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SERVICES COMMITTEE  
SUBCOMMITTEE ON SEAPOWER AND  
EXPEDITIONARY FORCES

STATEMENT

OF

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BEFORE THE

SUBCOMMITTEE ON SEAPOWER AND EXPEDITIONARY FORCES

OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

SHIPBUILDING EFFECTIVENESS

JULY 30, 2009

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THE HOUSE ARMED SERVICES COMMITTEE  
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Mr. Chairman, Ranking Member Akin, and distinguished members of the Subcommittee, thank you for the opportunity to appear before you today to address the methods in which government can reduce and is reducing overall acquisition cost of new ships.

The Chief of Naval Operations has outlined requirements for the future force, often referred to as the 313-ship Navy. In fact, the CNO has emphasized that 313 ships represents “the floor”, if we are to meet the full range of missions confronting the Navy in the next decade and beyond. Today’s Navy is a fleet of 283 battle force ships, well short of the future requirement. Inarguably the underlying challenge – indeed, the pressing requirement – before us today in shipbuilding is affordability.

The fact is that ship costs are rising faster than our topline, due to such factors as low rate production, reduced competition, increased system complexity, frequent changes to our shipbuilding plan, changes to requirements and design, and challenges with introducing new technologies into new platforms. To this list I need also add performance, for on even our most mature programs, we have experienced cost growth as a result of performance shortfalls and quality escapes.

The reality is that there is no single fix to turn around this trend, but rather a large number of initiatives, practices, and standards that we need to attack across the board.

We need to begin with requirements.

We need to ensure that our requirements are balanced by our resources. The Secretary and CNO have been particularly instructive guiding the requirements process towards the “80 or 90 percent solution,” and away from exquisite capability that extends beyond the reach of our budget. Norm Augustine got it right: “the last 10 percent of performance generates one third of the cost and two thirds of the problems.” The key here is to inform the process with realistic cost estimates and realistic risk assessments at the front end. This drives the difficult decisions early, where there are true choices, and true opportunities.

Once the requirements are set – and properly budgeted – stability becomes the watchword: requirements stability, budget stability, and design stability. We do not have a good track record here, but I can assure you that from the Secretary right down to the individual shipbuilding program managers, we understand the importance of stability. We are intent on holding the line. Perhaps most notably, over the past decade we introduced eleven new designs – eleven lead ships – each a highly complex prototype bringing its own unique challenges, each disrupting our shipbuilding programs and industrial base. By contrast, the fiscal year 2010 President’s Budget request for shipbuilding builds on programs that are currently in production. This is our opportunity to leverage stability.

To do so, we need to effectively employ competition at all levels of shipbuilding – from prime contractors through individual equipment vendors. We need to continue the current trend toward greater use of fixed price type contracts. We need to ensure our designs and production planning are mature prior to starting construction in order to minimize the costly rework associated with out of sequence work. We must resist the constant pressure to introduce change mid-course in production, yet develop methodologies to incorporate necessary changes without disruption. We need to sustain and improve upon the capabilities of our industrial base, through indirect and direct investments, while at the same time we need to seek to match capacity with our needs. To

meet these objectives, we must be smart buyers. The acquisition workforce has been downsized over the past decade and a half to the extent that our professional corps has been stretched too thin and we have outsourced too much of our core competencies. Accordingly, we must rebuild our Navy acquisition workforce.

These “strategic” moves, properly executed, will drive necessary “tactical” changes in our shipbuilding processes, such as multiyear procurements (MYP), block buys, commonality, and cooperation with industry for industrial processes, design portability, contract incentives, capital improvement programs, software reuse, and other related cost reduction initiatives.

