

Probability of Program Success Operations Guide

Table of Contents

Probability of Success Introduction	
Background	
Reporting Cycle	
Program Success Probability Summary "Windshield" Chart Introduction	5
Definitions/Notes	5
Requirements – Program Parameter Status Chart Introduction	7
Definitions/Notes	
Requirements – Program Scope Evolution Chart Introduction	9
Definitions/Notes	
Resources – Budget Chart Introduction	11
Definitions/Notes	
Resources – Manning Chart Introduction	13
Definitions/Notes	
Resources – Contractor Health Chart Introduction	15
Definitions/Notes	15
Execution – Contract Earned Value Metrics Chart Introduction	18
Definitions/Notes	18
Execution - Contractor Performance Chart Introduction	20
Definitions/Notes	20
Execution – Fixed Price Performance Chart Introduction	21
Definitions/Notes	21
Execution – Program Risk Assessment Chart Introduction	23
Definitions/Notes	
Execution – Sustainability Risk Assessment Chart Introduction	26
Definitions/Notes	
Execution – Testing Status Chart Introduction	28
Definitions/Notes	
Execution – Technical Maturity Chart Introduction	30
Definitions/Notes	
Program "Fit" in Capability Vision Chart Introduction	32
Definitions/Notes	
Within the DoD vision	32
Within the HQDA vision	33
Program Advocacy Chart Introduction	34
Definitions/Notes	34
Findings / Actions Chart Introduction	36
Definitions	36

Probability of Success Introduction

The probability of program success initiative is designed to improve the Army's ability to accurately assess a program's probability of success, and clearly / concisely represent that success probability to Army leadership. The probability of program success will be calculated monthly. The report to senior leadership will occur quarterly during the following months: January, April, July, and October. The senior leadership report can be generated more frequently, if required.

Background

- Secretary Bolton directed this effort as a result of his concern that, although Army programs
 were heavily measured and reported via existing metrics systems, he repeatedly saw
 programs identify significant problems (unreported in the metrics) prior to decision reviews
 at his level, or USD (AT&L)'s.
- He asked Defense Acquisition University to work with his staff to develop:
 - An accurate, comprehensive method of assessing a program's probability of success, and
 - A process/briefing package that would allow this assessment to be clearly and concisely conveyed to Army leadership as quickly as possible once developed
- DAU received this tasking in the spring of 2002 and assembled a team with experience as government and industry program managers. As the team explored program performance (both successful and otherwise) it became apparent that ultimate programmatic success depended on more than just successful management of cost, performance and schedule risk.
- The team saw multiple examples of successfully managed programs that lost resources and priority, as well as programs in trouble that sustained (and even gained) resources and priority.
- The common factor in these cases was the strength of factors external to the program (such
 as how well the program fit in the capability vision of the parent service and DoD; and the
 strength of program advocacy on the part of the decision makers controlling resources and
 program priority). These are factors that have not been formally/overtly included in most
 program assessment schemes.
- The team concluded that <u>a comprehensive assessment of program success requires a holistic combination of internal and external factors (afterwards known as "Level 1 factors"):</u>
 - o Internal: Requirements, Resources, and Execution
 - External: Fit in the Vision, and Advocacy
- The team then selected level 2 metrics for each level 1 factor (metrics that in aggregate create the level 1 factor assessment) to provide an efficient "pulse check" on the program (in an attempt to avoid the "bury in data" technique)
- The team then further fleshed out this concept and briefed it in the fall of 2002 to Secretary Bolton and at his direction, initiated a pilot effort.
- A successful pilot was conducted with two Army programs at Ft. Monmouth during the first half of CY 2003. Mr. Bolton then decided (in July 2003) to implement this process across all

Army ACAT I and II programs during FY2004. The process will be incorporated into the Army's Acquisition Information Management (AIM) application as a selectable option.

Reporting Cycle

DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Demand
Probability of Success													
Calculation	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
PofS Senior Leadership Report	Χ			Χ			Χ			Χ			Х
Program Parameter Status		Х			Х			Х			Х		Х
Program Scope Evolution					Χ						Χ		Х
Budget			Х			Х			Х			Х	X
Manning	Χ						Χ						Χ
Contractor Health	Χ						Χ						Х
Contract Earned Value Metrics	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Contractor Performance				Χ						Χ			Х
Fixed Price Performance	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х
Program Risk Assessment	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
Sustainability Risk Assessment	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х
Testing Status		Χ			Χ			Χ			Χ		Χ
Technical Maturity					Χ						Χ		Х
Program Fit					Х						Х		Х
Program Advocacy		Χ						Χ					Х

PROGRAM SUCCESS PROBABILITY SUMMARY "WINDSHIELD CHART"

Program Success Probability Summary "Windshield" Chart Introduction

The work breakdown structure (WBS) format was selected as the design for the summary "windshield" chart. The windshield chart reflects all of the Level 1 factors and Level 2 metrics. Each factor/metric has a status, indicated by color – red, yellow or green, and a trend, indicated by an arrow or the number of reporting periods that it has remained the same. The process is designed to allow the leadership to quickly focus on specific areas of interest.

Definitions/Notes

Program Success Probability

Delivery of specified capability within approved cost and schedule limits. The Requirements Generation System documents include the:

- Initial Capabilities Document (ICD)
- Capabilities Development Document (CDD), and
- Capabilities Production Document (CPD)

The ICD, CDD, and CPD will replace the Mission Needs Statement (MNS) and Operational Requirements Document (ORD). All data reported should be tailored to the program's life-cycle phase.

