



Over Target Baseline and Over Target Schedule Guide

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Introduction

Purpose of This Guide:

This Department of Defense (DoD) Guide originated as the draft Over Target Baseline and Over Target Schedule Handbook, dated May 7, 2003, which was a collaborative effort between the DoD and the College of Performance Management (CPM).

This Guide has been completely reorganized with new steps and new process as compared to the original draft handbook and is now an official DoD Guide prepared to provide basic guidance on the concept of formal reprogramming and defines the over target baseline/over target schedule (OTB/OTS) process. It is anticipated that this Guide will lead to more consistent and improved practices.

The comments, guidance, and procedural discussion in this guide are designed to assist the Government project or program manager (PM) in an understanding of the processes and decisions that must be considered when implementing an OTB and/or OTS and to assist the earned value management (EVM) community in general in the understanding and implementing this important management tool.

Guide Terminology and DoD Policy:

The implementation of an OTB/OTS affects the information contained within both the Integrated Master Schedule (IMS) and the Contract Performance Report (CPR). The Integrated Program Management Report (IPMR) combines these separate reports into one data item description (DID) DI-MGMT-81861. This new DID was effective on 1 July 2012. It is only applicable for new procurements. Existing contracts using the CPR (DI-MGMT-81466A) and the IMS (DI-MGMT-81650) DIDs are not effective. The following terms will be used in this guide relative to these two reporting requirements:

Reporting Format Number	DI-MGMT-81466A	DI-MGMT-81650	DI-MGMT-81861	Guide Terminology
1	Work Breakdown Structure	N/A	Work Breakdown Structure	Format 1 WBS
2	Organizational Categories	N/A	Organizational Categories	Format 2 OBS
3	Baseline	N/A	Baseline	Format 3 Baseline
4	Staffing	N/A	Staffing	Format 4 Staffing
5	Explanations and Problem Analyses	N/A	Explanations and Problem Analyses	Format 5 Data Analysis
6	N/A	Integrated Master Schedule	Integrated Master Schedule	Format 6 IMS
7	N/A	N/A	Electronic History and Forecast File	Format 7 CA Data

Figure 0.1

Chapter 1. What is Formal Reprogramming?

1.1 Formal Reprogramming: Formal reprogramming refers to replanning of the performance measurement baseline (PMB) that results in a total allocated budget that exceeds the contract budget base (CBB) and/or baseline schedule that exceeds contract milestones. During the life of a contract, situations may arise whereby available contract budgets or schedule timeframes for the remaining work are decidedly insufficient. Consequently, performance measurement against the available budgets and/or contractual milestones becomes unrealistic. As necessary, to improve managerial control, formal reprogramming may entail replanning future work; replanning in-process work; or adjusting variances (that is, cost, schedule, or both). Such reprogramming allows the contractor to increase the amount of budget and time for the remaining work to a more realistic amount, adequate to provide reasonable budget objectives, work control, and performance measurement.

1.2 Definitions:

1.2.1 Replanning: Replanning (or replan) is a realignment of schedule or reallocation of budget for remaining effort within the existing cost and schedule constraints of the contract. In this case, the total allocated budget (TAB) does not exceed the CBB, nor is the schedule adjusted to extend beyond the contractually defined milestones. Replanning is done consistent with the contractor's documented EVM process.

1.2.2 Formal Reprogramming: Formal reprogramming is a comprehensive replanning of the remaining PMB that results in a total budget and/or total schedule in excess of contractual requirements. Formal reprogramming is the process that results in an OTB and/or an OTS.

1.2.2.1 Over Target Baseline (OTB): An OTB is an overrun to the CBB which is formally incorporated into the PMB for management purposes. CBB is not adjusted as a result of the OTB. Depending on the approach, all or a portion of the OTB is incorporated into the PMB. In EVM terminology, the sum of the budgets distributed to control accounts or summary level planning packages, plus undistributed budget (UB) and management reserve (MR), known as the TAB, exceeds the CBB. The difference between the TAB and the CBB is the amount of the overrun incorporated into the budget. Establishment of an OTB entails adding budget for either future work or in-process work and possibly adjusting variances (cost, schedule or both). The industry standard (American National Standards Institute/Electronic Industries Alliance Standard 748 (ANSI/EIA-748), Earned Value Management Systems (EVMS), defines it as "a new baseline for management when the original objectives cannot be met and new goals are needed for management purposes." An OTB may not affect all of the work in the baseline. A partial OTB does not affect all work breakdown structure (WBS) elements in the PMB and/or does not make across-the-board cost/schedule variance adjustments. However, because the total of all budgets assigned to the baseline is greater than contract value, the final result is still considered an OTB. See Figure 1.1.

Before OTB		
Total Allocated Budget (TAB)		
Contract Budget Base (CBB)		
Performance Measurement Baseline (PMB)	Mgmt Rsrv	
After OTB		
Total Allocated Budget (TAB)		
Contract Budget Base (CBB)	Over Target Budget	
Performance Measurement Baseline (PMB)	Mgmt Rsrv	

Figure 1.1

1.2.2.2 **Over Target Schedule (OTS):** Formal reprogramming may result in revised schedule activities/milestones and associated budgets being time-phased beyond contractual milestones. An over target schedule (OTS) is the term used to describe a condition where a baseline schedule is time-phased beyond the contract completion date.

While an OTS may be implemented without adding additional budget (OTB), this is normally not the case. This is due to the fact that, historically, an increase in schedule will also require an increased allocation to budget. It is critical, in this situation, to ensure that both parties understand that implementing the OTS does not relieve either party of any contractual obligations concerning schedule deliveries and attendant incentive loss or penalty. An OTS may not affect all tasks and activities on the integrated schedule. A partial OTS is a term that is used to define reprogramming that does not affect all tasks and activities in the schedule.

1.2.3 **Rebaselining:** Rebaselining is the term used for describing a major realignment of the PMB to improve the correlation between the work plan and the baseline budget, scope, and schedule. Rebaselining may refer to either reprogramming or replanning.

1.3 **Formal Reprogramming Considerations:** Before assessing or starting the OTB/OTS process there are general elements that should be considered.

1.3.1 **Communication:** The OTB/OTS process should always be a collaborative process between the customer and contractor. When a contractor deems it necessary to implement formal reprogramming, it should notify its customer early in the process. The process laid out in Chapter 3 of this guide is predicated on early customer notification. The Government customer, as applicable, must approve the implementation of an OTB/OTS.

1.3.2 **System Discipline:** System discipline is often under-represented in the pre-OTB/OTS discussions, decisions, and the formation of any necessary changes for a post-OTB/OTS management philosophy. Often, and correctly, the customer's focus during an OTB/OTS implementation is to ensure the requirement is real; i.e., the

estimate to complete (ETC) and schedule to complete are reasonable and includes factored risks, consideration is given to MR/schedule margin strategy, and the new baseline is sufficient for meaningful performance measurement. However, if the prime contractor and/or major subcontractors do not maintain baseline integrity after the OTB/OTS implementation, then the OTB/OTS may fail to be an effective plan for the work remaining.

1.3.3 Realistic Process: Annual OTBs/OTSs, frequent single point adjustments (SPA), and schedule slips are clear indications of lack of management discipline, unwillingness to generate realistic estimates, and attempts to hide true performance from decision makers. In order to prevent recurring OTBs/OTSs, the PM should ensure that the underlying causes that drove the need for an OTB/OTS are addressed in the OTB action plan. Abuses of the OTB/OTS process have resulted in unrealistic baselines and lack of credible performance trend data and will lead to loss of confidence in the PM by higher management.

1.3.4 Benefits: Formal reprogramming can restore much needed control to a contract that has had poor execution or an unrealistic plan for the remaining work. The key benefits of a formal reprogramming are an executable and achievable baseline plan, renewed buy-in from the program team, meaningful performance indicators, and restored confidence. (See Chapter 4 for further discussion.)

1.3.5 Drawbacks: Formal reprogramming generally requires significant effort by both parties, can be time-consuming, and can be expensive. Formal reprogramming may result in the elimination of cost and schedule performance variances and trends used for making cost and schedule projections. These drawbacks should be weighed against the benefits of providing more reasonable budget or schedule objectives and improved management control. Details on the considerations for deciding on an OTB/OTS can be found in Chapter 2.

1.3.6 What Formal Reprogramming May Not Accomplish: Implementing an OTB or OTS will not by itself:

- Prevent future cost growth
- Contain cost or schedule overruns
- Improve management commitment
- Ensure future, good planning and scheduling processes
- Force the earned value management system to work properly

Formal reprogramming does not change the scope or nature of the work on the contract. Reprogramming and adjusting variances should not be done solely to improve performance for award fee or similar type evaluations.

1.3.7 Performance Budget and Contract Funding: The CBB represents a management target for the accomplishment of a given scope of work and relates to the value of the contract target/estimated cost in the baseline. Funding, on the other hand, represents the actual money that will be obligated and expended for the execution of contractual scope. Therefore, while the initial budget baseline will relate to the expected contract funding at the beginning of the contract, this relationship is broken when an OTB/OTS is implemented. Contract type is a factor to consider when reprogramming,

because different contract types have different funding implications. For instance, on a fixed price incentive fee (FPIF) type contract, the OTB value may exceed the ceiling so no additional funds would be required.

The determination of the OTB value by the contractor does not require current funding to be in place before approving or implementing an OTB/OTS. However, if the resulting EAC exceeds the current funding or authorization levels, the Government PM must decide whether to de-scope the contract or seek additional funds. An OTB in excess of the authorization does not constitute an Anti-Deficiency Act violation, but the PM must take action to prevent a potential violation. The estimate at completion (EAC) in excess of CBB would drive the need for additional funding and may be used to start the process of securing funds.