Many ship ownership costs, both for new construction and in-service, are determined upfront as a result of the operational requirements definition process. Within those bounds, however, there is significant latitude to explore variations in how operational requirements are flowed down to technical solutions via a robust systems engineering process. We are working to determine where operational requirements can remain flexible throughout the early design stages and to explore variations in ship and Fleet architectures that can provide desired deployed capabilities at least cost. This is how Commander, Naval Sea Systems Command (NAVSEA) is implementing the Capabilities Based Assessment (CBA) process, which is tied to the Navy’s Acquisition Review process. For a given program, multiple ship configuration options are explored via analytical techniques such as “set-based design.” This allows us to make cost versus capability trades and indicate which solution sets are optimal from the standpoint of cost. The Navy has further formalized and institutionalized this process by establishing a requirement to document the results of such trades in a System Design Specification (SDS) for approval by the senior Navy leadership at a formal Gate Review. These activities lead to a “design lock-down” for our programs that will not occur before the cost impacts of design trades are understood.

We need quality cost estimates.

Our ability to correctly predict the cost of our future shipbuilding programs has atrophied significantly over the past decade. We have been focused on projecting costs rather than developing “should cost” estimates. Projections accept and institutionalize inefficiencies while “should cost” estimates find and drive out these unnecessary costs. Our ability to estimate costs has been further eroded by instability in the factors comprising shipbuilding costs. The cost of shipbuilding labor continues to outpace general nationwide inflation by 60 percent in the post-Cold War construction period. Labor costs increased more than 45 percent between 1999 and 2008 at the major shipyards. Shipbuilding labor demand, general cost of living, health care, workmen’s compensation and pension costs all contributed to this growth. Given the projected competition for skilled labor on the Gulf Coast due to Katrina reconstruction efforts and overall nationwide upward trends in the cost of benefits, this upward movement is forecasted to continue.

The global commodities market (steel, copper, etc.) has fluctuated wildly in the past five years. The period 2004 through 2008 represented a period of extraordinary worldwide growth, fueled by Chinese expansion. Prices for raw metals and commodities experienced unprecedented increases during that timeframe. After hitting record highs in summer 2008, prices have declined sharply. By March 2009, steel prices had dropped almost 40-percent from the August 2008 highs. Other metals such as aluminum, copper, and nickel have seen similar declines. Higher equipment/machinery prices in 2008 were driven by skyrocketing metal prices, as well as higher manufacturing and shipping costs. However, the global economic downturn has drastically reduced construction and manufacturing worldwide, and the resulting decreased demand for all

commodities has led to lower prices and surplus conditions. This volatility has increased the difficulty in estimating material costs for Navy ships.

We need healthy competition.

Over the last three decades, the shipbuilding industry has gone through extensive consolidation resulting from declining commercial and Government demand. As a result, there exist only six major shipbuilders, located in Groton, CT; Bath, ME; Newport News, VA; Pascagoula, MS; New Orleans, LA; and, San Diego, CA. Two corporations own all six of these shipyards. This narrowed industrial environment challenges the Navy to maximize competition. The Competition in Contracting Act (CICA) requires the Government to compete all procurements except if one of seven exceptions applies. For shipbuilding, prime and sub-tier contracting competition is pursued to the maximum extent practicable. When sole source ship construction contracts must be utilized, they include provisions that require shipbuilders to seek competition at the subcontract level to the maximum extent practicable. For instance, the majority of major subsystems procured for the new GERALD R. FORD (CVN 78) Aircraft Carrier were subcontracted through competition.

Serial production in a competitive environment benefits the shipyards and suppliers. Serial production allows the shipbuilders to optimize their shipyard(s) for a particular product line. In the case of the VIRGINIA Class Block III MYP, the shipbuilder can enter long term relationships with suppliers for the next eight submarines. The Navy invested \$600M in related MYP cost reduction efforts and as a result has reduced the VIRGINIA Class total program cost by \$4B. The DDG 51 program successfully used MYP contracts during fiscal years 1998-2005 to realize over \$1B in program savings. In addition to cost savings, MYP offers several additional benefits. The long term commitment stabilizes shipyard employment levels and the industrial base; justifies capital investment for productivity improvements that benefit future Navy shipbuilding; allows for economic order quantity procurements of shipbuilder material and subcontractor effort; decreases hardware costs through large lot procurements; and reduces disruptions in vendor delivery schedules. The Navy will continue to explore use of block buys and multi-year procurements for other ship classes as programs mature.