PS Color Status/Bands

- Green (80 to 100) Program is on track for providing originally scoped capability within budgeted cost and approved schedule; issues are minor in nature (resolvable at PM level during normal execution).
- Yellow (60 to <80) Program is on track for providing acceptable capability with acceptable deviations from budgeted cost and approved schedule; issues may be major but are solvable within normal acquisition processes (resolvable at PM/MDA level without program rebaselining/restructuring).
- Red (<60, or Existing "Killer Blows" at Level 2) Program is OFF track acceptable capability will NOT be provided, or will only be provided with unacceptable deviations from budgeted cost and approved schedule; issues are major and NOT solvable within normal acquisition processes (e.g., Program Restructure/Rebaseline Required).
- Acceptable Deviations from Originally-Scoped Capability, Program Schedule, and/or Program Cost that have been Approved by the Sponsor (for capability) or the Milestone Decision Authority (MDA) (for Cost and Schedule).
- Killer Blow Action taken by a decision maker in the chain of command (or an "Advocacy" player) resulting in program non-executability until remedied results in immediate "red" coloration of Overall PS metrics until remedied (e.g., zeroing of program budget by Congressional committee/conference).

- Metrics Parameters (either quantitative or qualitative) that allow evaluation of program success probability.
- Internal Traditional program evaluation metrics (addressing cost, performance, schedule and risk), largely within the control of the Program Manager.
- External "Environmental" metrics that measure conditions critical to program success, but are largely outside the direct control of the Program Manager.
- Level 1 Factors Major "roll-up" categories: program Internal (Program Requirements, Program Resources, and Program Execution) and External (Fit in the Capability Vision, Advocacy) Factors.
- Level 2 Metrics Contributing metrics to a particular Level 1 Factor.

Program Success Probability Calculation

Prob(PS): (100 pts max) = Values((Prog Reqm't: 20 pts max) + (Prog Resources: 20 pts max) + (Prog. Execution: 20 pts max) + (Fit in Vision: 15 pts max) + (Advocacy: 25 pts max))

The coloration of Factors and Metrics on the Summary chart will be carried forward from the appropriate Factor/Metric slides and calculations.

REQUIREMENTS – PROGRAM PARAMETER STATUS CHART

Requirements – Program Parameter Status Chart Introduction

This metric is designed to evaluate the program's status in meeting the performance levels mandated by the warfighters. The particular parameter is provided, along with threshold, objective and actual values for the parameter. Performance parameters are selectable at the discretion of the PM:

- Will usually contain all key performance parameters (KPP)
- Can include non-KPPs if the PM believes it important to include them
- Whatever is selected should be kept to one chart

Definitions/Notes

The Program Office will update Program Parameter Status quarterly during the following months: February, May, August, and November. The Program Office can update the chart more frequently if data represented on this chart changes significantly. The Program Parameters and Key Performance parameters may be included at the discretion of the PM/PEO if they are considered to be critical to the measurement of Program Success. The goal is to lay out all critical program performance (i.e., KPP/other) parameters on a single page. The user can select parameters identified from the Monthly Acquisition Report (MAR) or Acquisition Program Baseline (APB). Additionally, users can add parameters not currently listed. The user will assign current value of a parameter. If required, the user will input initial submission of objective and threshold.

Program Parameter Status Calculation (maximum value is 10 points)

- Green (8 to 10) Performance Requirements are clearly understood, are well managed by warfighter, and are being well realized by Program Manager. KPP/selected non-KPP threshold values are met by latest testing results (or latest analysis if testing has not occurred).
- Yellow (6 to <8) Requirements are understood but are in flux (emergent changes from warfighter); warfighter management and/or PM execution of requirements has created some impact to original requirements set (set de-scope, or modification to original Objective/Threshold values has/is occurring). One or more KPP/selected non-KPPs are below threshold values in pre-Operational Assessment testing (or analysis if OA testing has not occurred)
- Red (<6) "Killer Blow", or requirements flux / "creep" has resulted in significant real-time changes to program plan requiring program rebaselining/restructure. One or more KPP/selected non-KPPs are below threshold values as evaluated during OA/OPEVAL testing.

- Current (lower left corner of chart). It represents trend.
 - o Color and letter represents rating for the current reported month.
 - o Arrows (up/down) indicates rating has changed from previous (last) month, or

- o Number (in parenthesis) represents how long at that color rating.
- The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - o Arrows/numbers are not included in the predictive rating.
 - o The user will assign color rating

REQUIREMENTS – PROGRAM SCOPE EVOLUTION CHART

Requirements – Program Scope Evolution Chart Introduction

The second Level two Metric under Program Requirements is Program Scope Evolution. This metric is designed to illustrate the degree of program risk inherent in overall program scope growth, from the time (pre-program initiation) where program scope was first determined, to the present.

Definitions/Notes

The Program Office will update Program Scope Evolution semi-annually during the following months: May and November. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

The objective of this slide is to show overall program scope growth, from pre-program initiation, where program scope was first determined, to the present. It's important to note the "original" data for cost and schedule comes, not from the initial Acquisition Program Baseline (APB) but from studies (Analyses of Alternatives, Cost Analysis Improvement Group (CAIG) and/or Independent Cost Estimate (ICE) teams) that were done to bound the program prior to program initiation. The requirement data for the "original" line will be taken from the original Operational Requirement Document (ORD) / Combat Development Document (CDD). If during the life of the program the program scope changed, the program should use the most recent independent cost estimate for the original value. The data for the "current" line can be taken from MAPR/SmartChart data.

- Original: Scoped Requirements/Cost/Schedule that came from the "clean sheet of paper" studies prior to program initiation (original ORD/Analysis of Alternative (AOA)/ICE or CAIG). The user will input data. If there has been significant change in the program from program initiation to present, program office can use the latest independent assessment for cost and schedule predictions.
- Current: Requirements/Cost/Schedule resources as represented in the current ORD/CDD/APB/Program Budget. The user will enter appropriate data. Schedule can represent First Unit Equip (FUE) or Initial Operating Capability (IOC).

