

ADDRESSING THE US ICEBREAKER SHORTAGE

By Craig H. Allen Sr.

Last month we looked at the current assets and missions of the US Coast Guard's Polar fleet. In the second and final installment, we'll look at where we go from here.

Proposals to Close the Icebreaker Deficit

In late 2023, when the US Coast Guard heavy icebreaker *Polar Star's* extended service life expires, the vessel will be nearly 50 years old. Unless construction of a replacement is immediately put on the fast track, the United States will have no active heavy icebreaker after 2023, and its only medium Polar class icebreaker will be more than half way through her planned 40 year service life. Although the need for a *Polar Star* replacement is clear, the size and capability of the next fleet of Polar class icebreakers remains contentious.

Congress itself has recognized the “dismal state” of the nation’s icebreaking capacity. Commonly cited (but sometimes inflated) “icebreaker envy” statistics compare the US Polar icebreaker fleet with those of other Arctic states. For example, a recently-introduced Senate bill claims that Russia has forty icebreakers, is currently constructing four, and is planning to build an additional eight. The National Academies’ 2017 Icebreaker Study actually puts the Russian Polar icebreaker fleet at fourteen active vessels, four under construction and two laid up, while Finland’s fleet numbers seven, Sweden’s fleet four and Canada’s three (only one of which is a heavy Polar class icebreaker).

A 2010 High Latitude Region Mission Analysis prepared by ABS Consulting for the Coast Guard determined that the service needs three heavy and three medium icebreakers to fulfill its statutory duties. The same study concluded that to fulfill those missions and also maintain the continuous, one-vessel year-round presence called for by the Naval Operations Concept, the Coast Guard would need six heavy and four medium icebreakers, for a total of ten. The Department of Homeland Security (DHS) Mission Need Statement (MNS) approved in June 2013 concluded that current requirements and future projections indicate that to adequately meet mission demands in the high latitudes the Coast Guard will need to expand its icebreaking capacity, potentially requiring a fleet of up to six icebreakers (three heavy and



USS Hartford (SSN-768) surfaces near Ice Camp Sargo during Ice Exercise (ICEX) 2016 on March 15, 2016. US Navy photo.

three medium), all of which should be single-crewed and homeported in Seattle, Washington.

A 2017 congressionally-mandated report by a committee of the National Academies of Sciences, Engineering and Medicine charged with assessing alternative strategies for minimizing the life-cycle costs of procuring and operating heavy Polar icebreakers recommended that the Coast Guard block-procure four Polar class icebreakers; three to maintain continuous presence in the Arctic and one for the Antarctic, and that all four should be built to the same specifications.

The 433-foot vessels envisioned in the study would have a projected service life of 30 years, the icebreaking capabilities of the *Polar Star/Sea* and the research facilities and accommodations equal to those of the *Healy*. The National Academies committee estimated that a four-vessel block procurement approach would lower the average cost of each vessel to \$791 million (in 2019 dollars).

Federal shipbuilding projects require both congressional authorization and appropriation of the necessary funds. In the current, 115th Congress, Senator Dan Sullivan (R-AK) introduced Senate Bill 1442 (titled the “Securing Our Arctic Interests Act of 2017”) on June 26, 2017. Like Rep. Don Young’s (R-AK) H.R. 1416 “Icebreaker Act,” Senator Sullivan’s

bill would, if enacted, authorize the Coast Guard to acquire up to six new Polar class icebreakers. Section 122 of the pending National Defense Authorization Act for Fiscal Year 2018 bill (HR 2810) will, if enacted, provide the critical first step in appropriating funds for up to three heavy and up to three medium icebreakers.

The Path to Cutting Steel

In 2014, Congress directed that:

The President shall facilitate planning for the design, procurement, maintenance, deployment, and operation of icebreakers as needed to support the statutory missions of the Coast Guard in the Polar Regions by allocating all funds to support icebreaking operations in such regions, except for recurring incremental costs associated with specific projects, to the Coast Guard.