To further stabilize the industrial base, the Navy revisited the acquisition strategies for the DDG 1000 and DDG 51 programs, and negotiated Memoranda of Agreement (MOAs) between the Navy and the affected shipbuilders. These MOAs allocated the building of all three DDG 1000s at General Dynamics Bath Iron Works, and the first two new DDG 51 Class ships (DDG 113 and DDG 114) to Northrop Grumman Shipbuilding. The MOAs are designed to ensure shipyard workload stability at both yards, leverage learning, stabilize and minimize cost risk for the DDG 1000 Program, efficiently re-start DDG 51 construction, facilitate performance improvement opportunities at both shipyards, and maintain two sources of supply for future Navy surface combatant shipbuilding programs.

Focusing on material, there are opportunities that exist to increase competition to drive down costs in the near term. Current material sourcing by the two parent shipbuilding corporations (Northrop Grumman and General Dynamics) could be improved to better coordinate leveraged material buys within the six shipyards that they own. Economic order quantity savings on material purchases could be realized by inducing regional and multi-product material buys within individual shipyards, within corporations, and across the two parent corporations.

Ownership of technical data rights is a key enabler for healthy competition. This allows the Navy to solicit ships, ship systems, and maintenance and modernization from a wider selection of potential shipbuilders and suppliers.

We need to design for producibility.

The Documents for Ship Cost Reduction (DSCR) program is an outgrowth of NAVSEA's Strategic Initiative to Build an Affordable Future Fleet. In DSCR, NAVSEA's Warranted Technical Authorities work with industry vendors and the shipbuilding community (through the National Shipbuilding Research Program) to drive costs out of specifications and standards. Specification costs are driven by three main factors: specification content, how the content is tailored and invoked on contract, and how those contract requirements are interpreted during implementation. Costs are avoided through the elimination of unnecessary requirements and simplification of specification language. NAVSEA objectives include removing/correcting technical content that adversely impact cost, ensuring specifications are properly invoked in contracts, and clarifying specification content. Early results from program implementation indicate potential cost savings from changes for the following guiding specifications: 1) Shock: Alternative land-based qualification test machine instead of a Floating Shock Platform; 2) Vibration: Vendor self-certification of testing, in accordance with established procedures; 3) Motors: Revised Motor specification has streamlined requirements; 4) Welding: Deleting the requirement for uncoated pipe joints for hydrostatic testing.

The Navy has long recognized the savings potential derived from direct collaboration with the shipbuilding community. The National Shipbuilding Research Program (NSRP) is a Navy-led collaboration of 12 major U.S. shipyards focused on industry-wide implementation of solutions to common cost drivers. The program targets solutions to industry's priority issues, in concert with the Navy shipbuilding community, and undertakes research and development efforts that exhibit a compelling business case to increase warship affordability by improving U.S. shipbuilding and ship repair efficiencies. Solutions include leveraging commercial best practices and creation of industry-wide initiatives that promote aggressive technology transfer to multiple U.S. shipyards. Nearly 150 companies from 34 states have collaborated on NSRP-funded activities.

Detailed accounting of NSRP payback revealed a greater than four-time return on the Federal investment. The NSRP collaboration vehicle continues to respond to Congressional concerns on shipbuilding affordability and contributes to the Navy's strategy to realize the 313-ship Fleet. Navy Program Executive Offices (PEOs) (Ships, Submarines, and Carriers) are involved in NSRP and have provided funding for specific projects over the last three years. The NSRP has enabled the shipbuilding industry to speak with a unified voice to provide sound technical input to new regulations under consideration by OSHA, the EPA and others. This reduces the potential costs associated with the new regulations, while preserving adequate personnel safety and environmental protections.

