

Earned Value Assessment and the Percent Complete Technique

The assessment of the value of Budgeted Cost for Work Performed (BCWP) for measurable effort must always be accomplished in accordance with the earned value method assigned to a work package when the effort was planned. This assessment is made at least monthly for each open work package within a control account. The control account manager (CAM) must be able to support the assessment of work package accomplishment. This is typically more difficult for work packages using the Percent Complete technique as defined in the company's Earned Value Management System Description.

Estimating the BCWP when using the percent complete earned value technique was often based on the CAM's best estimate of the total work performed against what was budgeted. This was often for work packages that were long in duration and the measurement was subjective. Problems ensued when a work package was nearing completion and it became obvious that the earned value had been overestimated. This, in turn, revealed negative cost and schedule variances that may no longer be correctable and increased estimates at completion. In order to preclude some of this problem, most projects instituted the "90% rule" (or 75% or 80%, etc.), which prohibited claiming more than 90% of the earned value until the work package was 100% complete. However, this did little to mitigate the problem.

While the EIA-748-D cautions against the use of "artificial constraints" when using a Management Assessment EV Technique, H&A's experience noted that projects not setting Percent Complete limits had undesirable, unforeseen cost and schedule impacts.

Another approach employed to reduce the risk of unwanted surprises is to limit the duration of the percent complete work packages. One large contractor uses 75% as its limit, and the labor work packages cannot exceed 3 months in duration or 1,000 hours. There is nothing magical about these limits; it is merely one approach to include the quality of the BCWP reported.

To make the percent complete earned value technique more reliable, the concept of Quantifiable Backup Data (QBD), or metrics, was instituted. The QBD requires that the CAM define detailed objective completion criteria and the budget associated with each detail before work commences. The monthly earned value is then based on the

completion of each detail rather than based against the total work package budget. The QBD are maintained by the CAM but are still under change control after the baseline has been established. There still may be some subjectivity with this technique; thus, many projects still practice the “90% rule” (or 75% or 80%, etc.) for work packages using this technique.

Project managers and control account managers may be given certain latitude with the percent complete technique; however, under no circumstances is “management assessment” or “professional judgment” acceptable for this assessment. The 90% rule encourages completion of these work packages rather than having them nearly complete with virtually no budget remaining for final completion.