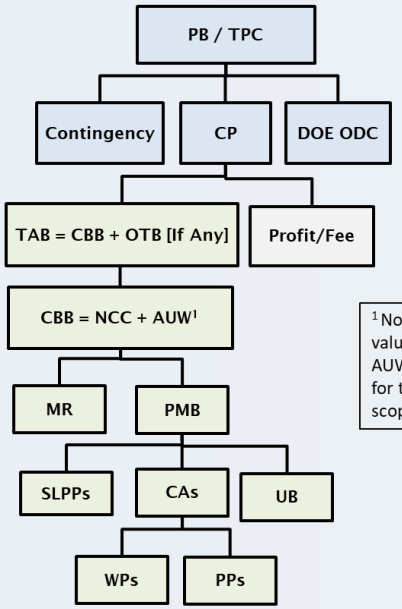
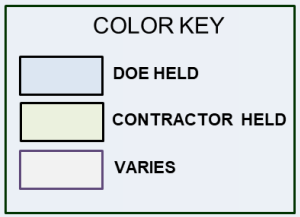
DOE EVMS GOLD CARD 20170920

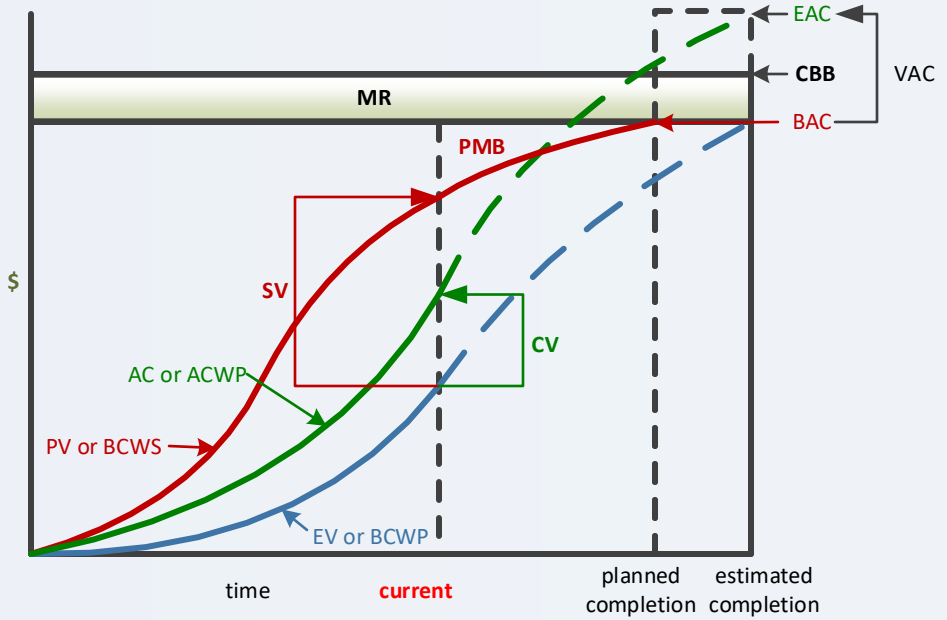
ENERGY.GOV

Earned Value Management System Basics





[1] Note: AUW funding is authorized by an NTE value and added to CP. However, the amount of AUW added to the CBB depends on the estimate for the authorized scope. The full amount of the scope does not increase the CP until negotiated.



PERFORMANCE BASELINE COMPONENTS

(Performance Baseline must clearly document scope and CD-4 date)

AUW = Authorized Unpriced Work (contractually approved, but not yet negotiated)
CA = Control Account (includes AUW) = WPs + PPs
CBB = Contract Budget Base = PMB + MR (includes AUW)
CP = Contract Price = CBB + Profit/Fee
MR = Management Reserve is held by contractor (Contingency is held by DOE)
NCC = Contract price less Profit/Fees
ODC = Other Direct Costs
OTB = Established performance budget that exceeds the value of the negotiated contract
PB = Performance Baseline (TPC) = CP + Contingency + DOE ODC
PMB = Performance Measurement Baseline = CAs + UB + SLPPs
PP = Planning Package (far-term activities within a CA)
SLPP = Summary Level Planning Package
TAB = Total Allocated Budget CBB + OTB or PMB + MR + OTB
TP = Total Project Cost
UB = Undistributed Budget (activities not yet distributed to CA)
WP = Work Package (near-term, detail-planned activities within a CA)

EVMS BASIC COMPONENTS

AC	= Actual Cost	=	ACWP	= Actual Cost of Work Performed
EV	= Earned Value	=	BCWP	= Budgeted Cost for Work Performed
PV	= Planned Value	=	BCWS	= Budgeted Cost for Work Scheduled
BAC	= Budget at Completion	=	∑BCWS	= Sum of Budgeted Cost for Work Scheduled
EAC	= Estimate at Completion			= ACWP + Estimate to Complete (ETC)

VARIANCES

CV	=	EV – AC	=	BCWP – ACWP	=	Cost Variance
SV	=	EV – PV	=	BCWP – BCWS	=	Schedule Variance
CV%	=	(EV - AV) / EV	=	(BCWP - ACWP) / BCWP	=	Cost Variance (%)
SV%	=	(EV – PV) / PV	=	(BCWP - BCWS) / BCWS	=	Schedule Variance (%)
VAC	=	BAC – EAC			=	Variance at Completion

OVERALL STATUS

% scheduled	=	PV_{cum} /BAC	=	$BCWS_{cum}$/BAC
% complete	=	EV_{cum}/BAC	=	$BCWP_{cum}$/BAC
% budget spent	=	AC_{cum}/BAC	=	$ACWP_{cum}$/BAC
Work Remaining (WR)	=	BAC - EV_{cum}	=	BAC - $BCWP_{cum}$

PERFORMANCE INDICES *(Favorable is >1.0, unfavorable is <1.0)*

CPI	=	EV / AC	=	BCWP / ACWP = Cost Performance Index
SPI	=	EV / PV	=	BCWP / BCWS = Schedule Performance Index
$TCPI_{EAC}$	=	WR / (EAC - AC_{cum})	=	EAC-based To Complete Performance Index

ESTIMATE AT COMPLETION FORMULAE

EAC	= BAC / CPI_{cum}	=	Estimate at Completion (general)
EAC_{CPIcum}	= AC_{cum} + WR/CPI_{cum}	=	Estimate at Completion (CPI)
$EAC_{composite}$	= AC_{cum} + WR/(CPI_{cum} * SPI_{cum})	=	Estimate at Completion (composite)
EAC_{CPI3mo}	= AC_{cum} + WR / CPI_{3mo}	=	Estimate at Completion (3 Mo. CPI)

Note: CPI_{3mo} = (IncEVn + IncEVn-1 + IncEVn-2) / (IncACn + IncACn-1 + IncACn-2)