Properly executed technical oversight conducted by fully competent technical authorities is integral to the success of Navy ship construction programs. Engineering excellence is a necessary enabler for cost control and cost reduction. This effort has three key components: making sure ship designs are amenable to an efficient build strategy, making sure shipbuilding specifications facilitate least cost solutions, and ensuring that the design is "locked down" before start of construction. These facilitate modern modular construction techniques utilizing well engineered process, including flow lanes and pre-outfitting of hull modules (i.e., design for producibility),

while also supporting development of engineering requirements which do not go beyond the minimum performance criteria necessary for safe and effective operation in a military environment. Not having design completion prior to construction caused significant rework on first-of-class ships, and this lesson learned has been a major successful focus area for both the CVN 78 and DDG 1000 programs.

We need to continue to leverage our automated design tools.

All shipbuilders and shipbuilding programs have some level of two or three dimensional Computer Aided Design system (2D/3D CAD) available. These are used for ship design, in many instances translated into production, and less often to ship maintenance and life cycle support. Use of fully capable, common CAD tools and extending their use throughout the shipbuilding spectrum through life cycle support will increase the economic effectiveness of our up-front investment in these systems, while simultaneously affording the opportunity to reduce both shipbuilding as well as life cycle support costs.

Use of automated design tools greatly reduces rework in production. For example, changes on the lead VIRGINIA Class submarine were less than half of the changes on the lead Seawolf. Coupling CAD systems with Integrated Master Schedules (IMS) further enhances cost reduction opportunities for the Navy and the shipbuilding industry. Effective CAD and IMS implementation can tell us when we are truly ready to start production. We recently increased our emphasis on Production Readiness Reviews (PRR), to the point that some shipbuilding programs have not been allowed to start production when originally planned because of lack of design maturity.

Schedule flexibility is a little appreciated cost reduction tool. Allowing our shipbuilders to most-efficiently schedule their short and long term workload by allowing variations to contractual dates enables workforce stability and proper material flow rates in our shipyards. Properly used, IMS allows for tremendous visibility into the details of shipyard labor and material usage, enabling bilateral schedule adjustments that can yield tremendous efficiencies.

We need to improve performance oversight.

The Earned Value Management System (EVMS) is a proven tool that measures actual industrial performance in a standardized, objective, fact-based manner. We have not always used EVMS as we should, or when we should, in shipbuilding. EVMS enables reality-based cost control dialogue between Navy and industry. We are expanding use of this valuable tool.

Poor shipbuilder performance can derail even the best shipbuilding processes. EVMS enables timely, clear, and effective identification of shipbuilder production-related problems, providing the entire shipbuilding team with valuable insights. Corrective actions can be targeted sooner, allowing our shipbuilders to quickly recover cost and schedule.

Navy on-site oversight of shipbuilding is essential for the Navy to ensure shipbuilders comply with the contract requirements of vessels. This role is filled by the Supervisors of Shipbuilding in Bath, ME; Groton, CT; Newport News, VA; and on the Gulf Coast. From 1990 to 2006, the Supervisors of Shipbuilding experienced a 54-percent decrease in manning. By the end of fiscal year 2007, the Supervisors of Shipbuilding were funded to a level of manning significantly lower than both the (then) current workforce size and the requirement, and facing a 10 percent shortfall to current staffing over the next five years.

Following the challenges experienced during construction of LCS 1 and LCS 2 in fiscal year 2007, NAVSEA conducted a comprehensive, bottom-up analysis of the Supervisors of Shipbuilding

organization. In the nearly two years since then, we have augmented the on-site waterfront capability of the Supervisors of Shipbuilding in the areas of engineering, project management, and earned value management.

We are also focusing on the implementation of common business processes and practices across the Supervisors of Shipbuilding. Examples include consistent vessel progressing methods, and compartment completion processes. By the end of fiscal year 2009, all four Supervisors of Shipbuilding will use the same discrepancy-management software. Consistency will allow us to provide contractor oversight with comparable metrics and methodology, and support cross training of employees across the Supervisors of Shipbuilding community.

