



Red/Yellow/Green Program Ratings: Good Management or Perverse Incentives?

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“Good management information.” Customers demand it in their contracts and conduct management reviews to ensure it can be produced. But what is it and why is it so elusive? Expectations to see “green” program status actually may work to the detriment of good information and, it would follow, good management. Contracts may incentivize undesirable behavior and a company’s internal management information system may mirror those external pressures.

With powerful tools like Dekker iPursuit™ making timely integrated information available to all stakeholders, “Green Syndrome” (i.e., a strong motivation to keep programs in the green by any means possible) emerges as a high priority topic. This paper discusses the use and misuse of incentives that are based on Earned Value Management information and offers recommendations to optimize its value by incorporating best practices from government and industry.

Variations are Good

Variations are expected. If that were not true, EVM would not be necessary. It originated as a management and reporting requirement on large, complex and risky defense contracts. Variations provide essential information about where problems are occurring and by how much they are affecting the program.

The basic premise of EVM is that work in process and completed work can be measured objectively by integrating work schedules, scope and resources during contract planning. As they perform the work, managers status their progress. Variations from plan allow for midcourse corrections and reasonably accurate forecasts of at-completion cost and schedule. In other words, the idea is to plan thoroughly, measure variations from plan, act on them, and understand the cost and schedule implications of the decisions.

In a perfect EVM environment, each activity would be based on a 50% probability of success. Half of the activities would overrun and half would underrun, with “unders” harvested to pay for “overs.” Clearly, many activities would show less than green performance, but this could happen only if the messengers were not punished. Managers should be encouraged to share information and promptly seek help when needed, but should be sanctioned if they fail to provide accurate status or if they sit on bad news.

Perverse Incentives

Like other well-intended government initiatives, EVM strayed from its original goals over the years. Industry viewed it as an onerous reporting requirement, thanks in no small part to actions such as the following:

- A government review team’s refusal to accept a contractor’s system until the company proved that a \$1,000 “error” at level 1 of the WBS was due to rounding (EVM analysis typically rounds to the nearest tenth of a million dollars)

- A customer letter informing a contractor that fee would be reduced if variances exceeded a certain percentage, whether unfavorable (overrun) or favorable (underrun)
- Variance reporting thresholds established at the beginning of contracts and not changed during their lifetimes regardless of circumstances

In view of such excesses, it is perhaps not surprising that EVM (C/SCSC in its previous incarnation) got a bad name. The gap between management and reporting became harder to bridge. To be fair, industry attitudes often did not help. Weak variance reports, such as “the unfavorable variance occurred because we spent more than we planned to spend,” probably were written by financial analysts rather than by those responsible for performing the work.

As EVM became more user-friendly in recent years, US and foreign companies began using it not only when required by a customer, but also on firm fixed-price contracts, company-funded projects and commercial work. With corporate funds at risk, internal stakeholders and shareholders increasingly expect measurable returns for the investment in program management.

Government often seeks to improve reporting through contract incentives, some of which do not encourage the desired behavior and may actually lead to unintended outcomes. For example:

- Completion of the integrated baseline review with “no issues.” The IBR is a planning process that should identify the contract risks and ensure they will be managed using the integrated performance management system.
- Contract execution within a predetermined variance range. This can lead to performance measurement baseline management as an end in itself. A front-loaded baseline can delay visibility into performance issues for a long time. And replanning can turn status to “green” by changing the numbers.
- “Accurate” estimates at completion. Accuracy of estimates can be measured only when the contract is complete. During contract execution, estimates should be addressed in a “best case/worst case/most likely” range integrated with the risk management plan.

Cultural Considerations

An Integrated Program Management System must support the organization’s management culture and business objectives. If the assumptions in this paper are correct – that good information is desirable and therefore, that variances are good – then management behavior should support accurate, timely reporting that reveals problems as soon as possible.

All too often, behavior does not support that ideal. Instead, baselines are managed closely for production tasks, where discrete, “hard” measurement is a norm, and loosely for less well-defined engineering tasks. Replanning approval may be a bit too easy as a way to maintain green status. Improvements can be achieved if budgets are distributed fairly, if teamwork ethics prevail over self-interest, and if accurate variance information is valued as a vital resource.

Recommendations

The following actions can help to obtain the best possible management information from an integrated program management system:

- Establish the organization as a performance-based organization
- Adopt statistically-based budgeting techniques

- Encourage better front-end planning and discourage replanning as a first option when performance varies from plan
- Identify and quantify program risk as early as possible and share information openly
- For government contractors, engage Defense Contract Management Agency and customer representatives to ensure that external management and reporting considerations are addressed simultaneously

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