

# Integrated Baseline Review

## From Optimistic Planning to Pragmatic Management — Bridging the Gap

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**T**he Milestone Decision Authority (MDA) for a typical DoD developmental program uses a document called an Acquisition Baseline Agreement (ABA) to establish a contract with a program manager for cost, schedule, and performance thresholds. The ABA may *bound* a program; more often, however, a cost-plus contract with industry *defines* the program.

Frequently, the contractor-government team's productivity fails to meet the performance goals of the contract, ultimately breaching the program baseline. The breach can be the inevitable outcome of overly optimistic goals, unforeseen external influences, requirements creep, or mismanagement. Typically, it results from a combination of the four.

Until some future acquisition initiative successfully alters the acquisition process for developmental programs, I suggest we find a way to transition from optimistic planning to pragmatic management. I believe that the MDA can bridge the gap between the optimism of the ABA and the reality of the contract through the ownership and judicious use of the information resident in the Integrated Baseline Review (IBR).

### Where Does Program Optimism Come From?

Any system that unites unlimited wants (user requirements) with competition for limited resources (DoD budget) yields optimism. Almost everyone in the acquisition system puts pressure on programs to deliver their product better,

faster, and cheaper. From DoD's perspective, users want the best systems possible, resource sponsors want the most system they can get for the money they allocate, and budgeters want to allocate only what is necessary to execute the contract.

Contractors have their own pressure for optimism. Even when DoD awards its competitive contracts based on best value, contractors know cost will be one of the selection criteria. Understandably, contractors pare their cost submission consistent with the competitive environment. More often than not, a contractor's profit potential lies more in the production phase than in the development phase. It can make economic sense to a contractor to bid at or near cost during the development phase to secure the more lucrative production contract.

Even after the government selects a winning contractor, the system often encourages program managers and contracting officers to find areas of additional savings during contract negotiations rather than highlight potential funding shortfalls. As a result, our programs begin with requirements that challenge the existing state of the possible and execute at a funding level

below the contractor's original estimate.

Not until Initial Baseline Review (IBR) do we have the hard data required to challenge the forces of optimism. It's at the IBR, after the contract has been signed and the budget obligation identified, that we could and should admit to ourselves what we bought. We might not like what we find, but without a realistic baseline, history suggests the contract specification and statement of work, not cost and schedule, will dominate program execution.

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### **What We Bought is Effort**

We have signed a contract in which a contractor has committed a pre-ordained set of resources in pursuit of contract goals. They have proposed a design solution, a management approach, and manning level. At the IBR, the contractor lays out the schedule, anticipated resources, and management reserve. Resource allocation should give rise to expected levels of productivity across all elements of the project. The contractor should be able to cite the man-hours per drawing, software lines of code per day, material costs, Quality Analysis allocation, anticipated scrap or rework rate, or any other factor that contributed to the estimate. The IBR should

reveal how the contractor intends to measure technical performance as the system matures.

From a management perspective, the quality of the initial assumptions matters less than an understanding of the factors behind those assumptions. The contractor should articulate a process to monitor and adjust those factors over time. The true nature of any buy-in should become apparent as well as any unrealistic schedules or levels of productivity. The IBR should baseline expectations as well as disclose how the contractor intends to manage costs. It should identify the level of Work Break-

down Structure that the contractor will be collecting, cost data, the tie to the contractor's detailed schedule, and areas of responsibility for the cost account managers. The government must be comfortable that the contractor knows where the taxpayer's money is going, not just where it's been.

### **The IBR is Too Important to be Left to the PM**

Because the IBR validates the detailed plan for contract execution, I believe it should belong to the designated MDA for the program. The MDA should lead the program office IBR team, providing independent experts experienced not only in the IBR process but also in the subject matter of the contract. If all involved are to get a true sense of program risk, the MDA needs to do everything possible to ensure a quality IBR. From the results of a quality IBR, the team should be able to assess the likelihood that a given set of resources and time can produce the desired product. In that way, an IBR can assess the level of optimism, and evaluate the reason for the optimism.