First pass quality is critical to containing costs, and the Navy is working closely with its shipbuilders to standardize criteria, implement proper training, and ensure compliance. Recent problems the Navy has seen in shipbuilding are associated with poor weld execution and inspection, significant rework (driving up costs), and an inexperienced workforce have caused us to increase our focus in these areas. Many of the smaller shipyards lack sufficient access to adequate skilled labor, and the robust processes and practices required in building Navy ships, and thus struggle with the same issues. The Supervisors of Shipbuilding work with the shipbuilder to identify where quality improvement is needed and to maintain focus on improvement. The Supervisors of Shipbuilding have an ongoing focus on developing and standardizing robust Quality Assurance procedures. This will ensure better detection of shipbuilding issues early in the process, and focus attention toward correcting root causes to improve first time quality.

Supplementing both our technical community and our waterfront organizations, we have established a relationship with the American Bureau of Shipbuilding (ABS) in some programs. ABS provides valuable independent technical review for design products for both LCS and DDG 1000 Classes. We have also found their waterfront quality assurance services to be valuable and have worked to ensure a good partnership with the Supervisors of Shipbuilding.

We need aggressive cost-reduction programs.

The Navy has initiatives and processes to capture economic benefits from commonality. These include commonality addressed at the ship level, at the system level, at the material level, and in processes. In the current Navy, commonality is enhanced through commodity contracts across multiple platforms; parts commonality; common processing and display systems; modularity; Open Architecture; and software reuse. The commonality initiative focuses on defining solutions for reducing variation for systems, sub-systems and components. Total Ownership Cost (TOC) analysis has indicated that some variation is needed in Navy systems to provide the lowest Total Ownership Cost, because competition is maintained and complexity is reduced. Examples of variation reduction study results include: Fluid systems with a reduction from 240 to 116 different centrifugal pumps, machinery control systems with a reduction in work stations from 24 to 8, and climate control systems with a reduction in vane axial fans from 192 to 43. These results indicate significant opportunities exist for further variation reduction in other fleet systems.

The Navy is increasing commonality by analyzing current hull designs for use in future ships such as the Command Ship Replacement. The Navy is also utilizing existing Navy systems on new designs; using adaptive infrastructures to allow technology to evolve without a physical impact to the ship; leveraging commercial technology; increasing modularity; increasing Open Architecture; adopting Class Common Equipment; and developing a common specification for an integrated product data environment. The goal of all these initiatives is to minimize variance within the

systems to reduce cost, schedule, and risk. Overall, the Navy is moving towards a warfighting capability-based approach rather than platform-centric approach. This means that the Navy develops specific capability and functionality for use Enterprise-wide vice expending additional resources developing multiple systems that provide the same capability but are targeted to one class of ships only.

Combat and weapons systems related costs are often the largest cost drivers in shipbuilding, even if costs of the weapons themselves are excluded. Weapons systems are approximately 40 percent of the total cost of naval warships over a five year period. Software development; systems engineering, integration, and test; sensors, such as radars; and weapons systems are the major elements of this cost.

To reduce weapons systems costs, the Navy is pursuing the fielding of open, modular, and extensible systems. This strategy enables the Rapid Capability Insertion Process (RCIP) and the integration of new technology without costly software changes, helps manage Commercial Off-the-Shelf (COTS) obsolescence, and encourages commonality and reuse. The Open Architecture approach to development allows new business models, reduced manning and training, test and evaluation efforts, combat system certification efforts, and operating and support infrastructure.

Another opportunity for generating savings is combat systems baseline consolidation. The Navy has 12 combat system baselines in the fleet reflecting the Aegis Combat System, Advanced Combat Direction System (ACDS), and Surface Ship Defense System (SSDS). By 2010, the number of combat systems baselines will increase to 15, reflecting the introduction of AEGIS, SSDS, and LCS Open Architecture Common Environment (OACE) baselines to the fleet while legacy baselines are still employed. Following the submarine example with Acoustic Rapid COTS Insertion/Advanced Processing Build (ARCI/APB), the Navy is examining a modular architecture that will facilitate commonality and reuse in order to keep combat systems current while at the same time dramatically reducing the number of baselines. Ultimately, the Navy's goal is to have two combat systems, one for combatants and one for support ships. This will result in optimized cross-class/ platform systems instead of class specific requirements.

