



Baseline Maintenance



Maintaining the baseline throughout the program is probably the most difficult task of the Earned Value Management process. Changes to program scope must be accommodated so that the baseline accurately represents the current program. Timely incorporation of changes is necessary so that managers are not tracking to obsolete plans and generating "false" variances. A systematic process should be established for updating the baseline with a minimum amount of disruption to work in process.

PMB changes fall into three major categories: formal contract changes, internal replanning and formal reprogramming, also called **Over Target Baseline (OTB)**. A major misconception about EVMS Guidelines is that the baseline is rigid and not easy to change. The intent of the EVMS Guidelines in the area of baseline maintenance is to avoid uncontrolled changes that can result in distorted performance measurement data. The EVMS Guidelines actually encourage replanning to better reflect future work that must be accomplished.

Formal contract changes can modify the work to be done or change the contract amount. The contractor should reflect these changes in the PMB almost immediately. Otherwise, the baseline quickly loses validity because it doesn't reflect the work required to complete the project.

At the conclusion of this lesson, you will be able to recognize the issues involved in maintaining a valid performance measurement baseline in the face of programmatic changes and performance variances.



Over Target Baseline (OTB) and Budget at Complete (BAC)

Internal replanning refers to PMB adjustments made to better reflect future work. In contrast to the OTB, internal replanning does not result in a Budget at Complete (BAC) that exceeds the contract amount.

Formal reprogrammings, or OTBs, are used when there is no hope of meeting the cost or schedule requirements of the contract. With an OTB, the BAC generally exceeds the contract amount (thus, the term "Over Target").

Accommodating internal re-planning actions can present problems, particularly if management reserve budget is in short supply. The Earned Value Management system must have sufficient flexibility to permit managers to deal with problems, but not be so loose that problems are not surfaced in a timely manner. For example, if a manager is able to continually add budget to tasks that are in trouble, cost variances will not occur until all budgets have been exhausted with work remaining to be done. This has the effect of "bow-waving" problems downstream and reducing or eliminating options for cost recovery. Thus, a certain amount of baseline discipline is required to make the system function effectively.

Baseline discipline falls somewhere between two extremes: maintaining a "rigid" baseline that cannot be changed except for external changes, and allowing the baseline to change whenever variances are imminent. The program manager must establish appropriate ground rules for internal re-planning.



Cost Variance or Utilization of Management Reserve

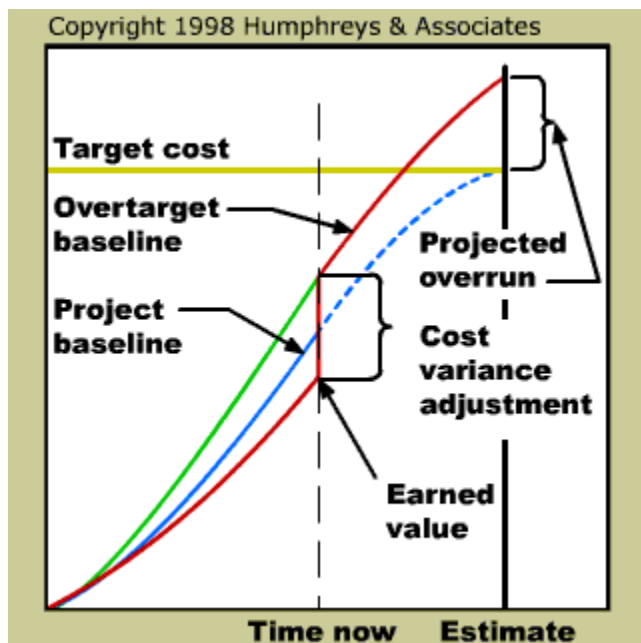
Each control account eventually receives a budget and schedule within which the work is planned to be accomplished, and the control account manager should have the flexibility to re-plan future work within those constraints. In very long control accounts, planning packages can be used to ensure that sufficient budget is reserved for downstream work.

If work proceeds according to plan, the Earned Value Management process is very straightforward and variances from the plan reflect minor perturbations associated with work performance. However, if problems develop, additional resources may be needed to accommodate rework or new tasks. If the control account manager cannot work the problem within the overall control account budget, only two options are available: do the work and (1) show the resulting cost variance, or (2) request additional budget from the management reserve. The program manager must decide whether or not to use management reserve for this particular problem. Consequently, the cost problem will be reflected as either an unfavorable cost variance or as utilization of management reserve, or both.

If no management reserve is available, the problem for the control account manager becomes more difficult. Since work package budgets are being used for measuring performance, the concept of "zero-budget work packages" is not consistent with EVMS Industry Standards (EAI-748).



