Key Performance Parameter (KPP) URI
Key Performance Parameter (KPP) Name(s)
Key Performance Parameter (KPP) - APB Threshold
Key Performance Parameter (KPP) - APB Objective
Key Performance Parameter (KPP) - Actual Measurement
Key Performance Parameter (KPP) - Actual Measurement Date

<b>Milestone</b>
Milestone Identifier
Milestone Name
Milestone Estimated Date
Milestone Date - Objective
Milestone Date - Threshold

**AV SOA: Current Programs By Service**

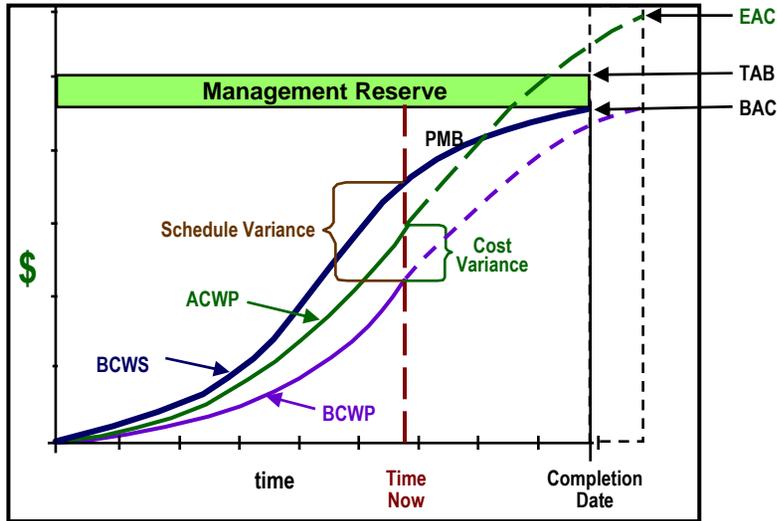
NO#	Service	Title	Full Title
182	ARMY	LUH	Light Utility Helicopter
202	ARMY	AB3	Apache Block III
219	ARMY	ATIRCM/CMWS	<b>Advanced Threat Infrared Countermeasures/Common Missile Warning System</b>
260	ARMY	GMLRS	<b>Guided Multiple Launch Rocket</b>
278	ARMY	CH-47F	<b>Cargo Helicopter</b>
294	ARMY	FBCB2	<b>Force XXI Battle Command Brigade and Below Program</b>
299	ARMY	STRYKER	Armored Vehicle
301	ARMY	FCS	<b>Future Combat System</b>
341	ARMY	BLACKHAWK UPGRADE (UH-60M)	<b>Utility Helicopter Upgrade Program</b>
346	ARMY	WIN-T INCREMENT 1	<b>Warfighter Information Network</b>
347	ARMY	GCSS ARMY	Global Combat Support System Army
349	ARMY	WIN-T INCREMENT 2	<b>Warfighter Information Network – Increment 2</b>
350	ARMY	WIN-T INCREMENT 3	<b>Warfighter Information Network – Increment 3</b>
366	ARMY	EXCALIBUR	<b>Family of Precision, 155mm Projectiles</b>
367	ARMY	HIMARS	High Mobility Artillery Rocket System
372	ARMY	JLENS	Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System
420	ARMY	ER/MP UAS	Extended Range Multi-Purpose Unmanned Aircraft System
531	ARMY	PATRIOT/MEADS CAP	<b>Patriot/Medium Extended Air Defense System Combined Aggregate Program</b>
601	ARMY	BRADLEY UPGRADE	Bradley Fighting Vehicle System Upgrade
746	ARMY	FMTV	<b>Family of Medium Tactical Vehicle</b>
831	ARMY	LONGBOW APACHE	Airframe Modifications on the APACHE Helicopter
101	NAVY	H-1 UPRADES	United States Marine Corps Mid-Life Upgrade to AH-1W Attack Helicopter and UH-1N Utility Helicopter
161	NAVY	CVN 68	NIMITZ CLASS Nuclear Powered Aircraft Carrier
178	NAVY	TRIDENT II MISSILE	<b>Sea Launched Ballistic Missile</b>
180	NAVY	DDG 51	ARLEIGH BURKE CLASS Destroyer
191	NAVY	MH-60R	Multi-Mission Helicopter Upgrade
197	NAVY	DDG 1000	<b>ZUMWALT CLASS Destroyer</b>
212	NAVY	V-22	<b>OSPREY Joint Advanced Vertical Lift Aircraft</b>
223	NAVY	CVN 78	<b>GERALD R. FORD CLASS Nuclear Aircraft Carrier</b>
238	NAVY	JPALS	Joint Precision Approach and Landing System
247	NAVY	JHSV	Joint High Speed Vessel
253	NAVY	VTUAV	Vertical Takeoff and Land Tactical Unmanned Aerial Vehicle (Fire Scout)
282	NAVY	MH-60S	Multi-Mission Combat Support Helicopter
286	NAVY	RMS	Remote Minehunting System
289	NAVY	Tactical Tomahawk	Follow-on to TOMAHAWK Baseline missile program
290	NAVY	NMT	Advanced Extremely High Frequency Navy Multiband Terminal Satellite
333	NAVY	LHA 6 – America Class	Amphibious Ship
334	NAVY	P-8A	<b>Poseidon Program</b>
345	NAVY	MUOS	<b>Mobile User Objective System</b>
353	NAVY	JOINT MRAP	Joint Mine Resistant Ambush Protected Vehicles
364	NAVY	E-2D AHE	<b>E-2D Advanced Hawkeye</b>
365	NAVY	COBRA JUDY	COBRA JUDY REPLACEMENT
368	NAVY	AGM-88E AARGM	AGM-88E Advanced Anti-Radiation Guided Missile (AARGM) Program
373	NAVY	BAMS UAS	Broad Area Marine Surveillance Unmanned Aircraft System
374	NAVY	LCS	Littoral Combat Ship
378	NAVY	EA-18G	<b>Airborne Electronic Attack Variant of the F/A-18 Aircraft</b>
390	NAVY	CH-53K	<b>Heavy Lift Replacement Program</b>
391	NAVY	SM-6	<b>Standard Missile-6</b>
418	NAVY	IDECM	Integrated Defensive Electronic Countermeasures
419	NAVY	EA-6B ICAP III	EA-6B Improved Capability (ICAP) III Program
515	NAVY	EFV	<b>Expeditionary Fighting Vehicle</b>

