

Level of Effort (LOE) Replanning

This article discusses how to avoid Level 3 Corrective Action Requests (CARs) that can result because of a lack of attention to level of effort (LOE) planned in support of discretely measured tasks. The symptom: repeat Level 2 CARs for having “BCWP with no ACWP” or “ACWP with no BCWP”. Are there legitimate reasons for this to occur?

EVM System or Interpretation Issue?

With the closer scrutiny both DCMA and DCAA are applying in the EVMS arena, industry needs to tighten up their internal Earned Value Management System and project EVMS implementation assessments. Many systems have fallen into varying degrees of neglect, and even though the systems are “validated”, companies are getting more and more repeat Level 2 CARs that DCMA is forced to turn into the dreaded Level 3 CARs that start to have financial implications. As implied above, some of these CARs are deserved, and companies need to fix their systems or at least the project implementations of the system.

Unfortunately, in other instances, the government review team interpretations of the guidelines are either inconsistent or the teams are not considering the circumstances that may have driven what appear to be system weaknesses.

Does this sound familiar? You have a Level 3 CAR because you have had repeat Level 2 CARs for having “BCWP with no ACWP”, or “ACWP with no BCWP” that have gone uncorrected. On the surface, according to all the EVMS rules, this appears to be a legitimate finding that, if continually uncorrected, should result in a Level 3 CAR on system discipline. Often the finding does not provide the entire story.

For discretely measured tasks, this would certainly be a valid finding. When work is performed, ACWP should be recorded at the same time. If discrete work slips, BCWP does not occur until the work is actually done, and then ACWP tags along for the ride.

For LOE work, the story can be different, because LOE earns value with the passage of time, not necessarily with the actual accomplishment of the work planned in that LOE task. For general support type tasks, such as program management (PM), there is typically no issue. The LOE support stretches out over the entire period of performance, and there is generally some amount of support provided (ACWP) in each month to go along with the accomplishment (BCWP) reflected along that LOE plan for support. Even in this instance, however, this issue can arise. When PM support must go on for a longer period of time because the project completion has slipped out, a project can find itself with work being performed (ACWP) with no earned value (BCWP) being claimed because the LOE spread stopped at the planned end of the project.

The problem more often presents itself with LOE tasks that are planned to support specific discretely measured tasks – these are shorter term tasks than those PM type of LOE tasks. The LOE support is naturally planned in the same time frame as the discrete task. All is good when the discrete work takes place as planned – the work is performed and the support is provided, value is earned, and ACWP is incurred along with it. But, what happens to the LOE support tasks when the discrete work does not take place as planned?

Impact of LOE Planning in Support of Short Discrete Tasks

Many control account managers (CAMs) love LOE because it is so easy: just plan your support, and when you enter LOE as the earned value technique, the system will then do it for you. If CAMs are not careful, and do not pay appropriate attention to their LOE tasks, the system will both do it for them and do it to them. Should the discrete task start early or slip out to a later date (whether baseline planned or just a forecast slip), things can start to happen with the LOE support task, and the CAMs who are not paying attention will not even know what hit them.

For example:

1. The discretely measured work starts early:
 - a. The discrete task earns value early (ahead of schedule) and ACWP occurs for them as normal within the system – when the work is completed.
 - b. The LOE support is provided early in the form of ACWP, also as normal within the system, but unlike the discretely measured work being supported, providing the support early does not result in earned value (BCWP).

Results:

- CAR for ACWP (in the earlier period) without BCWP.
- CAR for BCWS and BCWP (in the originally planned period) with no ACWP.
- Distortion: Support work is really ahead of schedule, but system does not show that fact.

2. The discretely measured work starts later than originally planned:
 - a. The discrete task earns value late (behind schedule) and ACWP occurs for them as normal within the system – when the work is completed. Note: if the discretely measured task was actually replanned to the new date, they would not be behind schedule.
 - b. The LOE support is provided later in time (again in the form of ACWP) when the discretely measured task actually happens, also as normal within the system, but unlike the discretely measured work being supported, actually doing the support work later does not show up there. By definition of LOE, BCWP will be earned where the work was originally planned.

Results:

- CAR for BCWS and BCWP (in the originally planned period) with no ACWP.
- CAR for ACWP (in the later period) without BCWP.
- Distortion: Support work is really behind schedule, but system shows no schedule variance (by definition).

Seems like quite a Catch 22 situation, doesn't it? It does not have to be. Contractors and customers need to be aware of, use, and allow a seldom used replanning feature of LOE work to help overcome this situation. This feature has been allowed since the 1987 Cost/Schedule Control Systems Criteria (C/SCSC) Joint Implementation Guide (JIG) days, including the Supplemental Guidance clarifications on the subject. Unfortunately, those documents were promulgated, and even superseded, before some of the current customer reviewers were out of grade school.

Historical Look at LOE Replanning

The C/SCSC Joint Implementation Guide Supplemental Guidance documents provided clarification for issues that came up during reviews of company systems or that industry encountered as they implemented their systems. There were 12 supplemental guidance areas,

and Supplemental Guidance 5 dealt with Internal Replanning. Supplemental Guidance 5 (formally incorporated into the JIG in 1991) is excerpted below.