Program Scope Evolution Factor Calculation (maximum value is 10 points)

- Green (8 to 10) Program is being executed as originally scoped in "clean sheet of paper" analyses. The original scope of program is accurate; minor changes (< 5-10% of original values) only, since program initiation or re-baseline.
- Yellow (6 to <8) Program is executing with some changes from "clean sheet of paper" analyses. The requirements, cost, and/or schedule have been changed (between 10% and 15% of original values or re-baseline, in the direction of higher risk); without corresponding adjustment /infusion of resources to mitigate risk.
- Red (<6) Program is executing with significant changes from "clean sheet of paper" analyses. The requirements, cost, and/or schedule have been changed (> 15% of original values or re-baseline, in the direction of higher risk); without corresponding adjustment/infusion of resources to mitigate risk; or program is in an APB breach/Nunn-McCurdy breach status, which has not been resolved.

This standalone chart includes two ratings (Current and Predictive):

- Current (lower left corner of chart). It represents trend.
 - Color and letter represents rating for the current reported month.
 - o Arrows (up/down) indicates rating has changed from previous (last) month, or
 - o Number (in parenthesis) represents how long at that color rating.
 - The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - o Arrows/numbers are not included in the predictive rating.
 - The user will assign color rating.

Level 1 Reqm'ts Factor Calculation (max value 20 points) = value (Program Parameter Status) + value (Program Scope Evolution)

- Green (16 to 20)
- Yellow (12 to <16)
- Red (<12, or "Killer Blow" in either Level 2 metric)

The two Level 2 metrics are weighted equally (each has a maximum value of 10 points).

RESOURCES – BUDGET CHART

Resources – Budget Chart Introduction

The budget metric is designed to show the degree of risk inherent in the current state of the budget both in current execution, and looking forward through the Future Years Defense Program (FYDP). The chart also reflects sufficiency for each program appropriation. Sufficiency is defined as the degree to which the amount and phasing of each appropriation within a program retires programmatic risk. High sufficiency equates to low budgetary risk, and vice versa.

Definitions/Notes

The Program Office will update Budget quarterly during the following months: March, June, September, and December. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

- Budget This is the entire budget for the program broken down by appropriation for prior and execution-year funds. Also shown is the current percentage of obligation/expenditure on each line (as of the date of the report). Current and past year amounts and percentages are from the Defense Finance and Accounting System (DFAS) 218.
 - Dollar amounts are displayed in Fiscal Year (FY) columns
 - Obligation/Expenditures (OBL/EXP) are displayed in the OBL/EXP columns
 - Sufficiency is associated with FY columns
 - Appropriation dollar amounts will be populated from WARBUCS
- Sufficiency (SUF) This is the extent to which programmatic risk is retired by the amount and phasing of funds (by appropriation) in a program's budget (APB/Selective Acquisition Report (SAR)).
 - o APB data is baseline for overall program spending
 - SAR data breaks down funding by year
- Sufficiency is assessed in each year, and overall (background color of box). The user will
 assess sufficiency and assign appropriate color rating.
 - Green: Budget amount/phasing supports low program risk.
 - Yellow: Budget amount/phasing supports medium program risk.
 - Red: Budget amount/phasing supports high program risk.

Budget Metric Calculation (maximum value is 14 points)

- Green (11 to 14) Budget is sufficient to allow approved program to be executed with low risk. No more than one overall sufficiency "Yellow" rating across all appropriations, across the FYDP.
- Yellow (8 to <11) Budget is sufficient to allow program to be executed with moderate risk.
 - No more than two overall sufficiency "Yellow" ratings across all appropriations, across the FYDP.
- Red (<8, or killer blow) Budget is insufficient to allow program to be executed without high risk.
 - o Three or more overall sufficiency "Yellow" ratings and/or one or more overall sufficiency "Red" ratings across all appropriations, across the FYDP.

- Current (lower left corner of chart). It represents trend.
 - Color and letter represents rating for the current reported month
 - o Arrows (up/down) indicates rating has changed from previous (last) month, or
 - Number (in parenthesis) represents how long at that color rating
 - The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - o Arrows/numbers are not included in the predictive rating
 - The user will assign color rating

RESOURCES – MANNING CHART

Resources – Manning Chart Introduction

Manning is critical to the ability of any program to execute its responsibilities. The first of these metrics, Government Program Office Manning is intended to show several key aspects of program office staffing status. Civilian, military, matrix and System Engineering Technical Assistance (SETA) assets statuses are shown separately but on the same chart. All billets belonging to the program office should be accounted for across the categories. Program offices should report the manning that personally support the program office specifically. Manning should represent the personnel who support the function of the program office and not the execution. Personnel can be co-located or off site to the program office. It is not intended to capture work hours associated with the use of an organization that is supporting the program office i.e. Army Testing and Evaluation Command, laboratories, etc... If any category(ies) have vacant but funded/authorized billets above the current manned count, the PM, if desired, can indicate this by an un-colored extension of the column to the level of the total (manned + vacant billets). Specific personnel issues impacting on the program's ability to successfully execute the program (e.g., what key specialties are missing; what key billets are unfilled/about to be vacated) should be highlighted in the comments section.

Definitions/Notes

The Program Office will update the Manning semi-annually during the following months: January and July. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

Manning and Qualification

This chart is intended to show Program Office staffing status as of the reporting date. Civilian, military, matrix, SETA and asset statuses are represented separately, but on the same chart. The current (rightmost) and previous five status bars should be kept and displayed.

