

DEBATE & RESPONSE

SMALL NAVIES DO HAVE A PLACE IN NETWORK-CENTRIC WARFARE

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In “Small Navies and Network-Centric Warfare” (*Naval War College Review*, Spring 2003, pp. 1–16), Paul T. Mitchell asked if there is a place for small navies in the world of network-centric warfare. From my perspective as the program executive officer for the U.S. Coast Guard’s Integrated Deepwater System (IDS), the answer is a resounding “Yes!” The price of admission, however, is a network-centric system for C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance), modern air and surface platforms, and a well-established relationship with the U.S. Navy.

Rear Admiral Stillman became the first program executive officer of the Integrated Deepwater System in April 2001. He leads the largest recapitalization program in the U.S. Coast Guard’s history. Prior to this assignment, he served as the first assistant commandant of the Coast Guard for governmental and public affairs.

Rear Admiral Stillman’s career includes numerous afloat assignments. He served as operations officer and executive officer of, and later commanded, the U.S. Coast Guard Eagle, and he was the first commanding officer of the 270-foot medium-endurance cutter Forward. Early in his career he also commanded the cutter Cape Cross, served on the cutter Valiant as a deck watch officer, and was an executive officer of the cutter Vigorous. Rear Admiral Stillman graduated from the U.S. Coast Guard Academy in 1972 with a B.A. in science. He holds a master of arts degree from Wesleyan University, as well as a master’s of public administration from George Washington University.

The U.S. Coast Guard’s experience in addressing the urgent need to recapitalize its inventory of patrol boats, cutters, aircraft, and supporting systems to meet twenty-first-century operational requirements is instructive.

Our situation today bears a striking resemblance to conditions faced by many navies around the world. With an average age of more than thirty years, the Coast Guard’s fleet of high and medium-endurance cutters is older than all but *two* of the thirty-nine worldwide fleets of similar size and mission. This aging and increasingly obsolete inventory of aircraft, cutters, and systems jeopardizes the service’s future ability to perform its multiple missions in such areas as maritime homeland security, national defense, the marine environment, and maritime safety.

At a time when mission demands are growing, our legacy assets (which are approaching block obsolescence by the end of this decade) are less reliable, more difficult to maintain and repair, and more expensive to operate. As Mitchell correctly emphasizes, the challenges of designing and acquiring a force structure suitable for today's network-centric age involve formidable technical issues as well as the policies and protocols governing joint and coalition operations with the U.S. Navy. The Coast Guard is tackling these challenges with a two-pronged strategy.

Past Coast Guard acquisition programs—based largely on the one-for-one replacement of hulls and airframes—have resulted in suboptimized interoperability in critical command and control capabilities. Yet as recent combat operations in Afghanistan and Iraq demonstrate vividly, seamless C4ISR is the sine qua non for success in the netted battle space of the twenty-first century.

The IDS, conceived several years before the terrorist attacks of 9/11, will redress the Coast Guard's current dilemma. When fully implemented, the twenty-year, seventeen-billion-dollar (fiscal year 1998 dollars) Deepwater program will consist of three classes of new cutters and their associated small boats, a new and upgraded fixed-wing manned aircraft fleet, a combination of new and upgraded helicopters, and both cutter-based and land-based unmanned aerial vehicles.

Deepwater takes an integrated "system-of-systems" approach to upgrading existing surface and air legacy assets while developing new and more capable platforms—including highly improved systems C4ISR and advanced logistics capabilities.

Deepwater's C4ISR system warrants special mention. It will lead to more effective risk management and more productive force employment in all Coast Guard mission areas. The Coast Guard's reliance on a capabilities-based system design was based on broad C4ISR requirements established for the IDS contract award.

- *Surveillance, detection, and monitoring:* Capable of determining what and who resides, enters, and exits in the Deepwater area of operational responsibility.
- *Internal information exchange:* Maintain simultaneous real-time voice, video, and data communications between all Coast Guard assets.
- *External information exchange:* Maintain simultaneous real-time voice, video, and data communications with the Department of Defense, other federal agencies, state and local government, NATO, and similar coalitions.
- *Situational awareness:* Maintain awareness of the operating environment, to include fusion of local tactical information with database information in near-real time.

C4ISR capability improvements—including improved sensors and systems to collect and transmit data and information—will give operational commanders the tools they need to develop better situational awareness and a common operating picture. This will lead, in turn, to higher levels of maritime domain awareness (comprehensive information, intelligence, and knowledge of all relevant entities within the U.S. maritime domain, and their respective activities, that could affect U.S. security, safety, economy, or environment).