President Obama announced his plans to accelerate the icebreaker replacement schedule during his tour of the Alaskan Arctic in 2015, and President Donald Trump has signaled his commitment to “fast track” the construction of at least one new heavy icebreaker.

The Congressional Research Service reports that the Coast Guard’s efforts to acquire a new Polar icebreaker actually began with its FY 2013 budget submission. So far, Congress has appropriated \$220.6 million for the project through FY 2017, including \$175 million appropriated in FY 2017 and divided between the Coast Guard’s acquisition account (\$25 million) and the Navy’s shipbuilding account (\$150 million). The Coast Guard’s proposed FY 2018 budget requested \$19 million in acquisition funding for a new Polar icebreaker.

On October 26, 2016, the Coast Guard issued a request for information (RFI) outlining a program to acquire three new heavy icebreakers. The “notional” schedule in the RFI calls for construction to begin in FY 2019 and finishes with delivery of the third vessel in FY 2026. The Coast Guard is presently in the “Analyze/Select” phase of addressing its Polar icebreaker deficit. A partnership agreement with

RECOMMENDED NUMBERS OF NEW POLAR CLASS ICEBREAKERS

Source	Heavy	Medium
2010 High Latitude Region Mission Analysis	4 -6*	4
2013 DHS Icebreaker Mission Need Statement	3	3
2017 National Academies Report	4	0**
2017 Senate Bill 1442 (pending)	3	3
2017 House Bill 3247 (pending)	3	0
2017 House Bill 1816 (pending)	3	3
H.R.2810 (National Defense Authorization Act for Fiscal Year 2018) § 122 (pending)	3	3

* To meet the continuous presence requirement in the 2010 Naval Operations Concept, a total of six heavy icebreakers would be required: three for the Arctic and three for the Antarctic.

** For a number of reasons, the National Academies favored four Polar class icebreakers built on a common design over the current heavy/medium icebreaker approach

the Canadian government earlier this year will enable the US Coast Guard to test and validate potential heavy Polar icebreaker design models at Canada’s National Research Council in St John’s, Newfoundland.

Operating through an Integrated Program Office with the Naval Sea Systems Command, the Coast Guard intends to begin actual production activities in calendar year 2020 (late FY 2019) under an accelerated acquisition timeline. However, the Coast Guard does not expect the first vessel to be delivered until the fourth quarter of 2023, the latest date on which **Polar Star’s** 7-10 year service life extension is set to expire. On February 22, 2017, the Coast Guard awarded firm fixed-price contracts totaling approximately \$20 million to five US companies for heavy Polar icebreaker design studies and analyses.

Conclusion

The June 1, 2017 Congressional Research Service Report opens with two issues for Congress. First, whether to approve, reject or modify the Coast Guard’s proposed FY 2018 budget request for \$19 million for a new Polar icebreaker, and second, whether to approve, reject or modify the Coast Guard’s overall plan for sustaining and modernizing the Polar icebreaker fleet. CRS notes that Congress’s decision

could affect the Coast Guard’s ability to perform its Polar missions and the US shipbuilding industrial base.

The nation’s maritime interests are enduring, but priorities change over time. In commenting on the Chief of Naval Operations’ May 17, 2017 white paper titled The Future Navy, US Naval War College Professor Peter Dombrowski cautioned that in these fiscally constrained times, “without a compelling strategic vision firmly linked to the nation’s military strategy and enduring national objectives, the Navy simply will not be able to convince the nation to provide more funding.” The Coast Guard would be wise to apply that “compelling vision” warning to its Polar icebreaker ambitions, particularly in light of what some refer to as the Post-Shell Oil Era in the Alaskan Arctic.

The “icebreaker envy” statistics referred to above are wearing thin and some skeptical lawmakers reportedly view icebreakers as a state of Alaska earmark (a concern raised by Senator Murkowski). At the same time, popular perceptions regarding an imminent ice-free Arctic and the relative obscurity of the nation’s Antarctic programs will challenge those called up to draft and deliver a compelling Polar icebreaker vision.