- All billets belonging to the Program Office should be accounted for across the categories
- The user will enter data for each category
- Specific personnel issues impacting on the program's ability to successfully execute the program (i.e. what key specialties are missing; what key billets are unfilled/about to be vacated) should be highlighted in the comments section beneath the graphic

Manning and Qualification factor calculation (maximum value is 3 points)

- Green (2 to 3)
 - o 90% or above of all Program Office authorized/funded billets are filled

- 90% (or more) of all Defense Acquisition Workforce Improvement Act (DAWIA)qualified billets are filled with personnel possessing at least the required qualification level
- SETA personnel funding levels are below Congressionally mandated limits
- Yellow (1 to<2) -
 - o 80% to 89% of all Program Office authorized/funded billets are filled
 - o 80% to 89% of all DAWIA-qualified billets are filled with personnel possessing at least the required qualification level
 - SETA personnel funding levels at or below Congressionally mandated limits
- Red (<1) -
 - Less than 80% of all Program Office authorized/funded billets are filled
 - Less than 80% of all DAWIA-qualified billets are filled with personnel possessing at least the required qualification level
 - SETA personnel funding levels are above Congressionally mandated limits

- Current (lower left corner of chart). It represents trend.
 - Color and letter represents rating for the current reported month
 - Arrows (up/down) indicates rating has changed from previous (last) month, or
 - o Number (in parenthesis) represents how long at that color rating
 - The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - o Arrows/numbers are not included in the predictive rating
 - The user will assign color rating

RESOURCES – CONTRACTOR HEALTH CHART

Resources – Contractor Health Chart Introduction

In order to effectively partner with industry, the government Program Manager has to understand what industry-specific measures of success are truly important to his industry partner. This metric provides an evaluation of the state of the contractor's business, and his team, to the PM, the Program Executive Office (PEO) and the service acquisition executive. The metric is broken into two areas:

- <u>Corporate indicators</u> identify some of the more important metrics (price to earnings ratio; history of stock dividends; current state of backlog items, etc...) the commercial industry uses to evaluate contractor health. Additionally, the company's status in the defense industrial base for the particular program area, and any significant events with company-wide impact, are identified/discussed.
- <u>Program indicators</u> speak specifically to the assigned program/project team. This portion of the metric provides an evaluation of how well the contractor has set up the program team executing the program, along with any significant issues and challenges faced by the contractor.

Definitions/Notes

The Program Office will update the Contractor Health semi-annually during the following months: January and July. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

Data for this chart should be developed in conjunction with the contractor and the assigned Defense Contract Management Agency (DCMA) organization. However, the PM is responsible for the evaluation color and trend direction assigned. The user will input the data.

- Data for prime and key subcontractors should be provided
- Separate chart should be prepared for every major/key contractor
- Corporate indicators are rated in comparison to industry
- Overall rating should reflect the aggregate contractor participation and will be depicted on a separate slide

Financial data for any publicly held corporation can be found on the SEC website: http://www.sec.gov/edgar/searchedgar/companysearch.html

- Search using the company's name
- Once the reports are called up, access the company's report 10-K (Part II, Section 6) this will provide the P/E ratio and dividend data (and a host of other useful financial metrics)
- Industry estimates are published in Dunn and Bradstreet

Resources and Health – Contractor Factor Calculation (maximum value is 3 points)

- Green (2 to 3) -
 - No significant corporate / group issues affecting program
 - Program is aligned with core business of business unit
 - Program is properly staffed (team and key personnel)
 - Contractor facilities have no significant issues
 - Corporate management demonstrates high commitment to program
- Yellow (1 to <2) -
 - Some corporate / group issues affecting program
 - o Program is peripheral to core capability of business unit
 - Program has some manning issues (team and/or key personnel) which are affecting program execution
 - o Contractor facilities have some issues affecting program execution
 - Corporate management demonstrates moderate commitment to program
- Red (<1) –
 - Major corporate / group issues affecting program
 - Program is not aligned with core capability of business unit
 - Program has significant manning issues (team and/or key personnel) which impede program execution
 - o Contractor facilities have major issues which impede program execution
 - o Corporate management demonstrates low commitment to program

- Current (lower left corner of chart). It represents trend.
 - o Color and letter represents rating for the current reported month
 - Arrows (up/down) indicates rating has changed from previous (last) month, or
 - Number (in parenthesis) represents how long at that color rating
 - o The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - Arrows/numbers are not included in the predictive rating

The user will assign color rating

Level 1 Resources Factor Calculation (max value 20 points) = value (Budget) + value (gov't manning/qual) + value (Ktr health)

- Green (16 to 20)
- Yellow (12 to <16)
- Red (<12 or "Killer Blow" in any Level 2 subfactor)

The three Level 2 factors are weighted as follows: Budget (max value 14); Gov't manning and qual (max value 3); contractor health (max value 3).

EXECUTION – CONTRACT EARNED VALUE METRICS CHART

Execution – Contract Earned Value Metrics Chart Introduction

This metric lays out cost-plus contract performance from an earned value perspective. Factor will incorporate Cost Performance Index, Schedule Performance Index, Estimate to Complete and Contract Schedule.

Definitions/Notes

The Program Office will update the Contract Earned Value monthly. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

Terms used in this chart are standard Earned Value Management System (EVMS) terms:

ACWP – Actual Cost of Work Performed. Cost of work accomplished - Earned Value. BAC – Budget at Completion. Total budget – for total contract thru any given level. BCWP – Budgeted Cost for Work Performed. Value of work accomplished – Earned Value. Cost Variance – Earned value compared with the actual cost incurred (from contractor accounting systems) for the work performed provides an objective measure of planned and actual cost. Any difference is called a cost variance. A negative variance means more money was spent for the work accomplished than was planned.

Performance Indices – (Favorable is > 1.0, Unfavorable is < 1.0.) Cost Efficiency (Cost Performance Index (CPI))

$$CPI = \frac{BCWP}{ACWP}$$

Schedule Efficiency (Schedule Performance Index (SPI))

$$SPI = \frac{BCWP}{BCWS}$$

Schedule Variance

As work is performed, it is "earned" on the same basis as it was planned in dollars or other quantifiable units such as labor hours. Planned value compared with earned value measures the dollar volume of work planned vs. the equivalent dollar volume of work accomplished. Schedule values (start/finish months) change if program has been officially re-baselined. The current month entry is an overwrite of the previous months submission. However, for historical purposes, all data is locked to reflect all scheduled activity.

EAC – Estimate at Completion. Estimate of total cost – for total contract thru any given level.

TAB – Total Allocated Budget. Sum all budgets for work on contract – NCC, CBB, or OTB.

NCC – Negotiated Contract Cost. Contract price less profit/fee(s).

CBB - Contract Budget Base. Sum of NCC and AUW.