Under current plans, Deepwater will begin deploying the Coast Guard Common Command and Control (CG-C2) system in 2005. It will be integrated with Deepwater's sensors, communication systems, and legacy interfaces. A common C4ISR architecture and software implementation across Deepwater's surface and aerial platforms will reduce operational costs and accommodate an imbedded "technology refresh" capability to obviate obsolescence in the future.

Tactical data from Deepwater platforms will be integrated into a common operating picture through CG-C2; timely and secure data exchange will be ensured by satellite communication data links available twenty-four hours, seven days a week. Sensor integration will be achieved on all assets through correlation of specific data and fusion into the common operating picture.

Deepwater's network-centric C4ISR architecture will contribute to improved maritime domain awareness through its provisions for disseminating shared tracks and real-time data streams, online intelligence, robust and seamless connectivity with continuous coordination, stand-alone capabilities, a combination of active and passive sensors, expanded surveillance and detection areas, and improved communications with all federal agencies and merchant shipping.

The IDS combination of upgraded and new surface and air platforms also will be more technically capable and designed for increased endurance and range, better sea-keeping, ease of maintenance, and smaller crews. These characteristics translate into added operational capacity, more presence, and lower life-cycle costs. Deepwater's combination of both manned aircraft and UAVs, for example, will deliver 80 percent more flight hours than today's legacy inventory of aging fixed-wing and rotary aircraft.

Turning from Deepwater's technical considerations, the second thrust of our acquisition strategy entails strong partnerships within the Department of Homeland Security, the Department of Defense, industry, and state and local agencies. New levels of public and private cooperation with Deepwater's systems integrator, Integrated Coast Guard Systems (a joint venture between Lockheed Martin and Northrop Grumman), allow us to draw on its vast experience in designing and developing market-edge systems that strike an appropriate balance between capability and affordability.

As one of the five branches of the U.S. armed forces, the Coast Guard strategy for Deepwater also is guided by its historically close relationship with the U.S. Navy.

The *National Fleet Policy Statement*, originally signed in September 1998, codifies this relationship. In July 2002, the Chief of Naval Operations, Admiral Vern Clark, and the Coast Guard Commandant, Admiral Thomas H. Collins, re-affirmed and updated the agreement to ensure that both services work together to synchronize our multimission platforms, infrastructure, and personnel to provide the highest level of naval and maritime capability for the nation's investment. This partnership—a model, possibly, for similar arrangements between the Coast Guard and some of the other twenty-one agencies in the Department of Homeland Security—allows an effective two-way flow of capability to meet both expeditionary and domestic-security imperatives.

One provision of this policy stipulates “all ships, boats, aircraft, and shore command-and-control nodes of the National Fleet will be interoperable to provide force depth for peacetime missions, homeland security, crisis response, and wartime tasks.”

Mindful of this guidance, my counterpart in the Department of the Navy, the Program Executive Officer Ships, Rear Admiral Charles Hamilton II, and I signed a memorandum of understanding in 2002 and formed a working group to specify common technologies, systems, and processes critical to both the Navy's future Littoral Combat Ship and the design and development of Deepwater's Offshore Patrol Cutter. This team holds regular meetings and exchanges at multiple staff levels to ensure that we will derive mutual benefits through a cooperative technical approach in areas of common interest.

The renewed cooperation exhibited between the Navy and Coast Guard reflects our awareness that there are necessary and unavoidable transformational intersections where each of our service's operational requirements overlap.

Tomorrow's Navy's network-centric capability will reside in FORCENet and systems like cooperative engagement capability. They offer the Navy the means to transition to a twenty-first-century force that can share digital tactical information and sensor data seamlessly between ground, air, space, surface, and submerged platforms despite broad geographic separation across an operational theater.

The Coast Guard faces a similar requirement, and it is this network-centric vision that motivates the design and development of a Deepwater C4ISR system that will allow Coast Guard surface platforms to serve as nodes for shared information and operational knowledge with command centers ashore—a potent force multiplier that will contribute directly to the development of a common operating picture and maritime domain awareness.

Deepwater's incremental C4ISR approach to improve Coast Guard maritime domain awareness will complement the Navy's FORCENet initiative. Just as

FORCEnet will transform the Navy's operational capabilities by enabling more rapid decision making and massed war-fighting effects, Deepwater's interoperable C4ISR system will provide the means to communicate information and data quickly and securely between Coast Guard assets, the Department of Homeland Security, the Navy, and other federal, state, and local agencies.