1.3.7.1 Fixed Price Incentive Fee Contracts: In this type of contract, the negotiated target cost plus the estimated cost of authorized unpriced work (AUW) establishes the value of the CBB. A ceiling price is established which limits the amount of customer liability. Allocating additional performance budget during an OTB does not change the funding liability of the customer in any manner, nor does it change any contract terms. In this case, the liability for incurred actual costs over the ceiling price belongs entirely to the contractor because the scope of the work has not changed, nor has the contract or face value of the contract been modified. Establishing an OTB on a contract of this type is done without consideration for profit, cost sharing, or ceiling implications.

1.3.7.2 Cost Reimbursement Contracts: These types of contracts differ in funding liability for the customer. Generally speaking, the customer is liable for incurred actual costs plus some type of fee. The initial cost target establishes the value of the CBB. When the contractor recognizes the need for an OTB, it must notify the customer of this new estimate because there are funding implications for the customer. For instance, the new plan may not align with the customer's available funding profile.

1.3.8 Frequency of Formal Reprogramming: Ideally, formal reprogramming should be done no more than one time during the life of a contract. However, there may be instances where another formal reprogramming is warranted. Formal reprogramming is normally made necessary by significant problems with contract execution and involves a significant effort to implement properly. There may also be instances where a contractor has performed well to date, but subsequently recognizes that remaining budgets are significantly inadequate relative to remaining work scope. When formal reprogramming is accomplished in accordance with the procedures in this guide, with a realistic cost and schedule estimate established for the remaining work, it should not be necessary to undergo formal reprogramming again. However, contracts that are very long in duration increase the possibility of an additional formal reprogramming action. In any case, it is vital to have a realistic cost and schedule estimate to support the new baseline.

The parties should identify the problems or reasons that rendered the current work plan unrealistic and implement measures that will prevent these problems in the future. This information should be captured as "lessons learned" and used to improve the implementation of the new baseline.

Chapter 2. Recognizing the Need

2.1 How Do I Know When I Need One? The normal course of program planning involves work definition, scheduling, and resource loading. If these steps are done in a logical and rational way during the initial baseline development, performance data generated during the execution phase will be a leading indicator of the need for an OTB/OTS. The contractor should continually analyze performance data and compare the estimate of cost for the remaining work to the remaining baseline value. Recognition of a significant projected cost overrun or inability to achieve schedule may indicate the need to consider formal reprogramming. The overarching factor is an assessment that the current PMB is not achievable. Other considerations are the projected use of MR. If the contractor will run out of MR and still has significant risk remaining, then there will be no budget left for contingencies.

2.2 Useful Tools: PMs must pay careful attention to the warning signs and closely monitor program performance using existing tools and processes. Useful tools include the network schedule, performance reports, system surveillance, and the integrated baseline review (IBR).

2.2.1 The Network Schedule: The network schedule is developed during the initial baseline process and must be kept current throughout the contract period of performance. The network schedule serves as a critical tool in monitoring program performance and indicating whether an OTS may become necessary. As the customer PM reviews and analyzes the network, close attention should be placed on tasks on the critical path, tasks that are sub-critical, near-term critical path effort, slack, float, and margin. Any of these factors may indicate that the program is severely off schedule and is unlikely to recover. If these factors indicate that schedule margins have been eliminated and/or negative float has occurred to the point where contract milestones will not be achieved, an OTS may be necessary to re-establish meaningful program monitoring. For an unconstrained schedule, if the forecast shows a significant slip to the contract milestone, an OTS may be necessary. The IPMR Format 6 (IMS) is usually the primary tool for assessing the need for an OTS.

2.2.2 Performance Reports: Earned value management performance reports are essential tools in monitoring program performance. These reports provide the PM with information on performance against the baseline plan, actual costs incurred, variances resulting from deviations from the plan, an estimate of projected final costs, and an analysis of cost, schedule, and technical impacts. The IPMR or IMS/CPR are usually the primary tools for assessing the severity of the overrun and the necessity for an OTB/OTS.

2.2.3 System Surveillance: PMs should use the results of a comprehensive, risk-based system implementation surveillance strategy to assess the application of the contractor's EVM system and the effectiveness of its processes. System surveillance is a vital tool in understanding the problems, issues and concerns with EVM data accuracy. System surveillance should be a joint activity of the contract administration office (CAO), the contractor, and the customer program office. Surveillance can identify issues that may help in determining the need for reprogramming.

2.2.4 The Integrated Baseline Review (IBR): The IBR is a proven tool to assess the technical, cost, and schedule risks associated with the integrated PMB. The IBR approach includes an integrated assessment of the achievability of the baseline plan for accomplishing the remaining work which is a key to determining the need for an OTB/OTS.

2.3 Indicators: Examples of data that indicate the possible need for an OTB/OTS include, but are not limited to:

2.3.1 Cost indicators:

- Significant difference between the estimate of cost to complete and the budgeted cost for work remaining (BCWR)
- Significant difference between the cumulative cost performance index (CPI) and the to-complete performance index (TCPI)_{EAC}
- Early, significant, and frequent allocation of the MR pool to the PMB for newly identified in-scope work
- Insufficient MR for the remaining scope of the contract
- Control account budgets for work remaining that do not represent a reasonable chance of success
- The existence of zero-budget work packages
- Inability to explain the basis for the ETC relative to the current baseline
- EACs and budgets not taking into account adequate risk.

2.3.2 Schedule indicators:

- High level of concurrency in the remaining integrated schedule
- Negative float or significant slips in the critical path of the IMS
- Incomplete or inaccurate critical path for the technical completion of the contract
- Unrealistic activity durations
- Unrealistic or missing relationship logic between tasks
- Significant number of constraints in the schedule
- Insufficient schedule margin/float for the remaining scope of the contract
- Schedule not horizontally or vertically integrated
- Logic sequence and durations for forecasted work vary significantly from the baseline plan.

2.3.3 Data accuracy indicators:

- EAC less than actual incurred costs for WBS elements
- Evidence of a front-loaded PMB
- Lack of corrective action planning/lack of evidence of implementation
- Management challenges (unrealistic cost/schedule projections)
- Frequent or recurring data errors

2.4. Rules of Thumb: While any one of the indicators listed above may indicate the need for an OTB or OTS, the decision to establish a revised PMB incorporating a significant cost overrun or schedule slip sends a serious message to all levels of management. The following rules of thumb, used as a set, can help evaluate whether the benefits of an OTB/OTS would outweigh the effort involved. The decision to proceed should be made only after careful consideration of these rules of thumb and other

aspects of the program's status, such as time remaining, percent overrun to work remaining, etc.

2.4.1 Projected Growth: Compare the estimate of cost or schedule to complete the remaining work with the budget/time allocated for the remaining work. This is accomplished by applying the following formula(s) using cumulative-to-date information from the most recent IPMR or CPR/IMS:

$$\text{Projected Future Cost Growth (\%)} = (((\text{EAC}_{\text{PMB}} - \text{ACWP}) / (\text{BAC}_{\text{PMB}} - \text{BCWP})) - 1) \times 100.$$

If the resulting percentage is greater than 15%, an OTB/OTS may be warranted.

$\text{Projected Schedule Growth\%} = \text{Forecast Schedule Duration} / \text{Baseline Schedule Duration}$ is greater than 10% in days at the total program level.

2.4.2 Remaining Schedule: If there are forecasted to be less than 18 months of effort remaining, the benefit of implementing an OTB/OTS will most likely be marginal due to the length of time it normally takes to implement an OTB/OTS. This recommended timeframe includes the time to implement the OTB process and at least 12 months to execute the resulting PMB.

2.4.3 Work Completion Percentage: Before determining that a program should implement an OTB/OTS, the contract should be more than 20% complete using the formula: BCWP / BAC . Contracts that are less than 20% complete may not be mature enough to make the time and expense of implementing an OTB/OTS worthwhile.

2.4.4 Executability of Performance Measurement Baseline: Variances to the baseline plan are not meaningful for decision making. Scope, schedule, and budget not integrated at the work package level. A non-realistic, non-executable PMB baseline may indicate the need to consider an OTB in parallel with other rules of thumb.

2.4.5 Cost/Benefit Analysis: Since the ultimate goal of implementing an OTB/OTS is to provide better information to manage a contract, a cost/benefit analysis should be done. This will require a concerted effort on everyone's part to ensure that the benefits to be gained from implementing the OTB/OTS will outweigh the cost in both time and resources. If the program team is committed to managing within the new baseline, and better management information is expected to result, then the OTB/OTS should be implemented. If the calculated rules of thumb do not fall within the above parameters, formal reprogramming may not be a cost effective method of managing the contract and other avenues of baseline management should be investigated.

Chapter 3. The Formal Reprogramming Process

3.1 Introduction: Formal Reprogramming involves multiple steps and processes that should generally be followed in a certain order. The flowchart in Figure 3.1 depicts the twelve steps of the process in a serial fashion. However, some of these steps overlap each other and some can be conducted simultaneously. This chapter describes each step in the implementation process and assumes early involvement and frequent interaction with the customer.