**AV SOA: Current Programs By Service**

NO#	Service	Title	Full Title
<b>516</b>	<b>NAVY</b>	<b>SSN 774</b>	<b>VIRGINIA CLASS Submarine</b>
542	NAVY	LPD 17	SAN ANTONIO CLASS Amphibious Transport Dock Ship
<b>549</b>	<b>NAVY</b>	<b>F/A-18E/F</b>	<b>SUPER HORNET Naval Strike Fighter</b>
581	NAVY	AIM-9X	Air-to-Air Missile Upgrade
582	NAVY	CEC	Cooperative Engagement Capability
592	NAVY	T-AKE	LEWIS AND CLARK Class of Auxiliary Dry Cargo Ships
766	NAVY	JSOW (Baseline/Unitary)	Joint Standoff Weapon Baseline Variant and Unitary Warhead Variant
166	USAF	NAVSTAR GPS	Global Positioning System
176	USAF	EELV	Evolved Expendable Launch Vehicle
185	USAF	AMRAAM	Advanced Medium Range Air-to-Air Missile
199	USAF	FAB-T	Family Beyond Line-of-Sight Terminals
200	USAF	C-17A	GLOBEMASTER III Advanced Cargo Aircraft Program
210	USAF	SBIRS HIGH	Space-Based Infrared System Program, High Component
220	USAF	C-130J	HERCULES Cargo Aircraft Program
224	USAF	B-2 EHF INCREMENT I	B-2 Advanced Extremely High Frequency SatCom Capability
237	USAF	GBS	Global Broadcast System
239	USAF	NPOESS	National Polar-Orbiting Operational Environmental Satellite System
248	USAF	Minuteman III PRP	Minuteman III Propulsion Replacement Program
252	USAF	Global Hawk (RQ-4A/B)	GLOBAL HAWK (RQ-4A/B)
261	USAF	AEHF	Advanced Extremely High Frequency Satellite Program
265	USAF	F-22	RAPTOR Advanced Tactical Fighter
271	USAF	PREDATOR	Unmanned Aircraft System
273	USAF	C-5 AMP	C-5 Aircraft Avionics Modernization Program
277	USAF	AWACS UPGRADE	AWACS Upgrade
292	USAF	GPS-III A	Global Positioning Satellite III
293	USAF	MP RTIP	Multi-Platform Radar Technology Insertion Program
298	USAF	C-130 AMP	C-130 Aircraft Avionics Modernization Program
326	USAF	WGS	Wideband Global SATCOM Program
327	USAF	C-5 RERP	C-5 Aircraft Reliability Enhancement and Re-engineering Program
328	USAF	SBSS B10	Space-Based Space Surveillance Block 10
354	USAF	SDB-I	Small Diameter Bomb Increment I
357	USAF	LAIRCM	Large Aircraft Infrared CounterMeasures Program
375	USAF	ASIP	Airborne Signals Intelligence Payload Program
376	USAF	B-2 RMP	B-2 Radar Modernization Program
387	USAF	KC-X	Tanker Replacement Program
394	USAF	MPS Increments I –III	Mission Planning System Increments I-III
424	USAF	REAPER	Unmanned Aircraft System
503	USAF	JDAM	Joint Direct Attack Munition
537	USAF	NAS	National Airspace System
555	USAF	JASSM	Joint Air-to-Surface Standoff Missile
560	USAF	JPATS	Joint Primary Aircraft Training System
183	JOINT	JCA	Joint Cargo Aircraft
<b>198</b>	<b>JOINT-USAF</b>	<b>F-35 Lightning II</b>	<b>Joint Strike Fighter (JSF) Program</b>
243	JOINT	CHEM DEMIL-ACWA	Chemical Demilitarization Program – Assembled Chemical Weapons Alternatives
284	JOINT	JTRS NED	Joint Tactical Radio System Network Enterprise Domain
285	JOINT	CHEM DEMIL-CMA	Chemical Demilitarization Program – Chemical Materials Agency Program
360	JOINT	JTRS GMR	Joint Tactical Radio System Ground Mobile Radio
362	JOINT	BMDS	Ballistic Missile Defense System Program
380	JOINT	AMF JTRS	Joint Tactical Radio System Airborne & Maritime/Fixed Station
385	JOINT	JTRS HMS	Joint Tactical Radio System Handheld, Manpack & Small Form Fit Radios
554	JOINT	MIDS	Multi-Functional Information Distribution System