What of the U.S. Coast Guard's many friends around the world? Faced with a widening gap in technical capabilities, they cannot dismiss out of hand the concern (voiced by one commentator cited by Mitchell) that the nature of the U.S. Navy's network-centric capabilities may ultimately result in more unilateral U.S. operations. Recent history, however, suggests that there are powerful incentives for the United States and its allies to develop compatible navies and to reach agreement on the means to share sensitive information in a networked coalition force of ships and aircraft.

The United States and its partners in NATO have a long history of such cooperation and common purpose. More recently, during Operation Iraqi Freedom, sixty-five ships from coalition nations joined 175 U.S. Navy ships and U.S. Coast Guard cutters assigned to the U.S. Fifth Fleet. This operation was patterned on similar cooperation demonstrated during combat operations in Afghanistan in 2001 and 2002.

For its part, the U.S. Coast Guard encourages foreign partnering opportunities through its Deepwater International Office, my program's arm for international engagement and Foreign Military Sales (FMS). This office serves as an important link between the overall U.S. Coast Guard acquisition effort and the overseas community. The ultimate goals are to achieve heightened cooperation and interoperability with U.S. allies, increased efficiency of acquisition, and worldwide visibility of the technological superiority in maritime domain awareness that the Deepwater Program will bring to the twenty-first century.

During the past year, the Deepwater International Office has provided information to educate prospective international customers and the security assistance community. The Deepwater staff continuously studies potential foreign markets for Deepwater system and subsystem applicability. To this end, the staff works closely with defense attachés, embassy personnel, and security assistance officers.

In addition to promoting the Deepwater System's platforms and systems through foreign military sales, the IDS International Office focuses on building partnerships throughout the security assistance community. The Deepwater Office is presently working, for example, with the Director of Security Assistance and Arms Transfers in the Department of State. In the Department of Defense, the office works directly with the Defense Security Cooperation Agency and the U. S. Navy International Programs Office (Navy IPO).

Deepwater International effectively leverages a memorandum of understanding between Navy IPO and the International Affairs Office (G-GI) at U.S. Coast Guard headquarters in Washington, D.C., to pursue security assistance opportunities worldwide. G-GI is the nexus for international affairs policy guidance at Coast Guard Headquarters, and it provides Deepwater with superb support. When briefing security assistance officers at annual meetings hosted by the unified U.S. combatant commands, for example, the International Affairs Office and Deepwater staff follow a team approach to derive mutual benefits.

Deepwater staff officers maintain close ties with the Navy IPO for the explicit purpose of advocating the international market potential of the Coast Guard's IDS system of systems. As the lead implementing agency for maritime security assistance and associated support, Navy IPO functions as Deepwater's proponent in pursuit of foreign military sales opportunities. Interested nations route all international queries, informal "Requests for Information/Proposal," and formal "Letters of Request" directly to Navy IPO.

After appropriate review of the request for releasability and technology transfer issues, Navy IPO tasks the IDS International Office to provide information, pricing, and availability data and/or technical input to the U.S. Government Letter of Offer and Acceptance that will formally offer the requested Deepwater systems, subsystem, or asset to the requesting government. This relationship with Navy IPO provides the U.S. Coast Guard with the appropriate Department of Defense conduit for successful execution of FMS functions that will eventually help to reduce overall costs in the Deepwater acquisition through increased production runs and economies of scale.

The Department of Commerce and the Deepwater International Office have signed an agreement with the Bureau of Industry and Security (BIS), under which BIS promotes Deepwater platforms to maritime forces around the world. BIS, in cooperation with the U.S. Trade and Development Agency, is exploring unique avenues to develop country and region-specific business plans.

The Department of Commerce and the Deepwater International Office also are working in tandem with the U.S. Export-Import Bank. Due to the Coast Guard's unique role as a multimission military service and law-enforcement agency, we see a real potential for many of the Deepwater platforms and subsystem components to be acquired by our allies through nondefense related loans guaranteed by the U.S. Export-Import Bank.

Clearly, as Mitchell indicates quite eloquently, many challenges exist if smaller navies around the world are to reverse their shortfalls in recapitalization by making suitable investments in network-centric systems. A failure to transform their forces in ways comparable to the U.S. Navy and its smaller partner, the U.S. Coast Guard, however, is *not* a feasible alternative. Antiquated

platform-centric navies—large or small—will be relegated to operational irrelevance.

The U.S. Coast Guard's Integrated Deepwater System provides smaller navies a model for recapitalization that will meet the demands of today's network-centric operations at an affordable cost. Is there a place for smaller navies in network-centric warfare? Absolutely.