3.2 Develop Approach: There are certain factors that should be kept in mind when developing the approach for a formal reprogramming:

- What circumstances led to this need for an OTB/OTS? Are they clearly understood such that the OTB/OTS process will adequately address them?
- Is the existing schedule still realistic or is an OTS likely? If an OTS is likely, what is the process?
- Is the existing EAC sufficiently realistic or does it need to be updated? When was the last comprehensive EAC performed? Note the EAC will need to be reviewed and refined during the OTB/OTS process.
- Will the cost and schedule variances be retained or is some form of SPA required? If adjustments are needed, how should they be done? What are the costs/benefits of this decision?
- How will an adequate MR be established?
- What about major subcontractors? Can/should they be required to participate? Will subcontractor efforts need to be repriced and/or rescheduled?
- Have any system discipline issues that may have contributed to the situation been resolved?
- Does the plan forward capture all scope needed to complete the contracted effort?

3.3 Single Point Adjustments (SPA): In order to improve the value of the management information resulting from the new baseline, a determination about the elimination of variances will need to be made. An SPA refers to eliminating cumulative performance variances, replanning the remaining work, and reallocating the remaining budget to establish a new PMB. Either cost or schedule variances, or both, can be set to zero during an SPA depending on the program manager requirements to retain certain historical variances for visibility. It is expected that an OTB has some form of SPA; however, it is possible to implement an OTB without adjusting past cost variances. An SPA can be implemented for the total program or selected sub-elements.

There should be a cost/benefit analysis to a decision to remove cost variances. The perceived benefit of starting over is offset with the cost of implementation and the distortion of common EVM metrics. If implemented, metrics will need to be recalculated from the point of OTB implementation forward. The program will need to allow sufficient time in the implementation schedule.

SPAs should not occur on a regular basis nor should they be accomplished solely to improve contract performance metrics. Elimination of the schedule variance may be done in order to shift “unearned” budget out into future periods as part of a replanning exercise. However, managers must determine whether it might be

appropriate to partially maintain cost variances. If some WBS elements do not require additional budgets or if trends provide useful insight that can still be used after the OTB, it may make sense to retain the variances. In addition, if past performance is considered a good indicator of the future, an SPA may not be approved. An SPA should be approved by the Government customer.

3.4 **Responsibilities:**

3.4.1 **Joint Responsibilities:** The contractor PM should notify the customer early in the process of the need to implement an OTB/OTS. Teamwork between the customer and contractor program offices during this transition is best for long-term program results. The contractor needs to keep the customer informed of progress during the formal reprogramming process. Both customer and contractor need to be prepared for additional visibility and scrutiny once the OTB/OTS is implemented. Realism and open communication are imperative.

The contractor and Government customer should review the factors that caused the OTB/OTS and evaluate if the OTB/OTS process addresses those concerns. The plan should be reasonable and achievable with the risks addressed.

3.4.2 **Contractor:** The primary responsibility for ensuring that a meaningful PMB is in place belongs to the contractor. Every control account manager (CAM), with help from the business office and PM, is charged with developing executable work plans. These plans become the basis for the new baseline. Thus, the PM and supporting business office staff must have open lines of communication and a clear review process to ensure the baseline is reasonably accurate and reflects known program risks, cost reduction opportunities, and challenges.

3.4.3 **Customer:** The PM is encouraged to develop a team approach and seek support from earned value management specialists, business and financial managers, technical managers, and the CAO. The customer program team should give priority status to its support for and, if invited, participation in the formal reprogramming process so as not to impede progress.

Along with being an active participant in the process, the customer team must ensure that the ramifications of implementing an OTB/OTS on the program are considered and appropriately addressed. This will probably require briefings to senior management, obtaining approval for any required contract modification, and programming additional funding to meet new fiscal year requirements.

Finally, on DoD contracts, the customer's contracting officer must provide formal approval of the implementation of an OTB/OTS.

3.5 **OTB/OTS Process (12 Steps):** The following paragraphs describe each of these twelve steps in detail. Figure 3.1 below portrays the process.

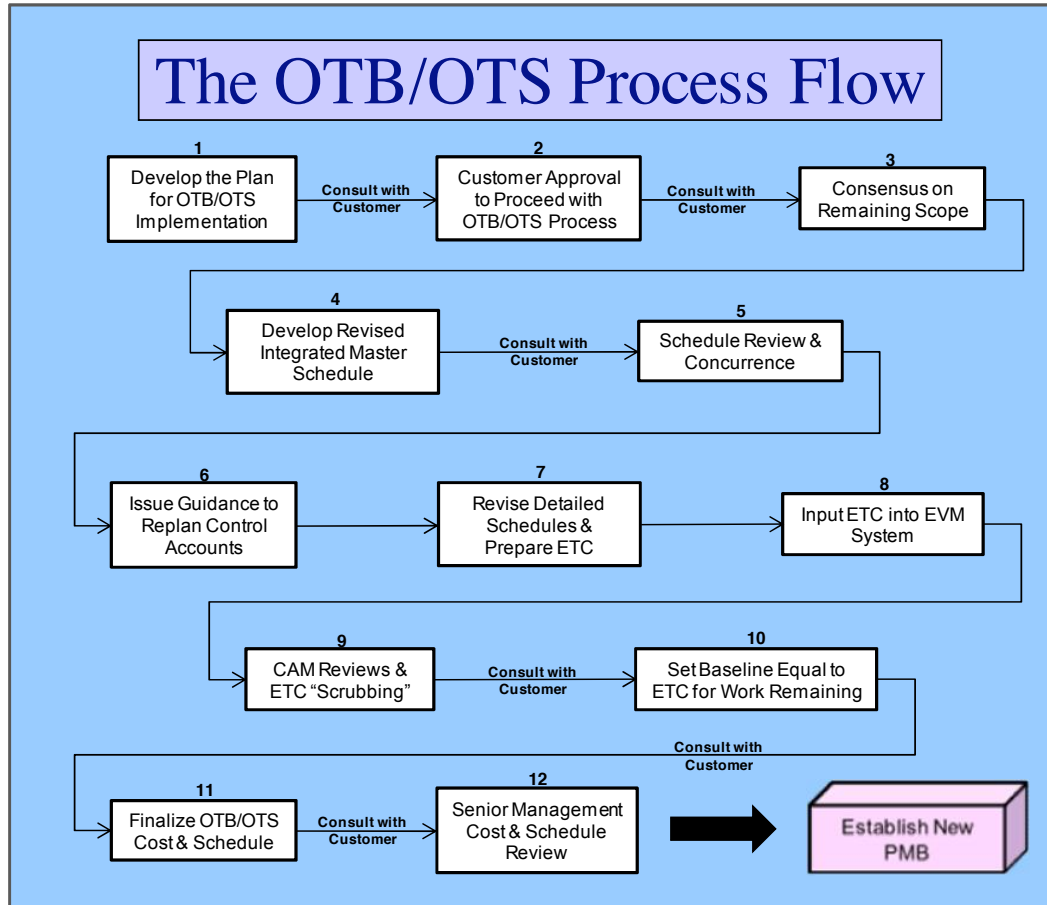


Figure 3.1

3.5.1 Step One – Develop the Plan for OTB/OTS Implementation:

3.5.1.1 **Document the Need:** Chapter 2 discusses how one can recognize if formal reprogramming is necessary or warranted. After using the tools available to the PM, and considering the indicators and rules of thumb spelled out in Chapter 2, the relevant factors leading to the conclusion of the need for an OTB/OTS are documented as part of the implementation plan. Evaluation of remaining budgets and schedule versus the remaining work scope should drive this decision. The primary reason for implementing an OTB/OTS is to improve the contractor's ability to manage and control ongoing work. Therefore, the decision to initiate an OTB/OTS originates with the contractor. The initiation of the formal OTB/OTS cannot occur without the formal approval of the customer's contracting officer.

Since an OTS signals that the contractor will not be able to achieve contract milestones, the customer program office should coordinate the change in schedule with the operational end user of the system, and may also be entitled to consideration from the contractor.

3.5.1.2 Develop the Plan: During this initial phase, the contractor should develop a plan and schedule for implementation. The plan should include ground rules, assumptions, scope, impact, plans to adjust variances, potential reporting changes, and documentation recommendations, as well as planned dates for implementation. See section 3.8 “Reporting During OTB/OTS Implementation” for reporting guidance. The contractor’s management control system description and/or program procedures should be followed when planning the formal reprogramming. Concurrently, the customer program office should document its expectations, including any specific reporting or coordination requirements from senior management. These expectations should be discussed with the contractor and a consensus reached.

3.5.2 Step Two – Customer Approval to Proceed with OTB/OTS Process: On DoD contracts, if an OTB is used for performance measurement reporting purposes, prior notification must be provided to the customer and the customer must approve the request before an OTB/OTS is initiated (DFARS 252.234-7002 Earned Value Management System). The contractor shall submit a request for approval to initiate an OTB or OTS to the Contracting Officer. The request shall include a top-level projection of potential cost and/or schedule growth, a recommendation of whether or not performance variances will be retained, and a schedule of implementation for the rebaselining. The Government will acknowledge receipt of the request in a timely manner (generally within 30 calendar days).

3.5.3 Step Three – Consensus on Remaining Scope:

3.5.3.1 Work Within Scope of Contract: As part of the ground rules and assumptions for the comprehensive ETC, the contractor and the customer program office should reach consensus on the scope of the remaining effort. The remaining work may need to be clarified or replanned but only as a means to reach mutual consensus for the remaining baseline. This validation should not result in a scope change to the contract nor require a contract modification. Scope should be reviewed at the work package/planning package level.

3.5.3.2 Work Outside the Scope of Contract: Frequently, contract changes may also be ongoing at the same time, resulting in changes to work scope, schedule, and to the CBB. Also, as part of the formal reprogramming process, additional scope requirements may be identified that will require contractual authorization. New contractual direction identified during an OTS/OTB should be tracked separately for reconciliation with CBB.