Reasonable minds will differ over



US Coast Guard Cutter *Healy*, 100 miles North of Barrow, Alaska in 2005. US Coast Guard Photo.

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whether US national interests in the Polar Regions require a fleet of two (the minimum the Coast Guard will require to provide year-round assured access and self-rescue capability throughout the Polar Regions), three, four or even six Polar class icebreakers (ten is, of course, out of the question), and with regard to how such vessels should be prioritized vis-à-vis other components of the future fleet, Arctic infrastructure and the nation's defense requirements.

The July 11, 2017 report by the National Academies (and the pending congressional bills) has almost certainly foreclosed any prospects for more than four new icebreakers, with the fourth one serving as a replacement for the *Healy* when she is retired.

Final congressional decisions on authorization and appropriations for

the Coast Guard's Polar class heavy icebreaker replacement program will almost certainly be influenced by the cost (and acquisition program management challenges) of the existing programs for nine or ten National Security Cutters, 25 Offshore Patrol Cutters and 58 Fast Response Cutters, the combined cost of which seems destined to drive the Coast Guard's annual Acquisition, Construction and Improvements (AC&I) budget well north of \$2 billion.


Given the magnitude of the other shipbuilding programs, Congress seems likely (assuming an effective Coast Guard strategic messaging campaign) to authorize up to four new Polar icebreakers, but only appropriate funds for two. Appropriations for three vessels are possible if the president

and congressional appropriators can be persuaded to include a *Healy* replacement in the current acquisition program. Appropriations for four new Polar class icebreakers seem unlikely.

Any debate regarding plans for more than two such icebreakers should not be allowed to further delay construction of those first two. Scenarios demonstrating the need to ensure the US Coast Guard has the capacity to provide year-round assured access and self-rescue capability throughout the Polar Regions, such as a disabled, ice-bound submarine near the North Pole; a late-season 1,000 passenger cruise ship caught east of Point Barrow by an early onset of ice and fierce north winds; or the catastrophic disruption that would result from even a short-term loss of access to the Panama Canal fall into the category of predictable failures, not strategic surprises. Recent history demonstrates that the American public will judge harshly any failure to guard against predictable failures.

Calls for "quick fixes," such as

entering into 30 year leases of privately owned icebreakers or urging a presidential waiver of the statutory requirement that all vessels built for the Coast Guard must be constructed in US shipyards, should be rejected for three compelling reasons. First, as noted in the 2010 High Latitude Region Mission Analysis Capstone Summary, although a subset of the Coast Guard's icebreaker missions might be performed by non-government-owned vessels, "inherently governmental missions of the Coast Guard must be performed using government-owned and -operated vessels." Second, in commenting that the replacement vessels should be owned and operated by the Coast Guard, the National Academies' 2017 Icebreaker Study concluded that leasing privately owned icebreakers for 30 years would cost approximately 19 percent more than outright purchase of such vessels. Finally, in his June 14, 2016 testimony to Congress, Vice Commandant Charles D. Michel testified that, after fact-finding trips to Norway and Finland, he concluded that no foreign-built icebreakers available for lease have the heavy icebreaking capability necessary to meet the Coast Guard's requirements.

In 2007 the National Research Council recommended, "The Nation Should immediately begin to program, design, and construct two new icebreakers to replace the *Polar Star* and *Polar Sea*." It added that, for multiple reasons, building just one replacement icebreaker would be insufficient. A decade later the National Academies observed, "For more than 30 years, studies have emphasized the need for US icebreakers to maintain presence, sovereignty, leadership, and research capacity – but the nation has failed to respond." Having thus missed the opportunity to take early action to avoid a strategic icebreaker gap, the one-deep Polar icebreaker situation is now in extremis. Continued inaction condemns the Coast Guard to confront an irreconcilable conflict between the ends expressed in national strategy and policy documents and the means available to achieve them. 



US Coast Guard Cutter *Polar Star* off Antarctica. US Coast Guard Photo.

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