

A Discussion on the Level of Effort (LOE) Earned Value Method

Since the inception of the earned value management concepts back in the 1960's (USAF/AFSC), the level of effort (LOE) earned value method has been a bone of contention for procuring authorities as well as for reporting contractors.

The universally accepted standard definition and practice for calculating LOE earned value is to set the budgeted cost for work performed (BCWP) equal to the budgeted cost for work scheduled (BCWS) each performance reporting period. The LOE method does not measure task schedule performance as it simply acknowledges the passage of time. Thus, for LOE tasks, the schedule variance (SV) is always zero. It does, however, provide early cost variance (CV) visibility to a potential overrun on the LOE tasks.

On occasion, an alternate, non-standard practice for calculating LOE earned value will surface in a contractor's EVM System Description. The two choices for calculating earned value for LOE tasks are compared here.

Choice Number One

BCWP equals BCWS every performance reporting period.

This is the universal standard accepted for over four decades. It does provide a cost variance and resultant early updates to the estimate at completion (EAC). This is important because the EAC represents an estimate of the total funds required for the contract. As the LOE technique is only applicable for management and administrative tasks, early schedule variance visibility for these types of tasks is basically irrelevant, hence the use of the LOE method. Cost variance, however, is relevant and of value for early visibility even for management and administrative tasks.

Choice Number Two

BCWP equals the actual cost of work performed (ACWP) every performance reporting period.

There are a number of reasons why using this non-standard LOE earned value calculation method does not make sense.

1. There will never be a cost variance or any early visibility to a potential overrun.
2. BCWP will most likely equal the budget at complete (BAC) well before the LOE task is completed, particularly when the LOE task is staffed and charging more than budgeted. Any early visibility to a potential overrun is thus hidden. And, yes, even management and administrative tasks can and do overrun on all types of projects.

In normal EVM circumstances, when the BCWP equals BAC, this indicates the task is complete and no further expenditures are expected. This is lost with the non-standard LOE calculation method (BCWP equals ACWP) because actual costs can be incurred that exceed the BAC (in normal EVM circumstances, the BCWP can never be greater

than the BAC, thus the BAC must be increased for this non-standard LOE calculation). Latent overruns thus become apparent after the fact, incremental funding controls are extremely limited at best, and the customer realizes it has been blindsided. There is no early visibility to a funding obligation problem until it occurs. As a result, the procuring authority must make an immediate funding decision: Either authorize an increase in incremental funding or issue a stop work order (SWO) until additional funding is available/obligated.

3. Procuring authorities that permit this non-standard LOE calculation method have no decision making lead time. The non-standard calculation method refutes EVM concepts and shifts the burden of cost control to the customer. At best, this leads to interesting program level briefings to higher level program stakeholders. Why contract an EVMS requirement with EVM reporting (typically a Contract Performance Report) when this non-standard LOE calculation is an acceptable practice? While in most instances, LOE should be a small percentage of the work effort, the non-standard LOE calculation provides misleading information and provides no early cost visibility for these tasks. A procuring authority that authorizes additional budget for LOE tasks when the BCWP reaches the BAC only reinforces the contractor's non-standard practice. This practice could also result in the contractor inappropriately receiving award fees on cost plus incentive fee (CPIF) type contracts when the CPI is used as an incentive.
4. There is no final cost performance index (CPI) for future estimating purposes. Increases to the BAC that result in a 1.0 final CPI negates the value of the EVM data to provide cost performance factors – the task history file indicates a perfect estimate (the work was completed exactly as planned). As a result, the contractor can inaccurately quote cost performance indices in future proposals.
5. Contractors that are the recipients of additional budget without additional statement of work (SOW) only perpetuate the confusion on the difference between budget (a metric) and funds.

In summary, the universal standard for calculating LOE earned value should always be used (BCWP equals BCWS). The cost variances are visible to all stakeholders and the EAC provides a more accurate estimate of the funds required for the remaining work effort.