The program office needs to participate in the process, as they must manage and report from the knowledge gained at an IBR, but the program office should not filter the reality of the information. They, after all, were the recipients of all the pressure that contributed to the current state of optimism reflected in the contract. Further, a typical program office lacks the experience to ensure a quality IBR.

An ACAT I program manager might be asked to manage a handful of cost-plus contracts over the entire life of the system. Many program managers complete their entire tours without ever conducting a single IBR, while others may lead one or two. By providing subject matter experts, the MDA can develop consistency in the IBR process, improve the quality, and provide focused training to the PM team.

Together, the program manager, the MDA, and the resource sponsor can de-

velop meaningful metrics for monitoring contract performance. The program office can monitor progress in targeted risk areas, develop alternatives, anticipate early the need for more time and money, or even restructure the expectations. By owning and documenting the IBR, the MDA would facilitate the transition between program managers, between versions of DoD 5000, and even between MDAs.

I'll admit that a realistic IBR runs the risk of exposing wildly optimistic programs. In this case, the IBR could call into question the propriety or even the legality of awarding a given contract at an inadequate funding level. Today our acquisition system permits us to "just get it on contract and we'll fix it in the out-years." An independent IBR would let more people in on the secret. But, if we do not seek the truth, we should not be alarmed at the consequences (baseline breaches).

### **Yes, It's a Requirement, But at What Price?**

Once we sign a contract, neither the contractor nor the government program office can afford to think only in terms of meeting the specs. The government must begin to see every performance criteria in terms of the cost and schedule. The contractor should manage the contract within the bounds of the allocated resources. The government should be responsible for allocating additional resources. Too often we allow the contractor to pursue contract performance goals far beyond their original estimate under the guise of meeting specs. Asking a contractor to resist the temptation to satisfy the government's technical requirements is like asking a casino owner to restrict their patrons' desire to place a bet before they've reached the limits of their credit cards. We enter into contracts to satisfy user requirements, but not at any price. The government, not contractor execution, should decide how much additional funding to apply in the pursuit of any particular spec.

To an accurate baseline we need to add a rock-solid Earned Value Management (EVM) system. Now the program man-

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ager has the tools to manage the contract, not just monitor it. I did not say the program would stay within cost and schedule with proper management. Unrealistically optimistic programs are unreasonably optimistic; shortcuts have a way of becoming longcuts; and, inventions don't always happen on schedule. Contractors have some control of overhead — general and administrative — and corporate processes, but at the project level productivity tends to be what it is. What we *can* do with proper insight is decide when and if to add funding, reduce scope, or adjust priorities rather than just document them.

### **EVM is the Tool**

With a good EVM system and a well-understood baseline, anything that occurs that alters the contractor's projected expenditure of resources can be analyzed in terms of its impact on cost and schedule. EVM becomes a living reality

check. Even at the IBR, neither party knows precisely what they have agreed to do. Once a contract has been signed, the participants spend the next several months defining the detail of the contract. Hardware goes from initial design, through a Preliminary Design Review (PDR), and then a Critical Design Review (CDR). It's not until CDR that the program office and the contractor know the scope of the contract.

Software has a parallel process. On some complicated programs, CDR can be 18 months to two years after contract award. How is it possible to know if the program described at CDR can be executed within the constraints of a contract signed over a year earlier unless both parties know how resources were originally allocated? How can they adjust expectations unless they understand how many resources were expended getting to this point? How can they properly budget for the remaining work unless they know how productive they have been to date? Actions at a PDR, CDR, or design review that change the contractor's estimate of work should be articulated in terms of cost and schedule.

DoD acquisition training warns us to avoid making substantive changes to any contract without proper contract modification. Some of our more spectacular baseline breaches can be attributed to unmanaged requirements creep. I don't want to minimize this danger, but simply point out that defining the contract can have the same effect as requirements creep if the refined definition alters the baseline assumptions

### **So What's the Bottom Line?**

DoD's MDAs need to understand the true nature of their contracts if they expect program managers to control costs. Once the contract has been signed, cost, schedule, and performance thresholds should become goals to be monitored, adjusted, and traded, if necessary, throughout the life cycle of the contract. With a validated IBR, MDAs can tailor their baseline agreement for the program to set not only thresholds, but also meaningful metrics. Rather than simply