

Legal Insights: GAO Cost Estimating Guidelines

By Ross Crown

In April of this year, Defense Secretary Robert M. Gates briefed the press on the Department of Defense's 2010 fiscal year budget. The Secretary described this budget as "crafted to reshape the priorities of America's defense establishment." Mr. Gates went on to say that "maintaining our technological and conventional edge requires a dramatic change in the way we acquire military equipment." To achieve this "needed reform," the Department intends to insist on realistic estimates of program costs. This will include guarding against "requirements creep," validating the maturity of technology at milestones and funding programs to independent cost estimates.

Of course, whether the new priorities of the Obama Administration represent real improvements in the way the Government does business remains to be seen. Yet there is little doubt that for the foreseeable future, contract cost estimates will receive closer scrutiny. In line with this renewed emphasis on realistic estimates, in March the Government Accountability Office released the GAO Cost Estimating and Assessment Guide. An agency of the legislative branch, the GAO is responsible for, among other things, assisting Congress in its oversight of Government operations, including the use of public funds.



The purpose of the Cost Guide is to help agencies use public funds effectively by employing improved management practices and processes, including the measurement of Government program performance. According to the GAO, Congress, the Administration, and the public all need to know whether Government programs are achieving their goals and at what cost. Such evaluations require reliable cost information.

The Cost Guide is intended to establish a consistent methodology based on best practices that can be used across the Government for developing, managing, and evaluating capital program cost estimates. By releasing the Cost Guide, the GAO hopes to assist agencies and contractors in developing and maintaining reliable cost estimates throughout the life of Government acquisition programs. It is also intended to serve as a guiding principle for GAO auditors to evaluate the economy, efficiency, and effectiveness of Government programs.

The centerpiece of the Cost Guide is GAO's identification of the following 12 steps of a high quality cost estimating process:

1. Define Estimate's Purpose — The tasks associated with this step include determining the estimate's purpose, the required level of detail and overall scope, along with who will receive the estimate.

2. Develop Estimating Plan — This requires determining the cost estimating team, preparing a master schedule, determining who will do the independent cost estimate, outlining the cost estimating approach, and developing a timeline.

3. Define Program Characteristics — Identify the program's purpose, its system and performance characteristics, and all system configurations. Also determine support and security needs and deployment and maintenance plans.

4. Determine Estimating Structure — Define a Work Breakdown Structure (WBS) and describe each element. Choose a best estimating method for every WBS element.

5. Identify Ground Rules and Assumptions — Clearly define what the estimate includes and excludes. Identify the estimate's base year, including time phasing and life cycle, along with any schedule or budget constraints. Specify Government furnished equipment and identify major subcontractors. Determine technology assumptions and new technology to be developed.

6. Obtain Data — Collect current and relevant technical, programmatic, cost, and risk data. Analyze the data for cost drivers, trends, and outliers and compare the results against rules of thumb and standard factors derived from historical data. Store data for future estimates.

7. Develop Point Estimate and Compare it to an Independent Cost Estimate — Develop the cost model, estimating each WBS element using the best methodology from the data collected. Total the WBS elements to develop the overall point estimate. Compare the estimate against an independent cost estimate and examine where and why there are differences.

8. Conduct Sensitivity Analysis — Test the sensitivity of cost elements to changes in estimating input values and key assumptions. Identify effects on the overall estimate of changing the program schedule or quantities. Determine which assumptions are key cost drivers and which cost elements are affected most by changes.

9. Conduct Risk and Uncertainty Analysis — Discuss with technical experts the level of cost, schedule, and technical risk associated with each WBS element. Develop minimum, most likely, and maximum ranges for each risk element. Use an acceptable statistical analysis method to develop a confidence interval around the point estimate.

10. Document the Estimate — Document all steps used to develop the estimate so that a cost analyst unfamiliar with the program can recreate it quickly and produce the same result. Describe in detail the estimating methodology and rationale used to derive the cost of each WBS element. Track how this estimate compares to any previous estimates.

11. Present Estimate to Management for Approval — Develop a briefing that presents the estimate, including an explanation of the technical and programmatic baseline and any uncertainties. Explain any differences between the estimate and independent cost estimate. Act on and document feedback from management.

12. Update the Estimate to Reflect Actual Costs and Changes — Update the estimate to reflect changes in technical or program assumptions and keep it current as the program passes through new phases or milestones. Perform a post-mortem and document lessons learned for elements whose actual costs or schedules differ from the estimate. Document all changes to the program and how they affect the cost estimate.

The Cost Guide discusses in detail execution of each of these 12 steps. A copy of the guide can be obtained at www.gao.gov. •

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