\***Bolded programs were included in Pilot Phase 1**

# Earned Value Management 'Gold Card'



### VARIANCES Favorable is Positive, Unfavorable is Negative

**Cost Variance**  $CV = BCWP - ACWP$   $CV \% = (CV / BCWP) * 100$   
**Schedule Variance**  $SV = BCWP - BCWS$   $SV \% = (SV / BCWS) * 100$   
**Variance at Completion**  $VAC = BAC - EAC$

### OVERALL STATUS

**% Schedule**  $= (BCWS_{CUM} / BAC) * 100$   
**% Complete**  $= (BCWP_{CUM} / BAC) * 100$   
**% Spent**  $= (ACWP_{CUM} / BAC) * 100$

### DoD TRIPWIRE METRICS Favorable is > 1.0, Unfavorable is < 1.0

**Cost Efficiency**  $CPI = BCWP / ACWP$   
**Schedule Efficiency**  $SPI = BCWP / BCWS$

### BASELINE EXECUTION INDEX (BEI) (Schedule Metric)

$BEI = \# \text{ of Baseline Tasks Actually Completed} / \# \text{ of Baseline Tasks Scheduled for Completion}$

### CRITICAL PATH LENGTH INDEX (CPLI) (Schedule Metric)

$CPLI = (\text{Critical Path}_{Baseline} \text{ Duration} + \text{Float Duration}) / \text{Critical Path}_{Baseline} \text{ Duration}$

### TO COMPLETE PERFORMANCE INDEX (TCPI) # §

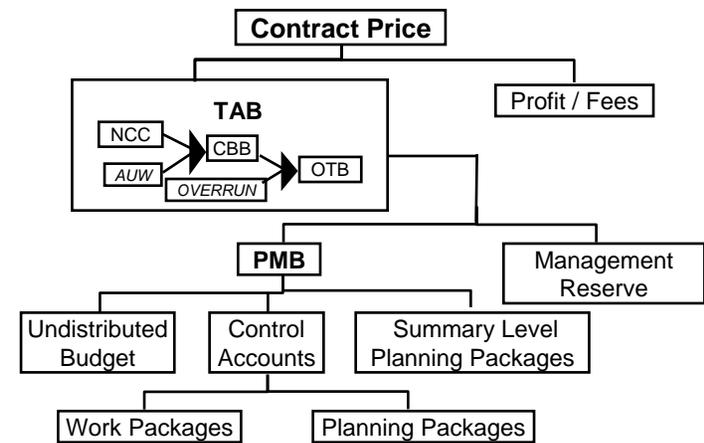
$TCPI_{EAC} = \text{Work Remaining} / \text{Cost Remaining} = (BAC - BCWP_{CUM}) / (EAC - ACWP_{CUM})$