3.5.4 Step Four – Develop a Revised Integrated Master Schedule:

3.5.4.1 Develop New Schedule: Some level of schedule development or analysis should always be performed during the OTB/OTS, even if it is apparent that only an OTB will be required. The contractor should base all revised planning on a valid and realistic schedule.

The revised schedule should be developed in accordance with the reprogramming plan, and incorporate realistic constraints and schedule margin, as appropriate. Facility and resource availability for the new schedule dates should be confirmed during the development of the schedule. The logic, durations, and completeness of the new schedule should be validated as well as any impact to the

customer furnished equipment schedule or availability of customer test ranges. Ideally, the customer will participate in this schedule development effort or, as a minimum, the contractor should keep the customer informed of progress.

The revised schedule should be complete, integrated, and realistic in duration, and should reflect a coordinated schedule among key vendors and subcontractors. This top down master schedule sets the planning guidelines for the more detailed scheduling and cost phasing effort in Step 7.

3.5.4.2 Comparison to Contract: Comparison of the new schedule to the Integrated Master Plan and/or contract provisions will determine if contractual obligations will be affected by the new plan. If these new dates do extend beyond the final completion date of the contract, then the formal reprogramming exercise will also require an OTS.

3.5.4.3 Schedule Risk Assessment (SRA): As specified in the IPMR DID, an SRA must be performed as part of the OTB/OTS. The SRA target milestone should be the forecasted end of contract. The SRA determines the probability of the overall forecast schedule. The customer must define the acceptable probability; normally this is set to 50% to 80%. If a date has been established by the Government, the contractor must provide the Government the realistic probability of that date. Should this date be an unacceptable probability, the contractor should make every effort to re-evaluate the schedule for an executable alternative that will allow achieving the desired probability. If that is unsuccessful, it is recommended the Government desired OTS date be revised or contract scope be revised until an acceptable probability is achieved. This is typically an iterative process. The ETC time phasing should be consistent with the SRA acceptable probability.

The SRA may result in a date exceeding the contract requirement. The SRA expected completion date and the duration of the schedule margin, if any, become the OTS target. Should the SRA results be earlier than the contractual target, the schedule margin, if any, may be set equal to the difference.

3.5.5 Step Five – Schedule Review and Concurrence: The customer and contractor program teams should assess the logical sequencing of work in the schedule and validate the activities, durations, and logic based on historical performance and current ground rules. The program should also verify the horizontal and vertical schedule integration and traceability.

Establishing both scope content and the revised schedule should serve as exit criteria before the program begins the detailed ETC. The Government should accept and notify the contractor of any concerns regarding the contractor's proposed OTS IMS.

3.5.6 Step Six – Issue Guidance to Replan Control Accounts:

3.5.6.1 Guidance to Control Account Managers (CAMs): While this is not a mandatory requirement, issuance of replanning guidance is often included in the contractor's approved EVMS, or program directives, normally as preparation for the comprehensive ETC. This document should define the following for the CAMs: remaining scope of work to be estimated, revised schedules, variances to be adjusted, and an overall schedule for completing the comprehensive ETC. The contractor should

provide the contents of this document to the customer program office to ensure customer awareness of the impact to the proposed final cost.

3.5.6.2 Adjusting Variances: A key consideration in implementing an OTB is to determine what to do with the variances against the pre-OTB baseline. There are essentially five basic options. This is a far more detailed effort than these simple descriptions imply, as these adjustments have to be made at the detail level (control account or work package). (See Appendix B for examples.)

3.5.6.2.1 Eliminate all Variances: This eliminates cost and schedule variances for all WBS elements by setting Budgeted Cost for Work Scheduled (BCWS) and Budgeted Cost for Work Performed (BCWP) equal to the value of Actual Cost of Work Performed (ACWP). (This is known simply in EVM terminology as “setting S and P equal to A.”) This, in effect, makes the BCWS time-phased plan equal to the EAC value at complete: $TAB = EAC$.

3.5.6.2.2 Eliminate the Schedule Variance (SV) Only: After evaluating the cumulative information in the CPR/IPMR, the two PMs may agree that the cost variance represents meaningful performance measurement information that the CAMs should continue to focus on and that only the SV should be eliminated. By preserving the CV information, a new PMB can be established without losing visibility into ongoing cost performance.

This is accomplished by setting BCWS equal to BCWP. BCWS will show a current period adjustment. This will allow unperformed work and its associated budget that was scheduled in prior months to be replanned into the future. Appendix B, Figure 2, illustrates how the data elements are adjusted. The resulting TAB value will be less than the EAC by the current cost variance that was not adjusted.

3.5.6.2.3 Eliminate the Cost Variance (CV) Only: While rare, there are situations where the cost variance element of performance measurement drives the need for an OTB, but the schedule information is valid. If, after evaluating the cumulative performance measurement information, the two PMs agree that the schedule variance contains valid performance measurement information, the OTB can be implemented by eliminating only the CV. The provisions of the IPMR Data Item Descriptions that address how an OTB will be reported will still apply, but only to the CV portion. By preserving the SV information, a new PMB can be established without losing visibility into ongoing schedule performance.

The process to eliminate cost variance is to set BCWP equal to ACWP. The value of cumulative BCWP is thus modified by the amount of cumulative cost variance. Since BCWP changes, cumulative BCWS should be changed by the same amount in order to preserve the SV. There will be current period adjustments to both BCWP and BCWS. (It should be noted that the final value of BCWS would not be equal to either BCWP or ACWP.) Appendix B, Figure 3, illustrates how the data elements are adjusted. This method results in a retroactive change to BCWS for work that is behind schedule but does not eliminate the variance. Past work not completed should be budgeted retroactively at the value of the total ETC for that scope. The future BCWS is adjusted so that $TAB = BCWP + ETC$. The resulting TAB value will be less than the EAC by the current schedule variance that was not adjusted.

3.5.6.2.4 Eliminate Selected Variances: A situation may arise where only a portion of a contract may require an OTB. If, for example, performance on one or more WBS elements, a single contract line item number (CLIN), or possibly a single subcontractor is out of line with the baseline for that element, the two PMs may choose to implement an OTB for only that portion of the contract. In this case, all other variances and performance measurement elements would remain intact. The OTB reporting provisions would only apply to the items selected for OTB. The resulting TAB will be greater than CBB and will vary by which elements are reset.

3.5.6.2.5 Retain All Variances: It is possible that a contractor may have been performing fairly well to the baseline plan and not incurring significant variances; however, the contractor needs additional budget to complete remaining effort. Alternatively, the contractor may have large variances, but the contractor and customer have agreed to retain all variances. If some WBS elements do not require additional budgets or if trends provide useful insight that can still be used after the OTB, it may make sense to retain the variances. In these situations, no adjustments are made to eliminate variances. This method results in a retroactive change to BCWS for work that is behind schedule but does not eliminate the variance. Past work not completed should be budgeted retroactively at the value of the total ETC for that scope. The future BCWS is adjusted so that $TAB = BCWP + ETC$.

3.5.6.2.6 Actual Cost of Work Performed: It should be understood from the preceding discussion that in no case is ACWP adjusted during these processes. ACWP should always reflect information reconcilable with the actual accounting records.

3.5.7 Step Seven – Revise Detailed Schedules & Prepare ETC:

3.5.7.1 Revise Detailed Schedules: The CAMs should modify the detailed schedules for their respective WBS elements following the company's established procedures. These detailed schedules should reflect the revised IMS as reflected in the program's previously issued guidance. This step should not start until the IMS is firm.

3.5.7.2 Forecast Resource Estimation: Using the modified schedule and previously established program assumptions, the CAMs should next prepare detailed estimates of the resources required to complete the remaining scope of work on the contract. The resources are priced out with the latest Government accepted rates (as applicable) to become the ETC. The ETC is added to actuals to become the control account EAC. This comprehensive EAC should be based on a bottom-up estimate; i.e. CA/WP/PP level, for all elements of cost (e.g. staffing, material, travel). The CAMs should also evaluate all remaining risk and opportunity items, potential cost and/or schedule impact, and the probability of their occurrence. Based on guidelines established by the PM, risk and opportunity dollars may be included as either part of the ETC in the WBS elements or as MR budget at the total contract level.

As part of this process, the contractor may identify and generate estimates of additional work not currently on contract that may need to be completed as part of the contract. It is important that the estimates for these efforts be kept separate from the ETC, as formal approval is required for new work and eventual authorization may affect the fee structure on the contract.

Once the EAC is prepared at the control account level, the contractor will “scrub” the estimates to remove redundant effort, correlate estimates between managers and organizations, and ensure that proper rates and factors have been applied to generate the final EAC value. The CAMs may also review the EAC and schedules with functional, program, and business managers. During this process, the CAMs may be “challenged” to reduce their estimates through skill mix changes, resource reductions, or schedule adjustments.

At this point, it is important that both the contractor and the customer agree with the scope, schedule and resource allocation contained in the EAC. This may be accomplished either through a shoulder-to-shoulder ETC/EAC preparation or a formal review of the ETC/EAC by the Government program office technical personnel.

3.5.7.3 Management Reserve (MR): One of the decisions to be made during the OTB process is the amount of MR that will be included as part of the final OTB value. There are a number of factors that must be considered in arriving at a reasonable and prudent amount of MR budget:

- Consideration of phase of program (% complete)
- Robustness of risk management processes and ability to identify risk
- Technical evaluation of future risks (probability and consequence)
- Amount of MR consumed to date as a percentage of cumulative BCWP may be important as a historical factor

The contractor has the responsibility to identify and budget for a realistic MR. However, the customer also has a significant stake in understanding program risks and ensuring adequate MR for the remaining effort. Recognition of the relative aggressiveness and risk content of the ETC is critical in determining adequacy of MR. The program’s risk assessment should be reviewed to determine if risks are included in the ETC.

