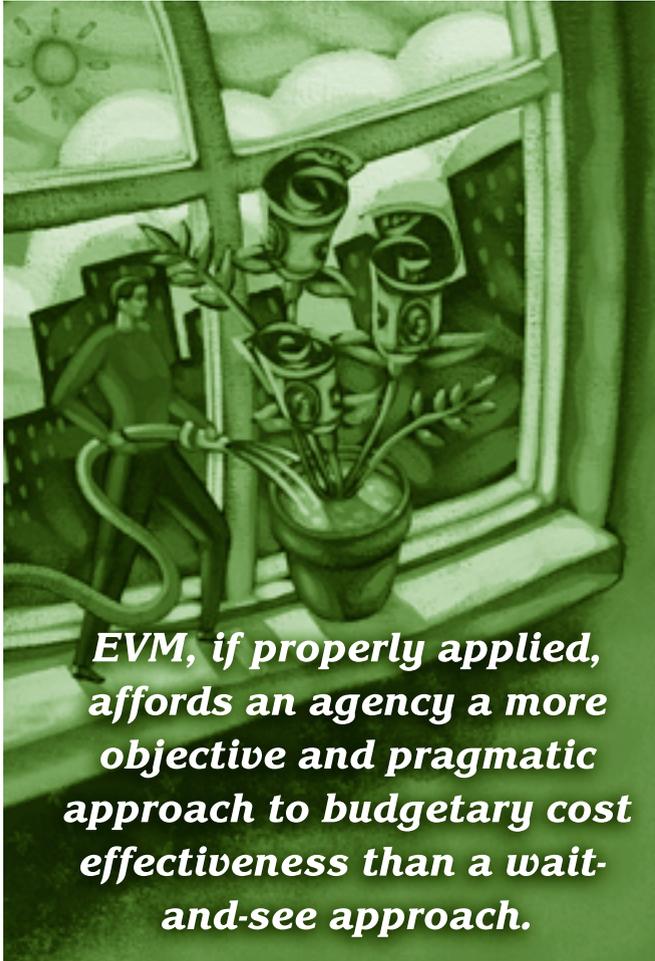


# Earned Value Management

## Its Place in the Federal Budget Process

*Rex B. Reagan*



***EVM, if properly applied, affords an agency a more objective and pragmatic approach to budgetary cost effectiveness than a wait-and-see approach.***

**T**he execution of an acquisition program carried out within the framework of the federal budgetary process could be incomplete without the inclusion of a management tool referred to as earned value management—EVM.

A simple definition of the budgetary process identifies the formulation, justification, presentation, and execution as the basic steps necessary for program funding. To limit ourselves to this definition is unacceptable in an elementary identification of the basics of budgeting. To present a more complete analysis of this process, it is essential to include earned value management as an integral

part of the complete budgetary process. This management tool, if properly applied, affords an agency a more objective and pragmatic approach to cost effectiveness of a budget than a wait-and-see approach that results in action based on outdated information.

EVM constitutes a bridge that overcomes the chasm that opens when program performance indicators for investment appropriations fail to establish the indices necessary for successful program execution within existing budgetary constraints. To link acquisition and budgetary management is not the objective of this article. It is crucial, for proper execution and representation, that information be accurate, timely, and genuinely reflect budget requirements for investment programs. Present formulation exhibits may not provide the data or prepare the program manager with sufficient flexibility to achieve the objectives. However, merging of earned value data into the budget formulation process is offered as an appropriate alternative.

The ability to provide program performance criteria for costs and schedule performance during budget hearings and reviews not only documents the successful life of the program but allows for advance notice of potential problems with windows for relevant budgetary interjection, if necessary. This information is vital for developing the proper funding stream and ensuring adequate financial support for acquisition programs.

The thrust of this article is that the inclusion of EVM data is mandatory information to be reflected for designated acquisition programs. Budgets would then contain complete performance data as well as budget estimates.

### **About EVM**

EVM is essentially a discipline for contract administration composed of cost, schedule, and performance (earned value) data necessary for management of any acquisition project. The criteria for these metrics are standard throughout industry, yet they adapt for the multiple formulae required for forecasting projects. In 1967, 32 formal criteria based on management practices were incorporated into DoD 7000.2M. This further evolved from an in-

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struction to a regulation in March 1996, with the 32 criteria becoming 35 in DoD 5000.2R, shortly afterwards replaced with industry guidelines for performance measurement. The current DoD 5000 revision in 2003 contains the significance of EVM for acquisition programs.

Program offices with cost contracts funded by investment appropriations that don't employ EVM are handicapped in their efforts to accurately report the performance of the contractor. The absence of EVM data not only handicaps reporting procedures, but also leaves a void for the comptroller, who must often be prepared for potential budgetary supplemental requests. The areas of standard indices for cost and schedules for the funded project, estimates for completing the project, potential requirements for reprogramming actions and related crucial information—all of which indicate genuine knowledge of program performance—cannot be presented to DoD management without EVM. The implementation of EVM is initiated in the formulation phase of the budget for preparation of contract award for the investment appropriations.

How does a program maintain credibility with its comptroller's office and resource sponsor, gracefully meet the acquisition milestones, and proceed successfully through all budget submissions? Not without merging related disciplines or incorporating vital segments of the federal budget process and acquisition management. Yet many program offices continue to seek the highest level of funding without complete knowledge of its acquisition phase. Cost performance reporting provides the feedback that is desperately required not only in cost contracts, but also in firm-fixed-price contracts.