OTB – Over Target Baseline. Sum of CBB and recognized overrun.

AUW – Authorized Unpriced Work. Work approved, but not yet negotiated.

TCPI - To Complete Performance Index.

$$TCPI = \frac{WORK REMAINING}{COST REMAINING} = \frac{BAC \cdot BCWP}{EAC \cdot ACWP}$$

A Contract Performance chart should be constructed for each of the major developmental contracts supervised by the Program Office. The user will select the contract data with the most significant impact to the program. The user can use EV data from MAPR or can enter data via the application. Schedule and budget expenditures should be plotted in the appropriate margin bars outside the main SPI/CPI graph.

All data reported on this chart will be archived as historical data.

Contract Performance Factor Calculation (maximum value is 2 points)

- Green (2) Value of most recent SPI and CPI points lie in between 1.1 and –0.95. or better.
- Yellow (1) Value of most recent SPI and CPI point lie below the above listed region but inside 1.18 and 0.90.
- Red (0) Value of most recent SPI and CPI point lie outside of the Yellow or Green regions.

- Current (lower left corner of chart). It represents trend.
 - o Color and letter represents rating for the current reported month
 - o Arrows (up/down) indicates rating has changed from previous (last) month, or
 - Number (in parenthesis) represents how long at that color rating
 - The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - Arrows/numbers are not included in the predictive rating
 - The user will assign color rating

EXECUTION – CONTRACTOR PERFORMANCE CHART

Execution – Contractor Performance Chart Introduction

The contractor performance chart provides the track record of the contractor on developmental, cost plus-type contract vehicles, by looking at prior performance (i.e. Prior Performance Information Management System (PPIMS)) rating history for the contract(s) in question, and the history of award fee increments provided to the contractor (as compared to the amounts specified in the award fee plan).

Definitions/Notes

The Program Office will update the Contractor Performance semi-annually during the following months: April and October. The Program Office can update the chart more frequently if data represented on this chart changes significantly. Prepare one chart for each program contract, as applicable. Each evaluation will contain a current and predictive rating for the contract. The user will select the contract to use in the calculation of the probability of success.

- Cover through the full period of performance for the contract
- Be prepared to address any disconnects between award fee percentage, incentive fee percentage, and ratings

PPIMS is the Army's source for contract data and can be accessed by going through PM Acquisition Logistics and Technology Enterprise Systems and Services (ALTESS), PEO Executive Information Systems (EIS).

IPAR/AF/IF Factor Calculation (maximum value is 2 points)

- Green (2) Green or above (with no factor Red), and Contractor is at 80% (or above) of possible award fee for duration of contract to date.
- Yellow (1) Yellow to Green (with no more than one factor Red), and/or contractor is at 50% (or above) of possible award fee for duration of contract to date.
- Red (0) Red to Yellow; or two or more factors Red; or contractor is below 50% of possible award fee for duration of contract to date.

- Current (lower left corner of chart). It represents trend.
 - Color and letter represents rating for the current reported month
 - o Arrows (up/down) indicates rating has changed from previous (last) month, or
 - Number (in parenthesis) represents how long at that color rating
 - The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - Arrows/numbers are not included in the predictive rating.
 - The user will assign color rating

EXECUTION – FIXED PRICE PERFORMANCE CHART

Execution – Fixed Price Performance Chart Introduction

Fixed price contracts require their own evaluation scheme. Earned value metrics, while key to managing cost-plus contracts, are not useful in evaluating fixed price vehicles. Therefore the level 2 metric for fixed price contracts includes: a DCMA plant representative evaluation; a production/delivery profile graphic; and progress payments.

Definitions/Notes

The Program Office will update the Fixed Price Performance monthly. The Program Office can update the chart more frequently if data represented on this chart changes significantly. Each contract should be evaluated on the following items:

A Fixed Price Performance chart should be constructed for each major fixed price contract supervised by the Program Office. The Program Office will determine the overall rating when the program has multiple contracts.

- DCMA Plant Rep Evaluation
 - The DCMA representative for the plant producing the item should provide input on overall contractor performance
 - o Identify any particularly superior performance and/or any ongoing/emergent problems, along with their assessment of root causes and potential solutions
- Production/delivery Profile Graphic
 - Graphic should be developed and maintained (for production contracts, this is a standard graphic, based on the CLIN-defined planned production/delivery schedule profile
 - o An "actuals" curve should be superimposed on the graphic
- Progress Payments Status
 - Detail the actual status of progress payments on the specific contract
 - o Address reasons for less-than-planned payments (if applicable)

Contract Performance Factor Calculation (maximum value is 2 points).

- Green (2) Actual Production/delivery profile is ahead or on contract schedule; no DCMA Plant Rep issues; progress payments are on schedule per the contract.
- Yellow (1) Actual Production/delivery profile is behind contract schedule; DCMA Plant Rep issues are minor and being resolved; progress payments are behind schedule per the contract. Schedule can be achieved within period of performance.
- Red (0) Actual Production/delivery profile is significantly behind contract schedule; DCMA Plant Rep issues are major; progress payments are significantly behind schedule per the contract. Schedule can not be achieved within period of performance.

- Current (lower left corner of chart). It represents trend.
 - o Color and letter represents rating for the current reported month

- o Arrows (up/down) indicates rating has changed from previous (last) month, or
- o Number (in parenthesis) represents how long at that color rating
- o The user will assign color and value. Trend will be maintained by he application
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - o Arrows/numbers are not included in the predictive rating
 - o The user will assign color rating

EXECUTION – PROGRAM RISK ASSESSMENT CHART

Execution – Program Risk Assessment Chart Introduction

Program Risk Assessment covers all internal factors (requirements, resources and execution). It is designed to provide a concise, one page summary of the key risks identified by the PM. It uses a standard "risk square" display (with consequence of the risk on the x-axis, and likelihood of the risk on the y-axis). Coloration of the individual squares corresponds to the risk definitions (low, medium or high) assigned to each square of the 25-square display. Individual significant risks are plotted in the risk square by the (consequence and likelihood) x/y coordinates assigned. Call-out text boxes are used to provide a short summary of the particular risk identified. Trend of the risk (up arrow: risk improving; down arrow: risk deteriorating; (#): risk level steady for # reporting periods) is also provided. A mitigation plan is an approach to reduce risk. The mitigation plan is the first step to resolve the risk, but by itself is not justification to move the risk to a different part of the risk cube.

