

The Effective Use of Management Reserve

Since 1966, the concepts of EVMS, now captured in the EIA-748 Standard for Earned Value Management Systems 32 guidelines, and the function of management reserve (MR) have become universally understood processes. Management reserve, unfortunately, is frequently subject to non-standard practices, misconceptions, and misapplication.

The standard definition of management reserve is an amount of contract budget set aside for management control purposes (known unknowns) rather than designated for the accomplishment of one or more tasks. It is not part of the performance measurement baseline (PMB), but is included in the total contract budget. Stated another way, the contract budget base (CBB) is equal to the PMB plus MR.

It is useful to review a couple of fundamental principles about management reserve and earned value management for the following discussion.

1. MR is necessary to successfully manage a project. It is budget set aside for known unknowns and used when risks are realized for identified work within the contract scope of work.
2. MR is budget (a metric) and not funds. It is not a financial reserve.
3. Management reserve debits and credits should always be captured in a log for full traceability.
4. There is no such thing as negative management reserve.
5. Work and budget must always go together.

What are Acceptable Uses of MR?

Management reserve budget may decrease or increase to reflect realized risks and opportunities for work effort within the contract scope of work. Here are a few examples of when management reserve budget may be used.

- Newly identified work is authorized and assigned to a performing manager. It may be that once the work begins, one or more tasks that were missed in the original planning process now need to be scheduled and resource loaded. Or, this newly identified work could be the result of internal replanning.
- It is necessary to redo a task. This may include unanticipated redesign, remake, or retest. Hopefully, the project's risk register identified the potential risks associated with the original tasks and management was prepared for the realized risk.
- Make/buy adjustments. This could result in an MR debit or credit.
- Statement of work transfers from one organization to another. This could result in an MR debit or credit.

- Significant adjustments in labor or overhead rates for work not completed. Again, this could result in an MR debit or credit.

What are Unacceptable Uses of MR?

Here are few examples of the misapplication of management reserve. MR should never be:

- Used to cover an overrun. MR is budget, not funds.
- Used to increase or decrease the budget for tasks already authorized to “wash out” a cost variance.
- Issued or authorized to a performing manager without a related scope of work.
- Used to provide budget for unauthorized tasks.
- Used to harvest budget from completed tasks that have underrun. To elaborate: when a task is complete and the total actual cost of work performed (ACWP) is less than the total budgeted cost for the task (budget at complete or BAC), the underrun value should never be taken back, as all the work has been performed. There is no work to remove, and thus no budget to remove. The budgeted cost for work scheduled (BCWS) has been performed. Thus, the budgeted cost for work performed (BCWP) now equals the BAC.

Why Honor the Fundamental Principles of MR and EVM?

Adding or subtracting budget for any task without the associated statement of work leads to the following unwise practices:

1. Managers become indifferent to the fundamental EVM principle that work and budget must always go together.
2. Historical cost performance data are lost for future estimates. When work is completed, the BAC divided by the estimate at completion (EAC) provides a final cost performance index (CPI) useful for future estimates. Adding or subtracting budget after all work has been performed negates the benefit of using EVM data for future estimating purposes.
3. It aids and abets a continuing misunderstanding of the difference between budget (a metric) and funds.

These unwise practices have the potential to offset the effectiveness of an EVMS because they defeat the early warning mechanisms that an EVMS provides – timely, relevant, and actionable information to make sound decisions. The end result: Risky tasks are viewed as being poorly managed, cost variances are hidden or disguised until they become ugly surprises, and the stakeholders have been misinformed on the state of the project.

Frequently, misinformed practitioners state their practice is to: “Take MR from the underrunning managers so it can be given to those managers that are overrunning.” Reasons why this practice is not sensible include:

1. Performing manager budgets are a *target* to provide early visibility to schedule variance (SV) and cost variance (CV), as well as the development of early estimates at completion (EAC) and estimated completion dates (ECDs). The PMB, or time phased budget, is a *metric* mapped to the work to be performed (the schedule). The estimate to

complete (ETC) is a projection of the anticipated expenditure of *funds* required to complete the work (which when added to the cumulative ACWP equals the EAC).

2. A CPI of 1.0 at the completion of any task provides no meaningful historical data for future estimates as it implies the cost outcome was exactly equal to the task's budget.
3. It reflects a spending variance thought process that is counter to EVM standard practices.

Over the decades of EVM use, a number of ill-conceived practices, data manipulation, and a potpourri of creative interpretations have been implemented. These unsound approaches also frequently resurface, recycled in a slightly different manner. The misunderstanding or the improper use of management reserve is frequently one of the top offenders that can negate the value of an EVM System. Providing projects with specific direction and training on how and when to properly use management reserve is well worth the investment to maintain an effective earned value management system.