



Getting the Requirements Right

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Dr. Jim Colvard, a long-time executive and engineering leader in the Department of the Navy, once said, “The deployed Navy sleeps on its ordnance, operates far from supply lines, and is consequently compelled to understand the technical details of its own weapons and platforms.”

For the Navy and Marine Corps, that philosophy informs the way we acquire our ships, aircraft, armored vehicles and weapon systems. In other words, the Navy that “sleeps on its ordnance” is a Navy that must understand the technical details of its weapons and platforms long before, and after, industry is contracted to produce them. That culture and expectation of technical ownership is partly what couples the Navy requirements community closely to the Navy acquisition community, and vice versa.

It is also important to the Department of the Navy to understand how technical requirements drive detailed design, and in turn, drive costs. Today, cost is a requirement—on a par with warfighter requirements. In a speech at the Eisenhower Presidential Library in 2010, then Defense Secretary Robert Gates remarked that, “Without exercising real diligence, if nature takes its course, major weapons programs will devolve into pursuing the limits of what technology will bear without regard to cost or what a real world enemy can do.”

Inarguably, the U.S. Navy and Marine Corps are equipped with, and will continue to build, the world’s most technologically advanced naval warfighting systems. The increasing challenge is how to do so at a cost the nation can afford.

In 2009, the Navy modified its acquisition process to ensure there is no gap between the requirements and acquisition communities—to ensure, among other reasons, the Navy understands the relationship between requirements, technical feasibility and cost. The modified acquisition process, called “Navy Gate Reviews,” requires the Navy *operational requirements leadership* and *acquisition leadership* to agree, and repeatedly affirm that agreement throughout the development, acquisition and sustainment of a system. A misalignment between requirements

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and acquisition can be the most expensive part of a weapons system—including unnecessary costs associated with redesigns, retests, schedule delays and even cancellation. The Navy uses Gate Reviews to eliminate that misalignment early in a program, and to check alignment regularly.

Each “gate” is co-chaired by the Navy’s Acquisition Executive and the Navy’s senior military requirements officer. In all, there are six gates. The first three are chaired by the Chief of Naval Operations or his senior military requirements officer (co-chaired by the Acquisition Executive) and ensure that warfighter requirements are well understood and can be translated into technical requirements that the acquisition community can affordably achieve in the commercial or defense marketplace.

Secretary of the Navy for Research, Development and Acquisition [ASN(RD&A)]) co-chair a quarterly “Provider Forum” to review and align their respective priorities with the SYSCOM leadership. The agenda may include items such as workload priorities, contracting performance, cost of doing business, engineering capacity and performance, maintenance backlog priorities or research-and-development priorities and alignment. In each case, the result is Service Chief and Acquisition Executive alignment with the Providers.

A third important element of ensuring, and maintaining, alignment between Navy requirements and acquisition is the role of the Principal Military Deputy—a three-star position staffed to ASN(RD&A). The Navy has adjusted the responsibilities of the Principal Military Deputy to include a direct supporting



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The last three gates are chaired by the Navy’s Acquisition Executive (co-chaired by the senior military requirements officer) and ensure that the technical specification, statement of work, and Request for Proposal (RFP) have accurately translated the warfighter’s requirements into an acquisition approach that is executable, affordable and agreeable across acquisition and requirements leadership.

The Navy’s acquisition system relies heavily on in-house Navy “Providers” that provide science, engineering, testing, contracting, legal, organic depot/maintenance, logistics, cost estimating, and financial management to the acquisition of weapons systems, platforms and services. These Navy Providers acquire the material and services that comprise the Fleet and support its operations. The Fleet is best served when Navy Providers are delivering products and services aligned to the priorities of their dual operational and acquisition reporting chains.

The Navy has more than six major Providers, typically called Systems Commands (SYSCOMs), that comprise more than 100,000 people—all providing the necessary material products and services that support the operational Navy (the Fleet) and Navy acquisition.

To maximize alignment of Navy SYSCOMs with the Fleet and acquisition, the Vice Chief of Naval Operations (VCNO) and the Navy’s Acquisition Executive (the Assistant

responsibility to the Chief of Naval Operations (CNO) and the Commandant of the Marine Corps, to keep the Service Chiefs informed of acquisition developments in the day-to-day business of the Navy and Marine Corps and ensure that the Service Acquisition Executive stays informed of Service Chief requirements and priorities. In short, working to ensure acquisition and requirements priorities remain aligned.

Arguably, requirements definition is the most critical phase in determining the successful outcome of a major weapon systems program. Requirements that are well informed by a thorough assessment of technical feasibility and a realistic cost estimate are inherently at lower risk of cost or schedule overrun or performance shortfalls during program execution. Accordingly, it is critical that the acquisition arm, which will be accountable for delivering to the requirements defined for a weapon system, is embedded in the requirements definition process to provide its best assessment of technical feasibility, cost and risk in the course of defining those requirements.

Perhaps no single program better exemplifies the critical importance of close partnership and alignment between requirements and acquisition than the Navy’s future ballistic missile submarine (SSBN) program, the Ohio-class Replacement (OR). It is a daunting task to define the requirements for the first new-design SSBN in 40 years, with a priority placed on weapon system performance and submarine survivability, with a first-deployment date chiseled in stone, with a service life

The first pass on OR requirements was jointly rejected by the CNO and ASN(RD&A) at an early Gate Review chaired by the CNO, for reasons of technical risk and cost. Years were spent by the requirements and design communities iterating on the OR technical requirements until arriving at the irreducible minimum set that promised to deliver the degree of survivable, reliable at-sea strategic deterrence required by the nation at the best cost with high confidence of execution. Today, the program is executing on cost and schedule in the design phase, with further cost-reduction measures in place and close oversight of progress and performance by the combined requirements and acquisition team through a disciplined Gate Review process.

While the OR program is unique, the process and partnership between requirements and acquisition employed on OR are not unique. The same teamed approach in pursuit of an affordable, high water speed amphibious combat vehicle to replace the canceled Expeditionary Fighting Vehicle made it clear to the Commandant that the requirements for such a capability were beyond our current reach due to cost and risk. As a result, the Marine Corps is proceeding with an extremely capable and affordable Amphibious Combat Vehicle that will meet near-term requirements, while continuing to mature technologies and tactics to meet the long-term objective for high water speed.

Similarly, the requirements, budget, design and acquisition approach for the Navy's first fixed-wing unmanned carrier-based aircraft have been formulated by a combined requirements/acquisition team that has been partnered since initiation of the development effort, with approval of the requirements through design specifications by way of Gate Reviews co-chaired by the CNO and ASN(RD&A). This process is perhaps best demonstrated by the combined Navy-Marine Corps efforts on a future amphibious ship, LX(R), to replace Navy's aging Landing Ship Dock (LSD-41) Class. The requirements and acquisition organizations across both Services and the Secretariat are partnered through each step of the process. They provide high-confidence recommendations—on the ship's requirements, the design to meet those requirements, and the cost to build that design—to the CNO, the Commandant, and ASN(RD&A) co-chairing the program's Gate Reviews.

Our mandate is to properly define and seamlessly transition from requirements to designing, building, testing and fielding—and to do so within agreed budgets and schedules based on realistic estimates. This necessitates unity of purpose and action between the requirements and acquisition organizations each step along the way. And it all begins at that first gate, with getting the requirements right.

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