3.5.8 Step Eight – Input ETC into EVM System: Once the ETC has been prepared, reviewed and accepted, the results are input into the contractor’s management system as the new PMB. While there are multiple approaches to doing this, the actual process is a function of the individual contractor’s EVM System. This process can take anywhere from a few days to several months to complete. Factors such as size of contract, complexity, depth of WBS/control accounts, flexibility of the contractor’s automated system and resources available to process the documents will determine the overall time to accomplish this activity. It is not unusual for the contractor to require two complete accounting periods to complete the input: One, to input the information and another period to perform error correction on the output from the system.

Upon Government approval, the ETC is input into the cost tool.

Note: These examples assume a total contract level OTB. It is possible that an OTB may be accommodated on a particular subset of the program.

3.5.9 Step Nine – CAM Reviews and ETC “Scrubbing”: Once the new baseline is in place, each CAM should review the new baseline to ensure that it has been laid in properly. The contractor’s program office will then normally review the new baseline,

ETC, and detailed schedules with each of the CAMs as a final scrub. The customer may be invited to participate in this review. Discussion of such topics as staffing, issues, and workarounds as necessary, if done at the appropriate level, may obviate the need for an IBR at a later date. This independent assessment by the customer technical team may surface overlooked items or issues.

The resulting EAC is reviewed with the Government. The Government must then accept the EAC. See section 3.6 for addressing any Government concerns with the EAC value.

3.5.10 Step Ten – Set Baseline Equal to ETC for the Work Remaining: The contractor PM-approved ETC/EAC becomes the basis for the realistic baseline plan for the control accounts involved in the OTB. The baseline may be developed in different detail following the contractor's rolling wave process as detailed in the contractor's system description and associated process documents.

3.5.11 Step Eleven – Finalize OTB/OTS Cost and Schedule: Based on Step 9 above, the contractor should then incorporate any final changes to the new baseline and schedule. A final program level review should then be conducted with the customer, typically in an IBR, as required by the IPMR DID.

3.5.12 Step Twelve – Senior Management Cost and Schedule Review: Once internal agreement has been reached on the OTB/OTS, senior management for both the customer and the contractor should review the final results and affirm their commitment to complete the effort within the cost and schedule plan. As part of this process, the parties should agree on the timing for conducting an IBR (see paragraph 3.7).

The customer PM should seek support from his technical and support staff in evaluating the OTB/OTS via the IBR process, and must ensure that inappropriate or unrelated issues do not inhibit the OTB/OTS process. In order for the customer to make a determination that a program is affordable and executable after the OTB/OTS is implemented, the customer team should assess the relative rigor of the comprehensive ETC and the reasonableness of the risks remaining on the program. Stated otherwise, the customer must fully understand the in-scope risk that is not covered in the ETC, new MR strategy, and subsequently ensure that there is sufficient funding to address potential overrun to the new baseline.

3.6 Contractual Actions: The contractor's execution of an OTB must be affordable and within the customer's internally approved funding for the program unless supported by contractor investment. If applicable, the amount of contractor investment over the approved funding must be disclosed to prevent Government liability under the Anti-Deficiency Act. The actual advance notification should be reasonably early in the process with emphasis on collaborative and joint participation. The customer plays a key role throughout the implementation process to determine whether the contract is executable within the constraints of the program baseline or whether modifications or work around plans are necessary. Government approval is required prior to implementing an OTB/OTS (DFARS 252.234-7002 Earned Value Management System).

The overriding goal should be to allow the contractor to implement in a timely manner a baseline that allows proper management control of the ongoing effort. Because OTB budgets and schedules do not supersede contract values and schedules

and are implemented solely for planning, controlling, and measuring performance on already authorized work, a contract modification is not needed.

If the new schedule results in an OTS situation, both parties must recognize that the existing contract milestone schedule still remains in effect for purposes of contract administration and execution. The new dates in the OTS are for performance measurement purposes only and do not represent an agreement to modify the contract terms and conditions. The customer may wish to negotiate consideration via a contract change; however, no other contract modification is necessary.

If the contractor OTB/OTS request is not approved by the Government, the Government and contractor must agree on the next step:

- 1) The Government may recommend scope changes and ask the contractor for schedule and cost impacts,
- 2) The Government may ask the contractor to recommend changes necessary to implement a desired date or maximum EAC amount.
- 3) With a realistic EAC, the contractor may consider using a factoring method to ensure the remaining work is measurable and manageable. For example, a contractor believes the remaining budget constitutes only 75% of the necessary budget to accomplish the remaining scope of work.

3.7 Conducting an Integrated Baseline Review (IBR): If the IPMR DID is applicable, an IBR is required to complete the OTB/OTS process. If the IPMR DID is not applicable it is recommended that an IBR is conducted at the end of the OTB/OTS process to verify the final integration of scope, schedule, and budget to create an executable PMB. The IBR scope may be less if the Government actively participated in the OTB/OTS steps.

3.8 Reporting During OTB/OTS Implementation: The contractor may request reduction in reporting during the time period required to implement the OTB/OTS. Depending on the length of time to implement the new OTB/OTS, the contractor and the customer must determine if, and to what extent, reporting requirements will be reduced. Reporting needs for senior customer levels must be considered when addressing this question. Reporting could be reduced to just the total program level. It may be difficult to ascertain the length of time it will take to implement a new baseline based on the scope of the effort. It is not uncommon for the entire process to take up to six months which would be too long of a period without basic cost reporting.

The customer should be cognizant of the prime contractor's coordination complexities and issues with its subcontractors. The time to implementation may be extended due to accounting calendar month overlaps, compressed reiterations of contractor ETC updates, internal reviews, subcontractor MR strategy negotiations, senior management approvals, etc., all while statusing the normal existing performance within a reporting cycle.

In all cases, at least ACWP should continue to be reported.

3.9 Reporting Adjustments: See Appendix C for illustrations and explanations of how IPMR Formats 1 and 3 are adjusted for the OTB/OTS.

Chapter 4. What Do We Expect?

4.1 What Do We Expect from Formal Reprogramming? Formal reprogramming is a significant amount of work, so it should be carefully considered. What is the goal versus what is the cost?

4.2 Executable and Achievable Baseline Plan: The ultimate goal of the formal reprogramming process is improved program management control. The CAMs, IPTs, and management should once again have an executable and achievable integrated scope, schedule, and resource baseline plan to work with and from which to measure performance. The detailed scope tasks in the networked integrated schedule will have better defined interrelationships, realistic start dates, and achievable durations that have been agreed to by those who developed the schedule from a more current understanding of the remaining work. The experience gained from the difficulties previously encountered will be reflected in a more appropriate level of resources with the proper skills and competencies to accomplish the tasks.

4.3 Management Reserve (MR) Budget Pool: The PM will re-establish an adequate pool of MR budget that is based on a thorough analysis of the risk in the remaining work. An adequate amount of MR is essential in order to maintain the integrity of the PMB as any risks in the remaining work are encountered. An OTB should never include work packages without budget, as realistic budgets must be allocated to all remaining effort to prevent future requirements for additional OTBs.

4.4 Renewed “Buy-In”: An OTB/OTS should result in a common understanding between all stakeholders of the remaining effort and resources required to complete the work. The CAMs, IPT leaders and members, PM, corporate leadership, and customer management will have a renewed buy-in to the program baseline plan.

4.5 Meaningful Performance Indicators: As work is accomplished according to the new baseline plan, a more credible schedule, along with more accurate estimates of task value and data on resources consumed, will provide the basis for more reliable performance indicators. CAMs and IPT leaders will be able to identify meaningful variances and trends in their performance against their plan and take corrective actions as necessary. Management can readily identify schedule and cost trends in the higher-level aggregate data to make assessments of the overall health of the program and viability of the contract, including funding requirements.

4.6 Restored Confidence: Ultimately, all parties should have confidence in the baseline that is established for the remainder of the effort. This confidence should extend to the resulting analysis as the post-OTB indicators begin to establish new and reliable performance variance trends. Analysis of trends in the CPI and TCPI metrics will lead to dependable projections of estimated cost at program completion. The float and critical path should once again be realistic and with positive float and/or schedule margin. Program reserves, such as MR and Schedule Margin, are adequate for the remaining risks of the contract. Although the cost and schedule projections may be outside the bounds of the negotiated contract envelope, they represent a more credible basis for predicting the funds required for continuing the program and providing cash flow to the contractor.

Chapter 5. How Do I Manage After the OTB/OTS Is in Place?

5.1 Introduction: This section focuses on how the metrics are calculated and used after an OTB/OTS is implemented. After implementing the OTB/OTS, there are resultant changes to performance analysis that the PM and analyst must understand. The contractor will be executing a revised PMB that reflects the plan for the remainder of the program. This will impact the forecasting of final costs, trend analysis, MR, and potential risks associated with the new baseline. Visibility to performance against the negotiated contract value is masked. The key is not masking contract performance after the OTB and reviewing trends after the OTB date.

5.2 Reporting Schedule and Cost Variance After an OTB/OTS: The cumulative variances do not reflect the current performance to the revised OTB baseline. All schedule and cost variance information, variance and EAC analysis should be reported after the OTB implementation date for both cumulative and incremental values. Indices for the at-complete or estimate at complete should be based on data since the OTB implementation. Most tools have features to track the variances from this point forward. Figure 5.1 below graphically illustrates the concept.