This vision will require time and investment dollars to develop, implement, and integrate the new technologies for new platforms, and to ensure interoperability on legacy platforms and systems. The reduced number of unique systems will result in common specifications and modular integrated ship and system designs. This can lead to procurement strategies that will ultimately reduce risk and life cycle cost. The desired effect is a greater number of vendors able to compete to design and build the common modules resulting in increased competition.

The ability of the shipbuilders to reduce overhead costs is tied closely to workload, stability and predictability of that workload. U.S. shipbuilding has declined nearly 40 percent from 1992 to 2002. This reduced quantity of work at our major shipyards has resulted in a reduction in direct labor workload over which overhead costs must be spread. While our private shipyards have been actively engaged in reducing overhead costs, some quite successfully, increased focus is needed in this area. "Fixed" overhead must be driven into "variable" overhead, then controlled as a function of workload. As an informed, engaged customer, the Navy can assist the private shipyards in this area by stressing cost control, creating (or sustaining) a robust competitive environment, and allowing for innovation in overhead processes that enable reduction of fixed overhead costs.

Lastly, the Navy can adjust the standard payment schedule for collecting Progress Payments. This can be a powerful incentive for shipbuilders to meet selected cost reduction benchmarks, especially if applied early in the design/build process.

We need to invest in facilities and training for our shipbuilding industrial base.

Government shipbuilding contracts are routinely structured with incentive fees and/or award fees, both for cost reimbursable and fixed price type contracts. Incentives and award fees are tools or mechanisms through which the government encourages specific behavior or performance. The Navy has recently implemented a number of different shipbuilding facilities investment incentives. By setting aside ship construction funds to be allocated based on business case justification, these special incentives allow shipbuilders the potential to earn additional fees toward capital and process improvements when proven to be mutually beneficial to both contract parties.

As outlined in the March 2007 Report to Congress on *Assessments of Naval Vessel Construction Efficiencies and of Effectiveness of Special Contractor Incentives*, several ship construction contracts have utilized such contract incentives with demonstrated success, including VIRGINIA Class Block II and DDG 51 Class programs. In the case of the VIRGINIA Class Block II contract, the shipbuilder is funded up to 50 percent of the incentive at the start of the improvement, with the remaining 50 percent available upon satisfying criteria defined in contract. Other ship programs utilizing special incentives toward capital expenditure include the CVN 78 and DDG 1000 Class programs.

Another notable way in which contract incentive fees have been used to finance improvements is through the renegotiation of the contractor share line in an under-run scenario. Fixed price incentive and cost plus incentive fee contracts contain “share lines” for when the costs attributed to the contract come in above or below the negotiated “target cost.” When the contractor is below the target cost, the excess funds set aside are shared at the ratio negotiated. When the negotiated share ratio is 50/50, each dollar that the contract cost is below the target cost is split evenly. However, through contract re-negotiation only when the business case demonstrates overall savings to the Navy, that ratio can be adjusted more favorably for the contractor, provided the contractor commits to investing that extra profit toward financing improvements, as has been done successfully on the DDG 51 ship construction program.

Private shipyards must maintain a sustainable and capable work force in order to be competitive and meet their respective contractual requirements. Further, five of the six major construction shipyards have apprentice programs registered or affiliated with their respective state governments. Both Austal and Marinette Marine have or will have apprentice programs as well. However, there is not a standard training regime or protocol across the shipyards, even for those with the same parent company (i.e., General Dynamics and Northrop Grumman). This is an area where the Navy intends to increase focus.

Facilities Capital Cost of Money (FCCM) is an imputed cost which is an allowable charge to government contracts to recognize costs of contractor capital for facilities investments. This allowance directly recognizes "costs" associated with deploying capital assets for performance under government contracts for which the contractor will be paid. Therefore, the more the contractor invests in facilities or capital improvements, the higher the net book value. The higher the net book value, the higher the resulting imputed costs allowed to be charged to government contracts. This provides monetary incentive for the contractor to increase productivity and cost reductions through modernization of production facilities.