Definitions/Notes

The Program Office will update the Program Risk Assessment monthly. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

Risk Assessment

Each issue that might affect the success of the program (technical, schedule, fiscal, etc.) needs to be identified and assessed as to likelihood and consequences (performance or financial) of occurrence. Each issue box should contain a brief statement of intended approach. The presenter should be prepared for more detailed discussion on these issues and alternative courses of action. The user will enter risk, consequence and mitigation. Mitigation is the first step to resolving risk issues. A mitigation plan by itself is not justification for awarding an adjusted risk rating to a higher category.

Likelihood

- (1) Negligible One can reasonably assume no occurrence (<10%)
- (2) Unlikely Occurrence possible but less than likely (10-40%)
- (3) Likely significant chance of occurrence (40-65%)
- (4) Highly Probable Very high chances of occurrence (65-90%)
- (5) Near Certainty Assume and anticipate occurrence (>90%)

Consequences

- (1) <u>Marginal</u> Remedy will cause disruption to the program.
- (2) <u>Significant</u> Shorts a significant mission need.
- (3) Serious Shorts a critical mission need, but expect no APB breech.
- (4) Very Serious Potentially fails a KPP in OPEVAL.
- (5) <u>Catastrophic</u> Jeopardizes an exit criterion of current Phase.

Requirement/Resources/Execution Risk Assessment Factor Calculation (maximum value is 8 points)

- Green (6 to 8) Value (coloration) of majority of program risk issues lie in the Green zone of the risk chart. No more than two risk issues in Yellow zone; zero areas in Red zone.
- Yellow (4 to <6) Value (coloration) of majority of program risk issues lie in Yellow zone of the risk chart. No more than three risk issues in Yellow zone and/or, one risk issue in Red zone.
- Red (<4, or killer blow in sub-factor) Value (coloration) of majority of risk issues lie in Yellow to Red zone of the risk chart; and two or more risk issues in Red zone.

- Current (lower left corner of chart). It represents trend.
 - o Color and letter represents rating for the current reported month
 - o Arrows (up/down) indicates rating has changed from previous (last) month, or
 - Number (in parenthesis) represents how long at that color rating
 - The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - Arrows/numbers are not included in the predictive rating
 - The user will assign color rating

EXECUTION – SUSTAINABILITY RISK ASSESSMENT CHART

Execution – Sustainability Risk Assessment Chart Introduction

This metric calls out the major areas in sustainability (which include, but are not limited to, the major elements in the program's logistics support analysis) to create the metric evaluation. Sustainability planning areas include, but are not limited to: supply support, training (including training equipment), support equipment (including test equipment), facilities and publications. If the program is not on track to achieve reliability and maintainability targets, (especially reliability), sustainability support will be negatively impacted. A mitigation plan is an approach to reduce risk. The mitigation plan is the first step to resolve the risk, but by itself is not justification to move the risk to a different part of the risk cube.

Definitions/Notes

The Program Office will update the Sustainability Risk Assessment monthly. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

Sustainability Risks

The user will indicate data points for the major sustainability planning areas and provide a brief description/mitigation plan for those items in the Red and Yellow blocks. Mitigation is the first step to resolving risk issues. A mitigation plan by itself is not justification for awarding an adjusted risk rating to a higher category. Data captured over time will serve as a basis for trend analysis.

Sustainability planning areas include:

- Supply
- Support, training (including training equipment)
- Support equipment (including test equipment)
- Facilities
- Publications

Indicate your overall sustainability assessment with a triangle. Consider program reliability (Mean Time Between Failures) and maintainability (Maintenance Man Hours per Operating Hour) in positioning the triangle. If the program is not on track to achieve reliability and maintainability targets, especially reliability, sustainability support will be negatively impacted.

Reminder: refer to definitions with respect to "likelihood" and "consequence" when constructing this chart.

Likelihood

- (1) Negligible One can reasonably assume no occurrence (<10%)
- (2) Unlikely Occurrence possible but less than likely (10-40%)
- (3) Likely significant chance of occurrence (40-65%)
- (4) <u>Highly Probable</u> Very high chances of occurrence (65-90%)
- (5) Near Certainty Assume and anticipate occurrence (>90%)

Consequence

- (1) Marginal Remedy will cause disruption to the program
- (2) Significant Shorts a significant mission need
- (3) Serious Shorts a critical mission need but expect no APB breach
- (4) Very Serious Potentially fails a KPP in OPEVAL
- (5) Catastrophic Jeopardizes an exit criterion of current phase

Sustainability Risk Assessment Factor Calculation (maximum value is 2 points).

- Green (2) Value (coloration) of majority of program risk issues lie in GREEN zone of the risk chart; no more than two risk issues in YELLOW zone
- Yellow (1) Value (coloration) of majority of program risk issues lie in YELLOW zone of the risk chart; no more than three risk issues in YELLOW zone and/or, one risk issue in RED zone.
- Red (0) Value (coloration) of majority of risk issues lie in YELLOW to RED zone of the risk chart; two or more risk issues in RED zone.

- Current (lower left corner of chart). It represents trend.
 - o Color and letter represents rating for the current reported month
 - o Arrows (up/down) indicates rating has changed from previous (last) month, or
 - Number (in parenthesis) represents how long at that color rating
 - o The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - o Arrows/numbers are not included in the predictive rating.
 - The user will assign color rating

EXECUTION – TESTING STATUS CHART

Execution – Testing Status Chart Introduction

Testing Status is a key metric for any program, both as an indicator of product capability, and as a prerequisite for milestone approvals and budget release. This metric summarizes the testing status of the program, along with identifying any significant testing issues for the acquisition leadership.