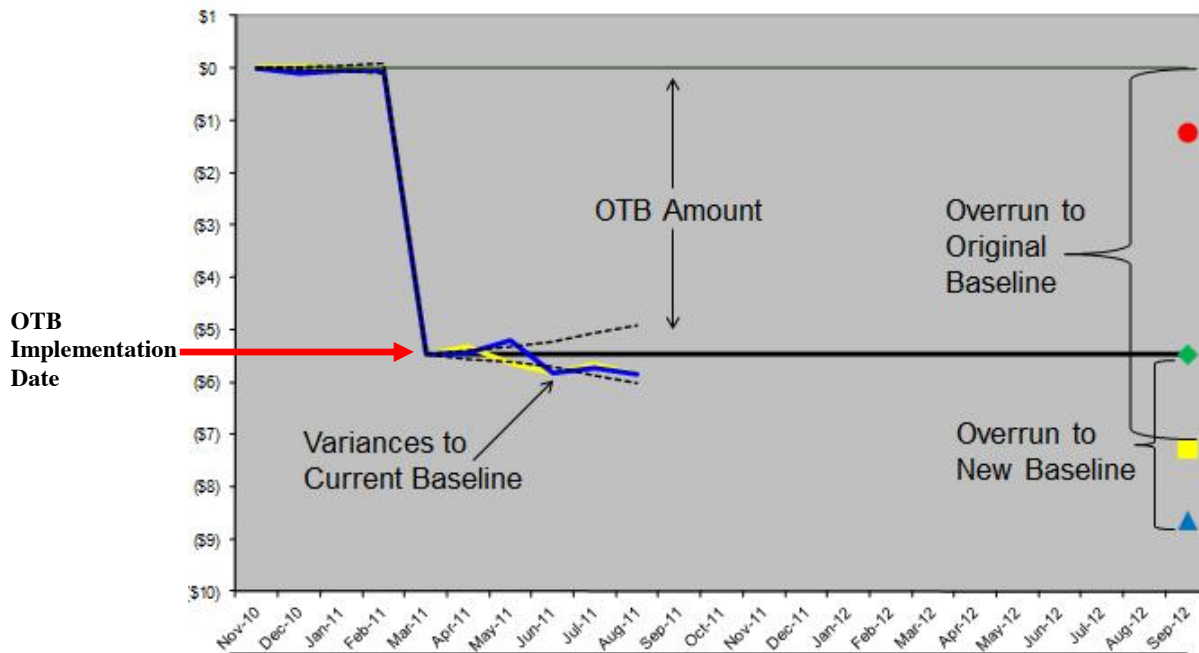


Figure 5.1

Sample of Reporting Schedule and Cost Variance from Point of OTB Implementation

After approximately six months from the OTB implementation date, the cumulative schedule and cost variances before and after the OTB may provide insight if an SPA has been implemented. Without an SPA, the cumulative trends provide value, but should be compared with the trends since the OTB implementation.

5.2.1 Calculating Variances After the OTB/OTS Implementation: If the OTB/OTS includes an SPA that eliminates the cost and/or schedule variances, then the traditional variance calculations will also provide the variance since the OTB/OTS. However, in general, the following formulas should be used:

$$CV_{OTB} = (BCWP_{CUM} - BCWP_{OTB}) - (ACWP_{CUM} - ACWP_{OTB})$$

$$SV_{OTB} = (BCWP_{CUM} - BCWP_{OTB}) - (BCWS_{CUM} - BCWS_{OTB})$$

In these formulas, the _{OTB} subscript indicates the metric value when the OTB/OTS implementation is complete.

5.2.2 Calculating CPI and SPI After the OTB Implementation: Cumulative CPI and SPI usually lose any meaning after an SPA. For instance, if an SPA is implemented two years into a contract and both cost and schedule variances are eliminated, CPI and SPI will both be 1.00. Two years of cumulative BCWS, BCWP, and ACWP set equal to each other will outweigh any performance information for years. This effect results in a CPI and SPI that are skewed toward 1.00.

To counter the effect of skewed cumulative CPI and SPI metrics, CPI and SPI should always be measured since the OTB. The following formulas are used:

$$CPI_{OTB} = (BCWP_{CUM} - BCWP_{OTB}) / (ACWP_{CUM} - ACWP_{OTB})$$

$$SPI_{OTB} = (BCWP_{CUM} - BCWP_{OTB}) / (BCWS_{CUM} - BCWS_{OTB})$$

5.2.3 OTB Impacts on Other Metrics: In general, any metrics that rely on cumulative EVM performance should be evaluated. Other metrics like TCPI only rely on remaining work and ETC. Although the TCPI value will likely change after the OTB, the formula still provides a valid metric.

However, comparisons between the TCPI and CPI may pose a problem. Since the CPI_{CUM} is skewed toward 1.00, CPI_{OTB} should be used in the comparison. Likewise, EAC forecasts that may rely on cumulative metrics like BAC/CPI_{CUM} should be adjusted to use CPI_{OTB} .

Other formulas such as Percent Complete, Percent Scheduled, or Percent Spent will still produce valid metrics; however, these values will likely decrease immediately after the OTB due to the increase in budget and EAC.

The program office and the EVM analyst need to take special care when assessing performance after an SPA because of the impact it may have on performance data and common metrics.

5.3 Forecasting Final Costs: The value of the new PMB will reflect the future ETC revised estimate (the past periods will be reflected if an SPA is implemented). The adjusted TAB should now be reconcilable with the EAC on the performance report. The CBB is not changed and TAB – CBB on Format 3 reflects the total contract overrun. On Format 1, Column 14 reflects the PMB potentially different values depending on the SPA implementation.

Case 1, SPA Implementation: If all variances are eliminated, then Format 1 Column 14 will reflect the same value as the EAC in Column 15. The total in column 16 will reflect the OTB value. (See Appendix C for an example.)

Case 2, No SPA Implementation: If variances are not eliminated, then Format 1 Column 14 will not reconcile with Column 15 EAC and a VAC will be shown in Column 16. However, Column 16 will not reconcile with the OTB value and Format 3 Section 5.g value. (See Appendix C for an example.)

Case 3, Partial SPA Implementation: If there is a partial SPA, the results will be in between Case 1 and Case 2. However, Column 16 will not reconcile with the OTB value and Format 3 Section 5.g value.

Regardless of the approach, Format 3 TAB – CBB is the official contract overrun position and should be used for incentive purposes, as applicable.

5.4 Impact of SPA on Trend Charts: When displaying graphically from the point of OTB implementation, the software should create new 10% bands as shown in Figure 5.1. These lines will begin at the prior variance value and show trends from this point forward. This enables the program to see current meaningful trends and understand that they are based on a contract overrun to date.

If a chart is used to show inception-to-date trends, a change in slope should be expected after the OTB. At this point, a new plan was introduced and the performance efficiency will likely change. The chart should indicate the time where the OTB occurred and trending analysis should focus mainly on performance since that time. See Figure 5.1.

5.5 Monitoring Management Reserve (MR): Following the process in Chapter 3, a realistic amount of budget has been added to MR. Furthermore, if realistic budgets were estimated for the remaining work, it is logical that one should not expect MR usage to a great extent in the near term. Monitoring the use of the new MR budget will quickly tell the PM if the new estimates were realistic, or if new risks have occurred since the OTB. MR usage is a valuable trend to track and analyze after the OTB.

5.6 Monitoring Potential Risks and Their Impacts: It is important that PMs recognize that a robust risk analysis for the remaining program has resulted in a realistic schedule and budget baseline. It is now more important than ever to have a risk management strategy that encompasses integrated risk analysis and risk mitigation. The entire program management team must stay focused on the new plan and be ever vigilant for developing risks. Proper risk identification and management is the main principle behind effective program management.

As the program executes the new baseline, previously unknown schedule and budget risks may affect the accuracy of the new baseline. This may create problems in forecasting an accurate estimate at completion. This puts the ability to identify future funding requirements and eventually, the program itself, at risk. Therefore, it is imperative that ongoing risk analysis and risk mitigation be conducted.

5.7 Final Considerations: The OTB is often viewed academically as a singular and unique event for rebaselining a contract that adds budgets, possibly resets variances, and replenishes an adequate amount of MR for risks remaining on the program.

While this has the appearance of erasing the program's prior performance, these variances at the total level are retained in the IPMR/CPR Format 1, in Block 9, Reconciliation to Contract Budget Base. Normally, when all variances are eliminated, this establishes a need not only for additional performance measurement budget for future work but performance measurement schedule, as well. Appendix B, Figure 1, illustrates how the data elements are adjusted.

APPENDIX A – SAMPLE PROCURING CONTRACTING OFFICER (PCO) LETTER

Office Symbol

Over Target Baseline Review; Contract number

Contractor
Address

1. In accordance with the subject contract, a joint baseline review of the implementation of your Over Target Baseline (OTB) was conducted on (date). The purpose of this review was to determine if the OTB had been implemented in accordance with your earned value system procedures and with the joint team's working agreement on ground rules and assumptions. This OTB is implemented for the purpose of improving the performance management of this contract, and does not constitute direction to change any contractual parameters.

2. Based on the findings of the review, we concur with your implementation of the OTB. The increase in value of [\$ ##M] was properly documented and explained and should be reported in the contractually-required, earned value management report, using instructions contained in the applicable data item description.

