

Balance of Sea Power **An Alternative Shipbuilding Plan**

Our nation's tradition of maritime excellence has created an historically recurring dilemma that deepens with each budget cycle. Quality ships and their effective exercise of American foreign and military policy have made them ever more indispensable – and ever more expensive. The sea power we need and want comes with a bill we cannot always sustain. It is a recurring phenomenon throughout American history, and one which is set to peak yet again by the end of the decade, and at a time when American presence in the oceans and littorals of the world is demanded more than ever. Given the fiscal, strategic and technology realities of sustaining American naval power, the next battle for the right mix of new and old ships is upon us, and the battleground rests squarely within the SCN (Ship Construction Navy) budget, and what it intends to fund. Fortunately, a viable answer lies with our existing current cruiser-destroyer fleet, and the proper rate of execution of the path to their replacements - DD(X) and ultimately CG(X).

The Realities of Balance

Throughout our history, the defense budget has naturally demanded, even in a time of war – a relative balance against competing needs. And the fight for the appropriate balance of naval force often seems as epic in scope as the battles in which our fleet engages. Yet our hard-won spectrum of capabilities is enduringly popular with policy makers and warriors alike, for the flexibility and world influence through presence and firepower it represents: carriers are indispensable; so are submarines; as are amphibious capabilities; so too, naval gunfire; and the list goes on.

Another dimension to the balance dilemma is increasingly relevant as the 21st century gets underway: while individual ships have become more effective and efficient thanks to technology innovations, we have concomitantly reduced the number of hulls that can perform our many missions around the globe. But we are reaching an asymptotic point, where there is clearly a minimum number of ships below which we cannot meet our obligations, even with the extended reach and sustainability that technology can provide. In a few short decades we have gone from an accepted minimum threshold of 600, to 300, and now perhaps 200 ships or less. Technology and virtual presence still have their limits, and just as the Army talks about the need for more “boots on the ground,” the sea services must rightly insist on more hulls in the water.

All of this is further aggravated by our traditional, natural desire to float, literally, the best maritime technology available *right now*. Incredible advances in propulsion, automation, stealth, damage control, long-range guns and netted fire and command and control systems are within our reach, if we could only pay for

it all as the advances come on line. Our commitment to continued maritime leadership on the world stage would seem to demand it.

SCN: Getting the Most out of Execution

And so the heightened dilemma: we have a need for the very best technology, and we have a need for it to be on station, ready for a panoply of missions that seem to grow in number and scope without pause. There are solutions that promise savings against the staggering costs, such as lower manning through automation, reduced maintenance requirements through more sustainable systems and materials; and cost-effective, multi-mission, smaller ships for the littorals. But against the cost of fielding the highest of technology, these answers only chip away at the margins of an SCN budget that will likely remain flat after peaking at its projected levels for fiscal years 2007 to 2011, of about \$14 billion per year.

Assuming that the realities of a constrained budget, the continued relevance of American naval power, and the staggering cost of technology will continue, the necessary balance of the future naval force has to be found within SCN projections: how – and how fast - all of the programs within it are executed.

The good news is that the SCN budget is in some respects a relative safe haven for planning purposes. It has the longest “spend out” period (5 years) of any major defense appropriation. SCN is a favorite appropriation for a Congress that tries to show robust defense funding, but values low outlays in the near-term. And it also represents more stable funding than the often volatile O&MN, OPN budgets – especially in time of war. SCN is not the only funding source for new ships: the National Defense Sealift Fund (at an expected \$1.3 billion per year in the out years) covers the cost of commercial hulls used by the Navy; but it too is constrained by its uses for nuclear re-fuelings, conversions, and outfitting expenses.

Taking some fairly safe assumptions about spending within expected SCN levels reveals a budget challenge for new ship construction, to say the least. A six year projection at the \$14 billion per year level - assuming that a CV and an LHA(R) are procured as expected every four years, DD(X)s and SSNs at one per year, a total of thirty LCS platforms, plus normal outfitting, conversion and refueling costs - leaves no money for getting either DDXs or SSNs to the desired production rate of two per year. And at a production rate of only one per year for these platforms, there is considerable excess capacity among the yards that build these ship classes – an overhead burden the Navy and industry have no desire to take on. There is clearly no support in the Congress to see even one shipyard go away, and there is no margin in these figures for normal cost growth, or resolving of technical risk that will surely manifest itself within the leaps of technology of DD(X) and CG(X).