Section 3-6. Revisions, b. Internal Replanning.

(3) Replanning of work in process. It is recognized that internal replanning (or implementation of contractual changes) may involve changes to work in process prior to its completion. If replanning of open work packages or LOE is necessary, the following methods are acceptable:

(a) Close incomplete work package by setting BCWS equal to the BCWP earned to date; and subtract BCWP from the work package Budget At Completion (BAC) to determine the remaining budget which is then handled in accordance with normal replanning guidance (paragraph 3-3 (i)(3)).

(b) Replan incomplete future work and adjust the work package budget at completion (BAC) to reflect the change in accordance with normal replanning guidance (paragraph 3-3 (i)(3)). The contractor will replan the remaining work of the in-process work package from no earlier than the next accounting period forward. The contractor must have controls to ensure that replanning is restricted to the future portion of open work packages (except as authorized under paragraph 3-6b(4)(a) below), and to ensure that changes are minimized, are consistent with the contractually required schedule milestones (except as authorized under paragraph 3-6b(4)(c) below), and are authorized and documented in accordance with the contractor's control procedures.

(c) Replan future LOE to correlate to the changes in work. LOE, whether planned in separate cost accounts or as part of predominantly discrete cost accounts, has additional flexibility and may be adjusted within the current accounting period, without government approval, provided no actual costs (ACWP) have been charged to the LOE.

(4) Approval. For most internal replanning, no prior notification or government approval is required to replan discrete or LOE work if the replanning is applicable to the next accounting period onward, does not cause the TAB to exceed the CBB, and does not cause or constitute a slippage of a contractually required milestone; or if the replanning is below the work package level. Some internal replanning does require procuring activity approval prior to implementation. Prior to authorizing such changes to a performance measurement baseline, the procuring activity, with support from the contract administration office (CAO), must promptly and thoroughly evaluate the impact of the change. Approval must specify the changes authorized and the timing for implementation. Prior government approval is required for the following conditions:

(a) Changes to open work packages that affect or change performance measurement data (BCWS, BCWP) in the current or prior accounting periods.

(b) Changes to LOE data in prior accounting periods or changes to current period LOE when the accounts have incurred charges (ACWP).

(c) Any internal replanning within the CBB (or approved TAB) which will result in a performance measurement baseline schedule inconsistent with

the contractually required schedule milestones. There must be a clear, written understanding, formally authorized by the PCO, that the replanning approval is for performance measurement purposes and does not constitute a change in contractual requirements; e.g., "This approval authorizes the contractor to manage to the attached schedule for the sole purpose of performance measurement. This does not authorize the contractor to revise the contractual schedule requirements." All subsequent CPR submittals must clearly state in Format 5 that the reported performance measurement baseline schedule exceeds contractually required schedule milestones or deliveries and must identify the schedule difference(s).

Applying the Supplemental Guidance Today

This supplemental guidance for internal replanning is still useful. To highlight:

- Replan *future* LOE to correlate to the changes in the work (Section (3) (c)). LOE, ..., has additional flexibility and may be adjusted within the current accounting period, without government approval, *provided no actual costs (ACWP) have been charged to the LOE.*
- Notify your customer if you must change prior period data so they know what you are doing and the reason you may have BCWP with no ACWP or ACWP with no BCWP for LOE support tasks. Include the notice in your CPR/IPMR Format 5 where applicable. Note: the Supplemental Guidance says "approval", read this as "notify" for this article. (Section (4)): For most internal replanning, no prior notification or government approval is required to replan discrete or *LOE work if the replanning is applicable to the next accounting period onward*, does not cause the TAB to exceed the CBB, and does not cause or constitute a slippage of a contractually required milestone; or if the replanning is below the work package level...

....Prior government approval is required for the following conditions: (a) Changes to open work packages that affect or change performance measurement data (BCWS, BCWP) in the current or prior accounting periods. (b) *Changes to LOE data in prior accounting periods or changes to current LOE when the accounts have incurred charges (ACWP).*

Suggestions on how to improve LOE planning:

1. Separately identify LOE activity from discrete effort to avoid distorting measureable work effort.
2. Separately substantiate LOE budgets and plan as direct labor, material, subcontract, or other direct costs. Also time phase the LOE budget plan for control and reporting purposes.
3. Minimize the amount of LOE activity. Objective measures of completed work are always preferred.
4. When the LOE earned value technique is legitimately used, *proactively* monitor these activities. *CAMs need to pay attention to their LOE activities and to what is happening with the discrete work packages the LOE supports.* A good technique is to use the rolling wave planning method so that when the near term future work effort discrete activities are planned, the related LOE activity is planned with it. This action prevents

changing past LOE data when the discrete work does not take place as planned – and eliminates findings for BCWP with no ACWP or ACWP with no BCWP.

5. Review your EVM System Description to ensure you have provided enough guidance to projects on how to properly plan, track, and monitor LOE activities. Let LOE help you; don't let it do bad things to you.