3. This letter is considered within the current contractual requirements, target cost, terms and conditions. [(For cost reimbursable contracts only) The Government recognizes the potential cost liability to the Government caused by the OTB and underlying revised estimate.] The OTB amount is considered to be outside of the negotiated contract terms and is not subject to fee provisions, including award fee. If you do not concur and consider this letter as direction likely to change these and other contract provisions, notify the Contracting Officer immediately and delay implementing this letter until the matter has been resolved.

4. Please contact [contracting officer, phone #] if you have any questions concerning the results of the OTB Review.

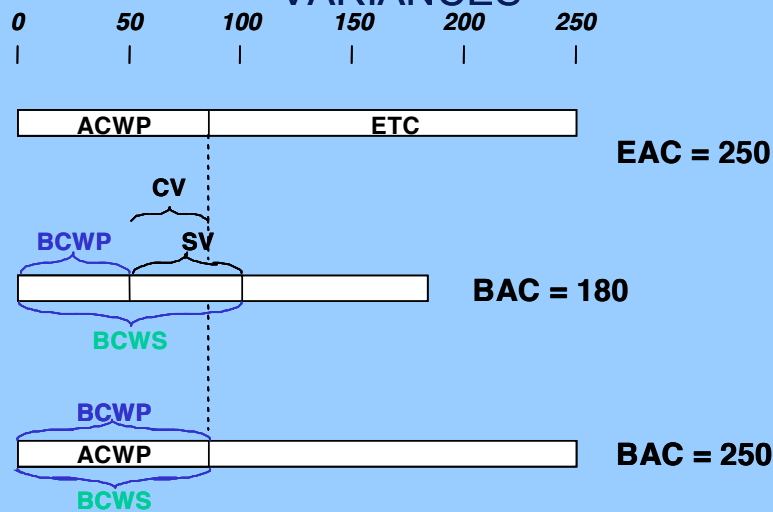
I.M. Warranted
Contracting Officer

CC:
Atch:

APPENDIX B – EXAMPLES OF SINGLE POINT ADJUSTMENTS

REPROGRAMMING DATA ELEMENT ADJUSTMENTS

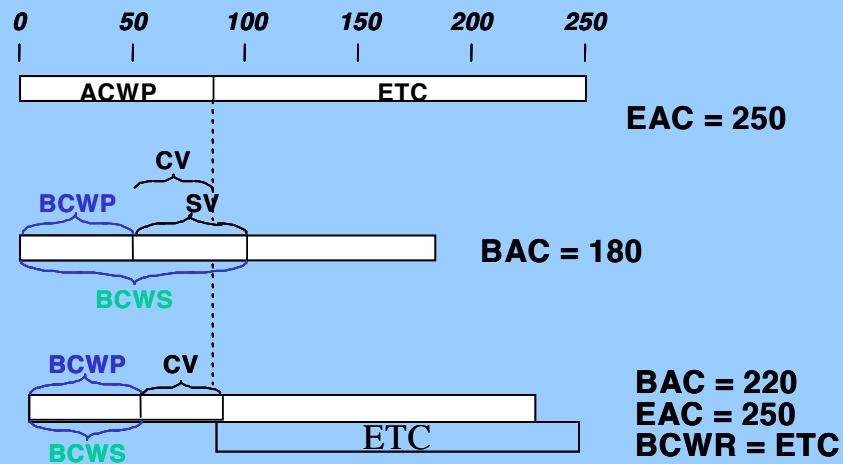
OBJECTIVE: ELIMINATE BOTH COST AND SCHEDULE VARIANCES



APPENDIX B
Figure 1

REPROGRAMMING DATA ELEMENT ADJUSTMENTS

OBJECTIVES: (1) ELIMINATE SCHEDULE VARIANCE (SV)
(2) PRESERVE EXISTING COST VARIANCE (CV)

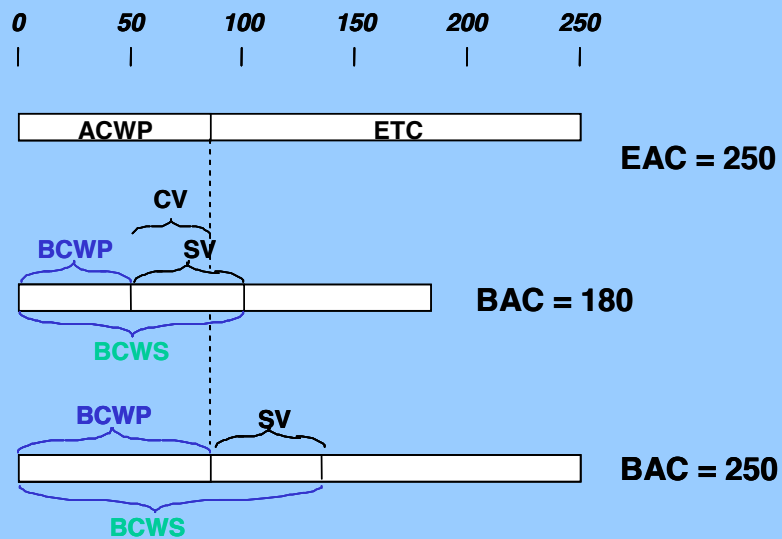


BCWR - Budgeted Cost for Work Remaining

APPENDIX B
Figure 2

REPROGRAMMING DATA ELEMENT ADJUSTMENTS

OBJECTIVES: (1) PRESERVE EXISTING SCHEDULE VARIANCE (SV)
(2) ELIMINATE COST VARIANCE (CV)



APPENDIX B
Figure 3

APPENDIX C – IPMR FORMATS 1 AND 3

CLASSIFICATION (When Filled In)																		
INTEGRATED PROGRAM MANAGEMENT REPORT FORMAT 1 - WORK BREAKDOWN STRUCTURE												DOLLARS IN		PENDING UPDATE TO OMB No. 0704-0188				
<small>The public reporting burden for this collection of information is estimated to average 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.</small>																		
1. CONTRACTOR			2. CONTRACT			3. PROGRAM			4. REPORT PERIOD									
a. NAME			a. NAME			a. NAME			a. FROM (YYYYMMDD)									
b. LOCATION (Address and ZIP Code)			b. NUMBER			b. PHASE			b. TO (YYYYMMDD)									
c. TYPE			d. SHARE RATIO			c. EVMS ACCEPTANCE NO YES (YYYYMMDD)												
5. CONTRACT DATA																		
a. QUANTITY	b. NEGOTIATED COST N/C	c. ESTIMATED COST OF AUTHORIZED UNPRICED WORK N/C	d. TARGET PROFIT/ FEE N/C	e. TARGET N/C	f. ESTIMATED PRICE CHANGE	g. CONTRACT CBLING N/C	h. ESTIMATED CONTRACT CBLING N/C	i. DATE OF OTB/OTS (YYYYMMDD) CHANGE										
6. ESTIMATED COST AT COMPLETION																		
MANAGEMENT ESTIMATE AT COMPLETION (1)			CONTRACT BUDGET BASE (2)			VARIANCE (3)			a. NAME (Last, First, Middle Initial)			b. TITLE						
a. BEST CASE									c. SIGNATURE			d. DATE SIGNED (YYYYMMDD)						
b. WORST CASE																		
c. MOST LIKELY CHANGE			N/C															
8. PERFORMANCE DATA																		
ITEM (1)	CURRENT PERIOD						CUMULATIVE TO DATE						REPROGRAMMING ADJUSTMENTS			AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERFORMED (4)	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERFORMED (8)	VARIANCE		COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)		
	WORK SCHEDULED (2)	WORK PERFORMED (3)		SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)		SCHEDULE (10)	COST (11)								
a. WORK BREAKDOWN STRUCTURE ELEMENT																		
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> CASE 1, Example With SPA Implementation: Current and CUM BCWS and/or BCWP will include adjustments </div>																		
b. COST OF MONEY																		
c. GENERAL AND ADMINISTRATIVE																		
d. UNDISTRIBUTED BUDGET																		
e. SUB TOTAL (PERFORMANCE MEASUREMENT BASELINE)																		
f. MANAGEMENT RESERVE																		
g. TOTAL																		
9. RECONCILIATION TO CONTRACT BUDGET BASE																		
a. VARIANCE ADJUSTMENT																		
b. TOTAL CONTRACT VARIANCE																		
UPDATE FROM DD FORM 2734/1, MAR 05, PENDING APPROVAL															LOCAL REPRODUCTION AUTHORIZED.			