Definitions/Notes

The Program Office will update the Testing Status quarterly during the following months: February, May, August and November. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

Testing terms refer to the standard programmatic testing phases as used by Director, Operational Test and Evaluation (DOT&E) and the Services. Testing milestones included in the APB should be captured in this chart. Potential external testing data sources include Army Test and Evaluation Command (ATEC) and ADSS.

For the testing phases:

- Green
 - Testing on/ahead of schedule per the TEMP/contractor plan
 - No significant problems exist (significant problems include such items as KPPs falling below threshold values; serious Reliability/Maintainability/ Availability issues; contractor first article/integration failures, etc)
- Yellow
 - Testing behind schedule per the TEMP/contractor plan but not seriously impacting the program plan (i.e., to the APB breach level or creating serious budgetary impact)
 - Significant problems exist but are resolvable within normal programmatic execution at the PM/PEO level
- Red
 - Testing significantly behind schedule per the TEMP/contractor plan and seriously impacting the program plan (i.e. APB breach or serious budgetary impact)
 - Significant problems exist that are not resolvable within normal programmatic execution at the PM/PEO level.

Testing Performance factor calculation (maximum value is 2 points).

- Green (2) Current Testing Phase is Green.
- Yellow (1) Current Testing Phase is Yellow.
- Red (0)
 - Killer Blow (e.g.,adverse testing phase report from service testing component/DOT&E), or
 - Current Testing Phase is Red

- Current (lower left corner of chart). It represents trend.
 - o Color and letter represents rating for the current reported month
 - o Arrows (up/down) indicates rating has changed from previous (last) month, or
 - o Number (in parenthesis) represents how long at that color rating
 - The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - o Arrows/numbers are not included in the predictive rating
 - o The user will assign color rating

EXECUTION – TECHNICAL MATURITY CHART

Execution – Technical Maturity Chart Introduction

The final level 2 metric in the Execution factor is Technical Maturity. Analyses of multiple major programs have shown that the level of technical maturity possessed by a program at key stages of program conception, development and production is an excellent predictor of whether or not the program will meet established cost and schedule goals. The General Accounting Office (GAO) has done an extensive study of best practices in acquisition programs and has further defined metrics in support of this principle – critical technical maturity issues at key program "flow points."

Definitions/Notes

The Program Office will update the Technical Maturity semi-annually during the following months: May and November. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

This chart is based on a GAO analysis of Best Practices over Multiple Major Programs. It identifies critical technical maturity issues at key program "flow points".

Specific Flow Points

Technology Knowledge

From Concept Exploration to program initiation (Milestone B), a match is achieved between the user's needs and the developer's technical resources. The user enters the actual Technology Readiness Level (TRL). Additionally, the user will enter the RED/YELLOW/GREEN rating based upon the TRL entries. Different technologies will have different impacts on the program. The Program office will evaluate color assessments based on the program office assessment on the impact of the TRL rating.

Product Design Knowledge

From Program Initiation to Critical Design Review for the Program, the goal is achieving product design stability. The user enters the actual Integration Readiness Level (IRL) / Production Readiness Level (PRL). The system will calculate the RED/YELLOW/GREEN rating based upon the IRL/PRL entries.

- Metric: The Program Manager has the option of reporting:
- What percentage of the total number of required program Engineering Drawings have been approved and released for use; or,
- The percentage of program integration factors/program production factors which are at an IRL/PRL of 7 or higher.
- If integration/production factors are the selected metric, use a TRL chart format to display value.
- Values:

o Green: 80 – 100% of drawings approved/released; or IRL / PRLs above 7

o Yellow: 60 – <80%

o Red: <60%

Production Knowledge

At Milestone C, the product has demonstrated that it can be produced within cost, schedule and quality targets.

- Metric: Key production processes have been (a) identified and (b) what percentage of them are under statistical process control (SPC).
- Values:

o Green: 80 – 100% of processes identified and under SPC

o Yellow: 60 – <80%

o Red: <60%

Technical Maturity Factor calculation (maximum value is 2 points).

- Green (2) Metric for current stage of program is Green.
- Yellow (1) Metric for current stage of program is Yellow.
- Red (0) Metric for current stage of program is Red.

(NOTE: Subtract 1 point from above total for each previous stage metric (if applicable) that is not at a GREEN level)

This standalone chart includes two ratings (Current and Predictive):

- Current (lower left corner of chart). It represents trend.
 - o Color and letter represents rating for the current reported month
 - Arrows (up/down) indicates rating has changed from previous (last) month, or
 - Number (in parenthesis) represents how long at that color rating
 - o The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - Arrows/numbers are not included in the predictive rating
 - The user will assign color rating

Level 1 Execution factor calculation (max value 20 points) = sum of all 7 advocacy metrics.

Allocated Values: Reqm'ts/Resources/Execution Risk Assessment metrics (8 points max); the remaining six metrics are of equal value (each 2 points max)

Green: (16 to 20); Yellow: (10 to <16); Red: (<10)

PROGRAM "FIT" IN CAPABILITY VISION CHART

Program "Fit" in Capability Vision Chart Introduction

The first of the two external level 1 factors is program fit within the capability vision. How well a program is supported in the larger service and OSD arenas is in large part determined by how well its product supports the specific capability vision(s) it is designed to meet. Both the service and the OSD visions are addressed in this factor. OSD has strongly asserted its prerogatives in this area.

Definitions/Notes

The Program Office will update the Program "Fit" Capability Vision semi-annually during the following months: May and November. The Program Office can update the chart more frequently if data represented on this chart changes significantly.

Within the DoD vision

Transformation

Transformation will measure the extent to which the program possesses the transformational attributes (e.g., precision, lethality, streamlined/common logistics, etc.) specified by OSD leadership.

