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CNA Maritime Dialogue: The US Commercial Shipbuilding Industry and National Defense

About 35 leaders from industry and government met at CNA's offices in Arlington, Virginia, for a structured dialogue on commercial shipbuilding in the United States held under Chatham House Rule (not for attribution). The focus of the May 7 dialogue was national security, especially shipbuilding in support of wartime mobilization. There were participants from domestic shipyards and component suppliers; the Departments of Defense, Transportation, and Commerce; the Office of the US Trade Representative; Congress; and independent research institutes. Participants were organized into three groups with an even mix across government and industry. There were three sessions. This paper captures the highlights of discussion, especially areas of broad agreement.

Session 1: National security role and its challenges

Revitalizing the United States as a leading commercial maritime power is a long-standing goal made more urgent by the rise of the People's Republic of China (PRC) as the world's largest shipbuilder. The PRC produces about 1,700 ships annually, whereas the US produces 3 to 5. Participants agreed that matching China ship-for-ship is unrealistic. A robust domestic shipbuilding base is nonetheless essential to sustaining overseas trade and meeting national security needs.

Capital, labor, and regulation

US commercial shipbuilding faces a cyclical "chicken and egg" problem: building large oceangoing vessels requires costly shipyard infrastructure, which drives up prices. Without sustained demand, shipyards cannot achieve economies of scale or justify further investment—perpetuating the cycle of high costs and low output.

Even if capital costs were reduced and short-term demand increased, the shipbuilding workforce remains a critical bottleneck. Building high-quality ships requires a range of skilled labor, but wages in many positions are not competitive with those in other industries. For similar pay, many workers prefer more comfortable office jobs. Key roles, such as industrial welders, require extensive training and long-term investment. Trade schools and apprenticeship programs do not have the capacity to scale rapidly. Associate degrees for higher skill roles can take two years or more.

Domestic commercial shipbuilding is hampered by extensive regulation, inefficiencies and mismanagement in military procurement, and a lack of long-term government commitment. Participants noted that regulations are often overly burdensome, outdated, and unclear. Some critical ship components are either not produced domestically or available in very limited quantities, with imports further delayed by complex acquisition and customs processes.

Government demand and contract management

The US Navy (USN) and US Coast Guard (USCG) often request design changes mid-construction or demand highly customized specifications, leading to delays and higher costs. These issues are exacerbated by the lack of reliable long-term demand. The USN's 30-Year Shipbuilding Plan offers little assurance to industry and is viewed as unreliable because actual contracts often diverge from the plan.

A large shipbuilding program can sustain shipyards for several years and then disappear, forcing private operators to lay off skilled workers. The uncertain time horizon deters shipyard owners and outside investors from making long-term investments in workforces and infrastructure.

Inconsistent government demand makes it prohibitively expensive—if not impossible—for smaller shipyards to retain workers through boom-and-bust cycles. As a result, the US domestic shipbuilding base remains small and has little surge capacity. It is not well postured to fulfill its national security role.

Making use of commercial industry for national defense

Participants discussed areas in which commercial shipyards and suppliers might add value relative to larger yards that build major naval combatants. One area may be smaller, simpler single-mission ships, as well as uncrewed platforms and decoys. Another idea was to rely more on basic hull designs with adaptable sections and add-on components. This approach might include uncrewed or minimally crewed commercial ships outfitted with offensive weaponry from traditional defense suppliers.

In areas in which the military needs more capacity, as opposed to high-end capability, the commercial side of the industry might step in. The PRC's precision missile capability suggests that the US and its allies could lose large numbers of ships quickly in a major conflict. The US military and merchant marine may need large numbers of more expendable multiuse vessels built to a common design.

Session 2: Commercial shipbuilding in a wartime mobilization

The US government is the primary customer for domestically built ships, both military and commercial. Title 10 US Code § 8679 mandates that vessels for the armed forces be built in US shipyards unless a presidential waiver is granted on national security grounds. The Merchant Marine Act of 1920 (also known as the Jones Act) similarly requires that ships operating between US ports be built domestically, with few exceptions. Although this protectionist legislation ensures dedicated demand for US-built ships, participants noted that lasting growth and the ability to surge production in a time of national mobilization will require some degree of competitiveness in the global market.