Format 1 – Example of Case 1 from Paragraph 5.3

CLASSIFICATION (When Filled In)																		
INTEGRATED PROGRAM MANAGEMENT REPORT FORMAT 1 - WORK BREAKDOWN STRUCTURE														DOLLARS IN		PENDING UPDATE TO OMB No. 0704-0188		
<small>The public reporting burden for this collection of information is estimated to average 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.</small>																		
1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD												
a. NAME		a. NAME		a. NAME		a. FROM (YYYYMMDD)												
b. LOCATION (Address and ZIP Code)		b. NUMBER		b. PHASE		b. TO (YYYYMMDD)												
c. TYPE		d. SHARE RATIO		c. EVMS ACCEPTANCE NO YES (YYYYMMDD)														
5. CONTRACT DATA																		
a. QUANTITY	b. NEGOTIATED COST N/C	c. ESTIMATED COST OF AUTHORIZED UNPRICED WORK N/C	d. TARGET PRIORIT/ FEE N/C	e. TARGET PRICE N/C	f. ESTIMATED PRICE CHANGE	g. CONTRACT CEILING N/C	h. ESTIMATED CONTRACT CEILING N/C	i. DATE OF OT/OTS (YYYYMMDD) CHANGE										
6. ESTIMATED COST AT COMPLETION									7. AUTHORIZED CONTRACTOR REPRESENTATIVE									
MANAGEMENT ESTIMATE AT COMPLETION (1)			CONTRACT BUDGET BASE (2)			VARIANCE (3)			a. NAME (Last, First, Middle Initial)						b. TITLE			
a. BEST CASE									c. SIGNATURE						d. DATE SIGNED (YYYYMMDD)			
b. WORST CASE																		
c. MOST LIKELY CHANGE			N/C															
8. PERFORMANCE DATA																		
ITEM (1)	CURRENT PERIOD						CUMULATIVE TO DATE						REPROGRAMMING ADJUSTMENTS			AT COMPLETION		
	BUDGETED COST		ACTUAL COST		VARIANCE		BUDGETED COST		ACTUAL COST		VARIANCE							
	WORK SCHEDULED (2)	WORK PERFORMED (3)	WORK PERFORMED (4)	SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)	WORK PERFORMED (9)	SCHEDULE (10)	COST (11)	COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)		
a. WORK BREAKDOWN STRUCTURE ELEMENT																		
											NO CHANGE	NO CHANGE	SUM OF ETC REMAINING MINUS THE SUM OF PRIOR BUDGET REMAINING	WILL INCREASE BY EAC MINUS ACTUALS	NEW EAC	WILL CHANGE		
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> CASE 2, Example Without SPA Implementation: Current and Cum BCWS and/or BCWP will <u>not</u> include adjustments </div>																		
b. COST OF MONEY																		
c. GENERAL AND ADMINISTRATIVE																		
d. UNDISTRIBUTED BUDGET																		
e. SUB TOTAL (PERFORMANCE MEASUREMENT BASELINE)																		
f. MANAGEMENT RESERVE																		
g. TOTAL																		
h. RECONCILIATION TO CONTRACT BUDGET BASE																		
a. VARIANCE ADJUSTMENT																		
b. TOTAL CONTRACT VARIANCE																		
TOTAL OF 8.g + 9.a																		
TOTAL																		
UPDATE FROM DD FORM 2734/1, MAR 05, PENDING APPROVAL																		
LOCAL REPRODUCTION AUTHORIZED.																		

Format 1 – Example of Case 2 from Paragraph 5.3

CLASSIFICATION (When Filled In)															
INTEGRATED PROGRAM MANAGEMENT REPORT FORMAT 3 - BASELINE															
DOLLARS IN												SAMPLE FROM OMB No. 0704-0188			
<small>The public reporting burden for this collection of information is estimated to average 6.3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.</small>															
1. CONTRACTOR		2. CONTRACT		3. PROGRAM				4. REPORT PERIOD							
a. NAME		a. NAME		a. NAME				a. FROM (YYYYMMDD)							
b. LOCATION (Address and ZIP Code)		b. NUMBER		b. PHASE				b. TO (YYYYMMDD)							
		c. TYPE		d. SHARE RATIO		c. EVMS ACCEPTANCE NO YES (YYYYMMDD)									
5. CONTRACT DATA															
a. ORIGINAL NEGOTIATED COST N/C		b. NEGOTIATED CONTRACT CHANGES N/C		c. CURRENT NEGOTIATED COST (a. + b.) N/C		d. ESTIMATED COST OF AUTHORIZED UNPRICED WORK N/C		e. CONTRACT BUDGET BASE (c. + d.) N/C		f. TOTAL ALLOCATED BUDGET CHANGE		g. DIFFERENCE (e. - f.) DELTA			
h. CONTRACT START DATE (YYYYMMDD)		i. CONTRACT DERIVATIZATION DATE (YYYYMMDD)		j. PLANNED COMPLETION DATE (YYYYMMDD)		k. CONTRACT COMPLETION DATE (YYYYMMDD)		l. ESTIMATED COMPLETION DATE (YYYYMMDD)							
6. PERFORMANCE DATA															
ITEM (1)	BCWS CUMULATIVE TO DATE (2)	BCWS FOR REPORT PERIOD (3)	BUDGETED COST FOR WORK SCHEDULED (BCWS) (Non-Cumulative)						PROGS		UNDIS-TRIBUTED BUDGET (15)	TOTAL BUDGET (16)			
			+1 (4)	+2 (5)	+3 (6)	+4 (7)	+5 (8)	+6 (9)	(10)	(11)					
a. PERFORMANCE MEASUREMENT BASELINE (Beginning of Period)															
b. BASELINE CHANGES AUTHORIZED DURING REPORT PERIOD															
c. PERFORMANCE MEASUREMENT BASELINE (End of Period)															
7. MANAGEMENT RESERVE															
8. TOTAL															

UPDATE FROM DD FORM 2734/3, MAR 05, PENDING APPROVAL

LOCAL REPRODUCTION AUTHORIZED.

CLASSIFICATION (When Filled In)

Format 3 Example

APPENDIX D GLOSSARY OF TERMS

This Glossary provides definitions for terms and acronyms used in this guide.

TERM	DEFINITION
Actual Cost of Work Performed (ACWP)	The costs actually incurred and recorded in accomplishing work performed.
Authorized Unpriced Work (AUW)	Authorized work for which a firm contract value has not been negotiated or otherwise determined.
Authorized Work	Effort (work scope) on contract or assigned by management.
Budget At Completion (BAC)	A title of Column 14 of the IPMR Format 1 is a term used for the “at complete budget” at various cost levels. When tied with a level, it becomes Control Account BAC, Performance Measurement Baseline (PMB) BAC, etc.
Budgeted Cost For Work Performed (BCWP)	The value of completed work expressed in terms of the budget assigned to that work, also referred to as Budgeted Cost for Work Performed (BCWP). This is also referred to as Earned Value (EV).
Budgeted Cost For Work Remaining (BCWR)	The budgeted value of the work that has not yet been performed. It the difference between the BAC and the $BCWP_{CUM}$ to date.
Budgeted Cost For Work Scheduled (BCWS)	The time-phased budget plan for work currently scheduled. The sum of all the time-phased BCWS on the contract is the PMB.
Contract Budget Base (CBB)	The negotiated contract cost (NCC) plus the estimated cost of authorized unpriced work. Negotiated Contract Cost (NCC): The estimated cost negotiated in a cost-plus-fixed-fee contract or the negotiated contract target cost in either a fixed-price-incentive contract or a cost-plus-incentive-fee contract.
Contract Performance Report (CPR)	A contractually required report, prepared by the contractor (pre-IPMR), containing data for measuring cost performance on DoD acquisition contracts. Provides status of progress on the contract.
Control Account (CA)	A management control point at which budgets (resource plans) and actual costs are accumulated and compared to earned value for management control purposes. A control account is a natural management point for planning and control since it represents the work assigned to one responsible organizational element on one program work breakdown structure element.
Cost Variance (CV)	A metric for the cost performance on a program. It is the difference between earned value and actual cost ($CV = BCWP - ACWP$). A positive value indicates a favorable position and a negative value indicates an unfavorable condition.
Earned Value Management System (EVMS)	An integrated management system which uses earned value to measure progress objectively.
Estimate At Completion (EAC)	The current estimated total cost for program authorized work. It equals actual cost to a point in time plus the estimated costs to completion (Estimate To Complete). Also referred to as the LATEST REVISED ESTIMATE (LRE).
Estimate To Complete (ETC)	Estimate of costs to complete all work from a point in time to the end of the program.
Estimated Cost	An anticipated cost for specified work scope.

TERM	DEFINITION
Expected Completion Date	The date on which a scheduled milestone or task is currently expected to be completed.
Formal Reprogramming	The establishment of a PMB with budgets that exceed the CBB.
Integrated Master Schedule (IMS)	A plan that defines when specified work must be done to accomplish program objectives on time. Also known as IPMR Format 6.
Integrated Program Management Report (IPMR)	A contractually required report, prepared by the contractor (superseded both the CPR and IMS as of Jul 1, 2012), containing data for measuring cost and schedule performance on DoD acquisition contracts. Provides status of progress on the contract.
Management Reserve (MR)	An amount of the total budget withheld for management control purposes rather than being designated for the accomplishment of a specific task or set of tasks.
OTB Amount (Cumulative)	Total Allocated Budget less Contract Budget Baseline. The amount of budget that is used for performance measurement that is in excess of the contractual budget.
Performance Measurement Baseline (PMB)	The total time-phased budget plan against which program performance is measured. It is the schedule for expenditure of the resources allocated to accomplish program scope and schedule objectives, and is formed by the budgets assigned to control accounts and applicable indirect budgets. The PMB also includes budget for future effort assigned to higher level accounts, also referred to as summary level planning packages, plus any undistributed budget. Management Reserve is not included in the baseline, as it is not yet designated for specific work scope.
Planning Package	A logical aggregation of work within a control account, usually future efforts that can be identified and budgeted, but which is not yet planned in detail at the work package or task level.
Schedule Variance (SV)	A metric for the schedule performance on a program. It is the difference between earned value and the budget ($SV = BCWP - BCWS$). A positive value is a favorable condition while a negative value is unfavorable.
Total Allocated Budget (TAB)	The sum of all budgets allocated to the contract for the performance of the contractual effort; TAB is defined as CBB + OTB value (if any).
Undistributed Budget (UB)	Budget associated with specific work scope or contract changes that have not been assigned to a control account or summary level planning package.
Work Breakdown Structure (WBS)	A product oriented division of program tasks depicting the breakdown of work scope for work authorization, tracking, and reporting purposes.
Work Package	A task or set of tasks performed within a control account.