With so much to be valued, from our wondrous ships – both existing and imagined – to the shipyard and workers that build them, there is little we want to give up on. Yet the answer, and the balance we must maintain, lies within our grasp in terms of the manner and rate at which we execute the SCN budget in the years ahead. There is likely little flex in the submarine, carrier and other large deck plans for reasons that range from the political, to the strategies surrounding their employment, to the numbers and ages of the hulls involved.

The SCN variable that allows the most opportunity for managing risk, and in actuality may enhance the SCN budget plan and the necessary politics that surround it, is the balance between the existing cruiser-destroyer force, and its follow on hulls of the DD(X) and CG(X) classes.

Revolution through Evolution

The re-telling of historic shifts in naval ship design and construction is most compelling by hearkening back to seemingly rapid, radical shifts in technology, from sail, to steam and the like. In reality, revolutions in naval weaponry, for reasons that have ranged from budget realities to risk management, took place over time; revolution achieved through evolution, in a sense. This has been especially true in terms of 20th century technology, with systems such as Aegis, Polaris and even the total air and surface weapons system know as LAMPS (Light Airborne Multipurpose System).

DD(X) and CG(X) are arguably a revolutionary shift, and they too, may prove to be most achievable by arriving via a more evolutionary path. But beyond historic precedent, there are less esoteric, more compelling reasons to reduce the plan to bring DD(X), and ultimately CG(X) to fruition at the rate of XX ships by 20XX.

When the last DDG-51 (DDG-112) is delivered in fiscal year 2008, we will have an Aegis cruiser-destroyer fleet with an average age of about 14 years. This formidable fleet, most of which is in existence today, will consist of 22 CG-47s and 62 DDG-51s. These ships could easily be recapitalized with a robust upgrade of combat systems and HM&E (Hull, Mechanical and Electrical) improvements at a rate of five to eight ships per year, funded in SCN at about \$300 to \$500 million per ship. This represents an affordability rate of six to ten ships for the price of 1 DD(X). A lot can be said, too, for the political and ethical benefits of getting the most out of these existing ships, which were – and are – a sizable investment made by expectant taxpayers.

These upgrades would necessarily be executed in the two shipyards currently engaged in surface combatant construction. Conversion answers the two-shipyard problem, with its political benefit within Congress, and its more practical benefit in terms of sustaining the work force and the industrial base with modernization work vice solely new construction.

The numbers of ships on station has continued to decline steadily in the past 15 years, and the DD(X) build rate goal cannot be achieved at the currently projected funding levels. Conversion of the existing cruiser-destroyer force, however, would leave more ships in the water than with the current SCN funding plan, thereby contributing to perhaps the most fundamental role of the surface Navy – “being there.” More hulls would also mean enhanced command opportunity, a not altogether unimportant morale and retention issue for the officer corps.

The existing cruiser-destroyer hulls are solid, effective, and relatively young ships that can be increasingly relevant if converted with technology such as new open architecture systems. And these hulls can simultaneously be vehicles for the management of risk in new systems implementation – an important consideration in an age of monumentally expensive technology reaches. Aegis hulls have already been proven to be well suited for the incremental phase in of new technology, thereby reducing the risk toward DD(X) and CG(X).

Finally, conversion of the Aegis cruiser-destroyer force would help to address the Navy’s reduced manning priority, a vastly important cost-savings initiative. It would, in fact, would reduce ship manning faster than the current SCN plan would through more rapid introduction of DD(X).

Balance of Sea Power

A revised execution rate of the large, but admittedly constrained SCN plan represents safe passage practically, strategically, and politically, for a modern American Navy that is as relevant as it is balanced. A reduced build rate for DD(X) and CG(X) allows for other equally compelling priorities, and keeps more hulls in the water, on station and on task. It is not a flashy plan. It does not get artists’ renditions of 21st century ships in the water as soon as we had hoped. But it will get them there, at lower cost, reduced risk, and with more proven technology. It’s prudent, it’s effective, and it may in fact be the best way to reach a revolution that we know we need, but can’t immediately afford.

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