The military as a customer

The USN and USCG rely exclusively on privately owned US shipyards for vessel construction because the Navy's public yards do not build ships. This separation often leads to misalignment between builders and customers, with the USN and USCG frequently requesting modifications months or even years into construction. These changes strain logistics and manufacturing, reduce commonality across hulls, and

undermine efficiency. Incorporating capability updates and new technologies mid-build further delays schedules and drives up costs.

Given the complexity of naval vessel construction, privately owned shipyards often cannot accommodate all preconstruction requests. Private equity firms help bridge this gap by advising the services on what is feasible. Participants noted that these firms—often closely involved in the shipbuilding process—are increasingly focused on uncrewed and autonomous capabilities. This focus aligns with the USN's interest in addressing current staffing shortages.

Although uncrewed capabilities could help ease staffing shortages, adding such advanced systems may further extend build times and inflate costs. The commercial shipping sector faces similar crewing challenges. Even with increased ship production, there are not enough qualified mariners in the United States to crew all new vessels. Dialogue participants recommended expanding enrollment and graduation rates at federal and state maritime academies and incorporating automation when feasible to reduce crew requirements.

Becoming more efficient, resilient, and competitive

Dialogue participants frequently raised the topic of automation in shipyards. South Korean and Japanese shipyards adopted automation years ago, achieving significantly higher efficiency than their US counterparts. Although similar reforms could improve productivity in the United States, they also raise concerns. Skilled tradespeople and unions worry that automation could lead to layoffs in the pursuit of lower costs for global competitiveness. Shipyard owners are also wary of potential intellectual property theft. Despite these concerns, some US yards have begun limited automation, particularly in submarine production, and early results show improved construction efficiency.

Participants emphasized the need for common hull designs and preapproved blueprints to enable modular ship construction for both commercial and naval vessels, especially ships that might be quickly constructed in a time of war. This approach would allow ship components—or "chunks"—to be fabricated across the country in smaller factories, including in landlocked areas, and assembled at large shipyards. Modular construction could enhance the industry's global competitiveness, support rapid mobilization in a crisis, and reduce repair times by allowing easier replacement of standardized parts—unlike with today's bespoke ships.

Industrial supply chains

Participants stressed the risks of supply chain dependence on China—both directly and through allies such as Japan and South Korea that rely on Chinese suppliers. Lack of transparency in industrial supply chains raises concerns about vulnerability to disruption or manipulation during wartime. Mapping these supply chains is a necessary first step to defend shipbuilding from PRC interference. Identifying those materials and components that are vital to the shipbuilding industrial base is also necessary.

The discussion highlighted the need to rebuild domestic capacity, noting that a small US shipbuilding industry will by necessity rely on foreign construction and components. The more the industry grows, the less reliant it will be on materials and components from China. Some argued for a strategic reserve of shipbuilding materials and components to hedge against likely shortages in a crisis or war—just as the military stockpiles vehicles, munitions, and spare parts.

Session 3: Hotwash

Participants ended with a hotwash in which they captured key questions. These included the following:

- How can the government create stronger long-term demand signals to help US shipyards reduce build times, improve efficiency, grow their workforce, and adopt new technologies?
- Can US shipyards boost efficiency and competitiveness without government subsidies?
- Which government regulations unnecessarily burden US shipbuilders, and how can they be streamlined—now and during mobilization?
- How big does the commercial shipbuilding industry need to be to meet national security needs?
- Could modular, common hull, and preapproved ship designs be developed to support rapid mobilization? Would this approach sacrifice mission-specific capabilities?
- How can targeted commercial investments strengthen naval readiness during a crisis?
- Should regular maritime dialogues between government and industry be institutionalized?

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