We need to explore available financing tools to ensure the most efficient construction of our ships. In many cases, how we are required to finance our ship construction programs constrains how we build our ships. We will work within the executive branch and with the legislative branch to ensure we maximize the financing flexibilities that we are afforded.

We need to test only what needs to be tested.

We are reassessing our formal Developmental and Operational Testing processes and are working with our Office of the Secretary of Defense counterparts to find ways to streamline testing. Developmental and operational testing for a large shipbuilding program takes several years and adds substantial cost, both to execute the testing program as well as funding production changes generated by late test results. Early testing results can be easily incorporated into ship designs at reasonable costs; late testing drives high-cost changes into production and post-production ships. Testing is a critical and necessary component of our shipbuilding process, but innovation in this area can help to reduce shipbuilding costs while keeping operational effectiveness high. Both DDG 1000 and LCS have active initiatives in progress to review testing requirements and testing processes with an eye to reducing cost and increasing operational availability, while still meeting core operational validation requirements.

Test and Evaluation savings could also be realized in production, if common products were tested once vice on every platform. The Navy has devised an Enterprise Test and Evaluation strategy to eliminate redundant testing of common systems, which is being implemented. We need to control our appetite for change.

ASN(RD&A) has a long standing policy which restricts the program manager's ability to approve changes. The Navy recognizes that change is disruptive and therefore limits change to safety, statutory adds, obsolescence, fixes from testing, and areas which reduce cost. As a result of this policy, changes have been reduced.

We need a strong, properly sized Navy acquisition workforce.

Personnel staffing reductions since the early 1990's have increased risk to acquisition program success and harmed the ability of the Navy to perform critical systems engineering, program management, cost estimating, contracting, and naval ship construction oversight. We are working to improve the quantity and quality of the Navy's acquisition workforce. We have long-established systematic career development programs for DoD personnel serving in designated acquisition career fields, with clear requirements for filling critical acquisition positions. These professional requirements are now being rigorously enforced. We are filling all existing vacancies across the acquisition community. Through use of Section 852 authority granted by Congress in 2008, we are "jump-starting" billet growth in targeted career fields. We are also growing our core acquisition workforce through an aggressive, DoD-sponsored "in-sourcing" process. These two initiatives, Section 852 and in-sourcing, are expected to add at least 5,000 new Navy acquisition personnel, and billets, across the FYDP. These new people will not just be interns and entry level personnel; we are hiring at all experience levels across the full experience spectrum. Those specialized acquisition management functions, such as program management, contracting, and systems engineering, we consider critical and are now being closely managed as Congress intended. We have targeted our most critical programs and acquisition skill shortfalls. Specifically, we have substantially augmented the on-site waterfront capability of the four Supervisors of Shipbuilding, and are in the process of growing our shipbuilding program office staffs, in some cases by as much as 30 percent.

We need continued commitment to building force structure required to meet the Maritime Strategy.

Armed with a stable requirement, properly budgeted ships, and stable serial production, all inside a competitive market, the Navy can enter into long term contractual relationships, including multiyear and block buys. Volume and long term stability, in turn, enables industry to invest in cost-reducing facilities, processes, and training programs. Vendors can compete, further reducing costs. As industry focuses on reducing cost through optimizing industrial processes, the Navy can focus on eliminating internal Navy processes that drive out-of-cycle change and instability. Combined, these forces will decrease ship costs, allowing for increased force structure across the shipbuilding budget.

The Navy has come through many difficulties associated with lead ships and sustained production is proceeding. The fiscal year 2010 President's Budget request, which focuses on improving performance in the production of follow ships of each class, reflects the Navy's emphasis on stabilizing the shipbuilding plan. All of our efforts in support of that plan are focused on improving our shipbuilding cost performance.