### ESTIMATE AT COMPLETION #

$EAC = \text{Actuals to Date} + [(\text{Remaining Work}) / (\text{Efficiency Factor})]$   
 $EAC_{CPI} = ACWP_{CUM} + [(BAC - BCWP_{CUM}) / CPI_{CUM}] = BAC / CPI_{CUM}$   
 $EAC_{Composite} = ACWP_{CUM} + [(BAC - BCWP_{CUM}) / (CPI_{CUM} * SPI_{CUM})]$

# To Determine a Contract Level TCPI or EAC; You May Replace BAC with TAB

§ To Determine the TCPI<sub>BAC,LRE</sub> Replace EAC with either BAC or LRE



### TERMINOLOGY

<b>NCC</b>	Negotiated Contract Cost	Contract price less profit / fee(s)
<b>A UW</b>	Authorized Unpriced Work	Work contractually approved, but not yet negotiated / definitized
<b>CBB</b>	Contract Budget Base	Sum of NCC and A UW
<b>OTB</b>	Over Target Baseline	Sum of CBB and recognized overrun
<b>TAB</b>	Total Allocated Budget	Sum of all budgets for work on contract = NCC, CBB, or OTB
<b>BAC</b>	Budget At Completion	Total budget for total contract thru any given level
<b>PMB</b>	Performance Measurement Baseline	Contract time-phased budget plan
<b>MR</b>	Management Reserve	Budget withheld by Ktr PM for unknowns / risk management
<b>UB</b>	Undistributed Budget	Broadly defined activities not yet distributed to CAs
<b>CA</b>	Control Account	Lowest CWBS element assigned to a single focal point to plan & control scope / schedule / budget
<b>WP</b>	Work Package	Near-term, detail-planned activities within a CA
<b>PP</b>	Planning Package	Far-term CA activities not yet defined into WPs
<b>BCWS</b>	Budgeted Cost for Work Scheduled	Value of work planned to be accomplished = PLANNED VALUE
<b>BCWP</b>	Budgeted Cost for Work Performed	Value of work accomplished = EARNED VALUE
<b>ACWP</b>	Actual Cost of Work Performed	Cost of work accomplished = ACTUAL COST
<b>EAC</b>	Estimate At Completion	Estimate of total cost for total contract thru any given level; may be generated by Ktr, PMO, DCMA, etc. = $EAC_{Ktr / PMO / DCMA}$
<b>LRE</b>	Latest Revised Estimate	Ktr's EAC or $EAC_{Ktr}$
<b>SLPP</b>	Summary Level Planning Package	Far-term activities not yet defined into CAs
<b>TCPI</b>	To Complete Performance Index	Efficiency needed from 'time now' to achieve an EAC

**EVM POLICY:** DoDI 5000.2, Table E3.T2. EVMS in accordance with ANSI/EIA-748 is required for cost or incentive contracts, subcontracts, intra-government work agreements, & other agreements valued  $\geq$  \$20M (Then-Yr \$). EVMS contracts > \$50M (TY \$) require that the EVM system be formally validated by the cognizant contracting officer. Additional Guidance in Defense Acquisition Guidebook and the Earned Value Management Implementation Guide (EVMIG). EVMS is discouraged on Firm-Fixed Price, Level of Effort, & Time & Material efforts regardless of cost.

### EVM CONTRACTING REQUIREMENTS:

Non-DoD FAR Clauses – Solicitation – 52.234-2 (Pre-Award IBR) or 52.234-3 (Post Award IBR)  
Solicitation & Contract – 52.234-4

DoD ( $\geq$  \$20M) DFAR Clauses - 252.242-7001 for solicitations and 252.242-7002 for solicitations & contracts

Contract Performance Report – DI-MGMT-81466A \* 5 Formats (WBS, Organization, Baseline, Staffing & Explanation)

Integrated Master Schedule – DI-MGMT-81650 \* (Mandatory for DoD EVMS contracts)

Integrated Baseline Review (IBR) - Mandatory for all EVMS contracts

\* See the EVMIG for CPR and IMS tailoring guidance.

EVM Home Page = <https://acc.dau.mil/evm> eMail Address: [EVM.dau@dau.mil](mailto:EVM.dau@dau.mil)  
DAU POC: (703) 805-5259 (DSN 655)  
Revised December 2006