Interoperability

The extent to which the program complies with/has embedded within it the architectural /engineering characteristics (compliance with the Global Information Grid (GIG)/Information Dissemination Management (IDM) Capstone Requirements Document (CRD), Defense Information Infrastructure (DII), Open architecture protocols) which would allow it to interoperate across systems.

Joint

Jointness is the extent to which the program is usable by other services, joint operations, and coalitions without unique support arrangements being made by those users. The focus for this factor is on Doctrine, Organization, Training, Material, Leadership and Education, Personnel and Facilities.

DoD Vision (7.5 points maximum)

Transformation, Interoperability and Jointness factors will be assigned a value and color rating based on the program office's assessment. Total points available will not exceed 7.5:

- Green (5 to 7.5)
 - Program is transformational
 - Compliant with DoD interoperability guidance/standards
 - Interoperable by other services, joint forces, and coalitions on a "come as you are" basis
- Yellow (3 to <5)

- Deficiencies in DOD vision areas.
- Red (<3)
 - Significant deficiencies DOD vision areas.
- Trend If unchanged, indicate the number of reporting periods unchanged.

Within the HQDA vision

Determine where the program plays in the Current/Future Forces vision.

HQDA Vision (7.5 points max).

Factors will be assigned a value and color rating based on the program office's assessment. Points assigned by how well program supports the Force(s) it plays within. Total points available will not exceed 7.5.

- Green (5 to 7.5)
 - Program is a planned key/core supporter of its Force(s) and,
 - o Is on track to provide planned capability on schedule.
- Yellow (3 to <5)
 - Program is a secondary/peripheral supporter of its Force(s), or
 - o Is a key/core supporter and is encountering problems impacting its ability to provide planned capability on schedule.
- Red (<3)
 - Killer blow, or
 - o Program is encountering problems, which will prevent it from providing planned capability on schedule.

This standalone chart includes two ratings (Current and Predictive):

- Current (lower left corner of chart). It represents trend.
 - o Color and letter represents rating for the current reported month
 - Arrows (up/down) indicates rating has changed from previous (last) month, or
 - Number (in parenthesis) represents how long at that color rating
 - The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - o Arrows/numbers are not included in the predictive rating
 - The user will assign color rating
- Trend: If unchanged, indicated the number of reporting periods unchanged.

Level 1 "Fit in the Vision" Factor Calculation = value (DoD vision) + value (Army vision) = 15 points max

• Green: (10 to 15)

Yellow: (6 to <10)

• Red: "Killer Blow", or <6 points

PROGRAM ADVOCACY CHART

Program Advocacy Chart Introduction

The final level 1 factor is program advocacy. Advocacy measures the support for a program on the part of senior decision makers.

Definitions/Notes

Per ASA(ALT) direction PEO will prepare this information.

- PM will provide and input their assessment
- PEO will provide the final evaluation
- PM / PEO can modify the list of advocates to include entities not listed

The Program Executive Office will update the Program Advocacy semi-annually during the following months: February and August. The Program Executive Office can update the chart more frequently if data represented on this chart changes significantly.

Red/Yellow/Green evaluations should be based on statements, documents, and/or decisions that are "Matters of Record". Voice over by the PEO while briefing can provide amplifying/supporting data.

- Advocacy Actual or tangible support for a program on the part of a senior advocate in a
 position to affect the priority of the level of resources received by a program.
- Advocate An elected or appointed governmental official; a flag officer; or a career Senior Executive Service in a leadership position within an advocacy group.
- OSD Flag/SES level decision makers in OSD organization (e.g., USD(AT&L); ASD (C3I); Director, PA&E; Director, DOT&E; ASD (Comptroller).
- Joint Staff Flag/SES level in Joint Staff, (particularly FCB, JCP and Joint Requirement Oversight Council processes).
- War Fighter Flag/SES level in Service and Joint warfighting commands, CSA staff.
- Army Secretariat SES/Flag incumbents at DASA level and above.
- Congressional Senators/Members of Congress/Professional Staff of the four committees (HASC/SASC/ HAC/SAC). Personal staff of congressional members.
- Industry Senior Executives of involved corporations.
- International (as applicable): Senior governmental decision makers / Executives of foreign industry partners.

Weighting of these metrics are as follows: warfighter advocacy is most important. Advocacy at the Congressional/Joint Staff level is at the next lower level of importance; all other advocacies are less important than Congressional/Joint Staff advocacies.

Green

- Strong support for program demonstrated (e.g., plus up or protection of program budget
- Acceleration of program
- Public statements specifically identifying program in favorable light

Yellow

- No position on program taken
- No actions (positive or negative) taken on program budget
- Red
 - Killer blow by any advocacy party
 - Negative support for program demonstrated (e.g., program repeatedly used as a "bill payer" for other, higher priority efforts)
 - o Program "string out" (length of buy increased while yearly quantities dropped)
 - Negative statement/decisions/actions on program by decision-makers
- Trend If unchanged, indicate number of reporting periods unchanged.

Level 1 Advocacy factor calculation (max value 25 points) = sum of all level 2 Advocacy metrics. Sample allocated values follow: Warfighter (9 points max); Congressional/Joint Staff (each 5 points); all others are 2 points each (unless an international program, in which case international and industry together are 2 points). The user will determine the value for the factors. Factors will be assigned a total value that represents the weight of the factor. In addition, the user will assign an actual value representing the advocacy rating based on the PEO's assessment. The color rating will be based on the total assigned points across advocacy categories.

Green: (20 to 25)Yellow: (15 to <20)

Red: (<15)

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 - The user will assign color and value. Trend will be calculated automatically and maintained by the application.
- Predictive (lower right corner of chart). It represents rating anticipated at the next update.
 - o Arrows/numbers are not included in the predictive rating
 - The user will assign color rating

FINDINGS / ACTIONS CHART

Findings / Actions Chart Introduction

This slide provides findings and actions. It contains:

- The graphic for all level 1 factors
- Space for the PM/PEO recap of important program issues/conclusions/ recommendations

Definitions

Comments/Recap: PM can use to provide conclusions / recap of report submission on this slide.