Figure 13-1: The Overtarget Baseline (Variances Eliminated)



If the program is in such severe difficulty that virtually everybody needs budgetary relief, a revision to the program target cost is probably in order. For internal company programs, this is a senior-level management decision to revise the program goals. In a contractual situation, the problem is more difficult. Contract targets cannot be changed unilaterally, and the customer may not be inclined or able to change the target cost for a variety of reasons. It may, however, be possible to reach agreement with the customer to measure performance to a goal other than the contract target. The new goal, called an [over-target baseline](#), would be established for management purposes and would not affect the contractual arrangements. **Figure 13-1** illustrates one version of the over-target baseline.

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Long Description

Figure 13-1: The Over-target Baseline (Variances Eliminated) graphs an example of the over-target baseline, with the variances eliminated, and showing the cost variance adjustment and the projected overrun.

Over-Target Baseline

Over-target baseline: An over-target baseline is a form of formal rebaselining when it is recognized that the current plan to accomplish the remaining work is no longer executable and must be revised. When the work remaining is replanned a new baseline is established which may or may not require contractual modification. Customer concurrence of an OTB is required.



Over-target Baseline Considerations

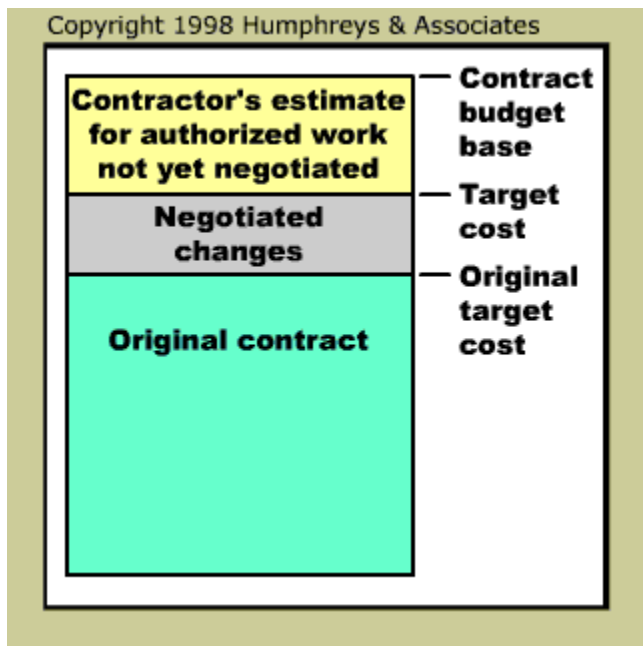
Adopting an Over-target baseline should not be taken lightly since it essentially represents a formal declaration of an overrun. The OTB builds the overrun into the baseline plan, distorts Earned Value Management on the program to some degree, and complicates reporting.

However, it is a legitimate application of Earned Value Management on programs that are experiencing major cost problems. Without such an alternative, Earned Value Management system disciplines tend to break down because the baseline may no longer be representative of the work that is being done.

Until this point, the baseline discussion has been oriented to program target costs or contract target costs. On some contracts, the negotiated target cost (or estimated cost in the case of cost plus contracts) may not represent the total contract value.



Figure 13-2: Contract Budget Base



Occasionally, contractors are authorized to perform work before costs are negotiated. In such cases, the contract baseline consists of the sum of the negotiated costs plus the contractor's estimate for authorized work that has not yet been negotiated. This amount is referred to as the contract budget base. The sum of the distributed budgets, undistributed budgets and management reserve should always equal the contract budget base unless an over-target baseline has been authorized.

Figure 13-2 illustrates the elements of the contract budget base.



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Baseline Maintenance Knowledge Review

Controlling changes are critical to an effective management system, yet the two undesirable extremes of PMB change controls are:

- Maintaining a constant and detailed scrutiny of contractors' day-to-day actions, and requesting the contractor to periodically self-certify that they are maintaining baseline discipline.
- Rewarding the contractor for maintaining a rigid baseline, and punishing the contractor when they make internal management decisions based on EVM data
- Maintaining a rigid baseline that cannot be changed, and allowing the baseline to change whenever variances are imminent
- Conducting periodic unscheduled surveillance of the management procedures, and allowing the contractor to conduct internal surveillance and notify the government when problems surface

Correct. The two undesirable extremes of PMB change controls are maintaining a rigid baseline that cannot be changed, and allowing the baseline to change whenever variances are imminent.



End of Lesson

You must click the **Next** button in order to receive credit for this lesson.