Without a firm understanding of contractor performance, baseline-realignment and potential restructuring of contract ceilings would be the rule rather than the exception in the preparation and execution of reprogramming requests. Are these instruments of program management unavoidable without the application of EVM? Perhaps program offices can no longer maintain acquisition programs at any acquisition category (ACAT) level without initiating

proper and appropriate cost performance parameters into both cost and firm-fixed-price contracts.

**The Lesson of the A-12 Program**

The history of the Naval Air Systems Command A-12 program gives clear evidence of the value of EVM data. Within an extremely short time, experienced cost analysts realized the need for further program questions. When the submittal of EVM reports ceased, it was an indication that a clear and present problem loomed in the A-12 program. While the specter of the A-12 program has faded, the message remains clear and indelible. In this particular program, the tendency remained to report the most favorable indices instead of the most realistic practiced.

There's no place for ignorance in the federal budgeting or acquisition processes. Knowledge of contractor performance is paramount in large acquisition contracts. Firm-fixed-price and cost contracts are both impacted by budgetary constraints. The indices that EVM provides are essential to measure potential success or possible failure of that contractor. Cost performance indices and schedule performance indices with estimates at completion are crucial for the program office to gauge clearly the actual costs of the acquisition before its completion. If an ACAT I program presented cost performance indices as part of its budget submission, funding levels would have been adjusted either upward or downward, depending upon cost performance reports. Savings may potentially belong to the program office as part of incentives to maintain performance or modifications to the present system under contract. Program increases may reduce future funding levels with accurate estimates at completion, while still reflecting accurate budget submissions and supporting congressional and presidential budget controls. A delay in acquisition documentation in relation to the approval and review process may be perceived differently with proper EVM data. Optimum contractor performance, resulting in budget adherence, will often compensate for documentation shortfalls.

**Savings Resulting from Application of EVM**

The savings or projected savings resulting from superior management have allowed a portion of those savings to be retained by the program office responsible for the program. This is a formidable reason for implementation of EVM for any project funded by an investment appropriation.

The psychological effect of EVM will further aid in the discipline of financial responsibility by the program management office and the contractor for bringing the project within the contract baseline.

Payments will be performance-based and commensurate with the work performed on the contract. This is also a reason why the Office of Management and Budget guid-

ance directs that EVM should be used on fixed-price contracts for measuring the goals of cost, schedule, and performance.

### **Current Direction for EVM in Budget Exhibits**

Programs funded by the investment appropriations are not required to include earned value information at the Service level in their budget submissions. The Office of Management and Budget strongly encourages the use of these data with both cost and firm-fixed-price contracts. For defense issues, quantitative measures are imperative for objectivity—often being the optimum instrument in political gamesmanship. EVM will reflect contractor performance, which can be utilized in all phases of budget submission, especially in the formulation stage where additional funds may be required. Without submission of this information into the budgetary process, senior officials are not informed of the progress of acquisition programs that support national security.

Analysis of program and budgetary activities is severely handicapped and possibly not performed adequately without the presence of earned value information. Programs supporting a Service's objectives and goals that initially require supplemental budget submissions or major reprogramming actions may instead require restructuring after examination of contract performance. Quantitative options to program decisions are limited when based solely on budget data and exhibits presented by Services. From normal projections using standard government and industry formulae, an estimate at completion can be derived to indicate a significant overrun on the contract at completion also accompanied by a delay in delivery of the contracted product. This realistic, albeit simplified, metric depiction of a project could be managed and prepared for the inclusion of EVM data during budget reviews to pinpoint current project funding and delivery.

During the budget hearing and review cycle, the submission of earned value indices will contribute significantly to the program's acquisition and funding strategy. The indicators of sustained contractor performance will assist in providing required justification for possible additional funding or decrements to existing funding, and are a solid basis for program savings and retaining those savings for alternative application. The presentation of EVM data will also provide up-front and official notice of any program operating at or below the level that the government and the DoD deem acceptable.

The inclusion of summary EVM data into the budget submission accomplishes several objectives, among them:

- Broader scrutiny by the Office of the Comptroller of contractor performance relevant to major programs
- Documentation for potential budgetary adjustments for decrements or increments within the program funding scheme

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- Basis for more accurate program realignments, acquisition reviews, contract strategy, and milestone adjustments
- Closing the gap between acquisition and budgetary personnel when examining program funding issues.

Furnishing this information is the responsibility of the reporting program management offices as an additional exhibit. If the information is not provided, routine funding will continue and be subject to ordinary scrutiny, with budget reviewers noting, for the record, non-compliance for submission of necessary documentation. The format for furnishing the data is determined by the Office of the Comptroller with significant assistance from acquisition program integration. This format is to be followed by each of the Service comptroller organizations.

The value of EVM data will vary depending upon the type of contract, contractor performance and history, program office, and product under contract. The value of EVM will never be greater than when it is applied to cost-type contracts, no matter the origin of funding. Frequency to increase the ceilings of fixed-price contracts could be a potential area of contention with the presence of EVM data.

In summary, additional cost, schedule, and performance data are necessary for accurate and proper budgeting of major assets at the Services level and above for major programs. That information must be quantitative in nature and supportive of budgetary submissions with the goal of objectivity. Including earned value data, information, or analyses supports the process, and the cost to implement EVM and actively engage its discipline is far outweighed by the benefits realized by both the program office and the respective Service. National security cannot be served or supported by programs that are above budget authority, outside scheduled completion parameters, or noncompliant with defense priorities.

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