



TESTIMONY

**The Cost of the Coast Guard's
Polar Security Cutter**

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Chairman Gimenez, Ranking Member Thanedar, and Members of the Subcommittee, thank you for inviting me to testify about the procurement costs of the Coast Guard's heavy polar icebreaker program, known as the Polar Security Cutter (PSC) program. In consultation with Committee staff, I have focused this short statement on providing a summary of the Congressional Budget Office's report on the PSC program, which Chairman Green and Chairman Gimenez requested. That report is currently being drafted, and we expect to publish it this summer.

CBO's findings are as follows:

- The procurement cost of the first PSC would be about \$1.9 billion. Subsequent ships would average about \$1.6 billion each. (All costs in this statement are expressed in 2024 dollars.)
- Given those costs, the procurement cost of three PSCs would be about \$5.1 billion. That amount is 60 percent greater than the Coast Guard's most recent publicly released estimate for the procurement cost of three heavy icebreakers, which was provided to CBO by the Coast Guard in March 2024.

CBO's estimates are largely derived from a model that uses a ship's weight to calculate its costs.

Background

The Coast Guard currently has two operational polar icebreakers: the *Polar Star*, a heavy polar icebreaker, and the *Healy*, a medium polar icebreaker. The descriptors "heavy" and "medium" refer to the thickness of the ice that the ships can break on a continuous basis at three knots, not the size or weight of the ships themselves.

The *Polar Star* is 48 years old; the Coast Guard keeps it operating in part by scavenging parts from its nonoperational sister ship, the *Polar Sea*. The *Healy* is 24 years old. No U.S. shipyard has built a heavy or medium icebreaker since those ships entered service.

In 2013, the Coast Guard proposed a plan to replace its two operational icebreakers with six new polar icebreakers: three heavy polar icebreakers and three medium polar icebreakers. The Coast Guard's most recent analysis of its goals for the mix of ships in its fleet calls for increasing the number of new polar icebreakers to a total of eight or nine: four or five heavy polar icebreakers and four or five medium polar icebreakers.

The PSC is the Coast Guard's proposed new heavy polar icebreaker; after delays in the design of the ship, the service expects that it will soon approve the start of general construction. The new medium icebreaker that the service plans to build at some point in the future has been designated as the Arctic Security Cutter. The medium icebreaker will have a shallower draft (the length from the waterline to the bottom of the ship) and will therefore be able to conduct patrols and visit ports in areas that are inaccessible to the deeper-drafted heavy icebreaker.

The increase in the number of polar icebreakers desired by the Coast Guard is driven by increased commercial activity and economic and geopolitical competition in the Arctic. Given those developments, the service believes that the year-round continuous presence of one polar icebreaker in the East Arctic and another in the West Arctic, as well as a half-time presence of another polar icebreaker in the Antarctic, is necessary. The Coast Guard has stated that maintaining a presence of 2.5 heavy and medium icebreakers in the polar regions will require a total of eight to nine ships when accounting for maintenance and rotating ship patrols.

In April 2019, the Coast Guard awarded a fixed-price incentive contract for the detail design and construction of the first PSC (the lead ship) to VT Halter Marine, Inc., now Bollinger Mississippi Shipyard.¹ The Coast Guard is working with the Navy to manage the program and acquire the ships.

In February 2024, the Coast Guard notified the Congress that the PSC lead ship would experience cost growth of more than 20 percent and the ship's production would be delayed by more than a year. In the five years since the contract was awarded, development and design of the PSC has progressed, but little work on building the first ship has been completed. In that time, the Coast Guard's estimate of the ship's lightship displacement—a key indicator of costs, described below—grew by 40 percent, while its cost estimate for a three-ship program increased by just 16 percent. The service hopes that the shipyard will begin substantial construction on the lead ship early next year, with an estimated

1. Detail design in shipbuilding occurs after a preliminary or a contract design that aims to meet the requirements of the authority purchasing a ship (in this case, the Coast Guard) is established. Detail design involves the development of all the drawings, documents, and calculations that will determine the final internal layout and configuration of the ship.

delivery date in 2029. The Coast Guard also expects to release a revised estimate of the cost of the three-ship PSC program later this year.

CBO's Analysis

CBO estimated the costs of the new PSCs in the same way it estimates the costs of new naval ships.² Specifically, CBO identified ships acquired in the past that were similar to the PSC and calculated the cost-to-weight ratio of the most analogous ship; the agency then used that ratio to estimate the cost of the PSC.

CBO found that the best analogue for the PSC was the *Healy*. Built in the 1990s, the *Healy*, though a medium icebreaker, displaces about 16,000 tons of water when fully loaded (that is, when carrying crew, stores, ammunition, and fuel and other liquids); it is larger than the *Polar Star*, a heavy icebreaker built in the early 1970s that displaces 13,200 tons when fully loaded. The PSC would be significantly larger than them both, with a full-load displacement of about 23,000 tons, and would have improved capabilities compared with its predecessors.

2. For an explanation of how CBO models the cost of new ships, as well as a detailed example of that process applied to a particular ship, see Congressional Budget Office, *How CBO Estimates the Costs of New Ships* (April 2018), www.cbo.gov/publication/53785.

CBO first estimated the cost per thousand tons of lightship (rather than full-load) displacement of the PSC, using data on the ship provided by the Coast Guard. (Lightship displacement is the weight of the water a ship displaces without its crew, stores, ammunition, or fuel or other liquids.) CBO then accounted for the reduction in average overhead costs that occurs as a shipyard builds multiple ships of the same type simultaneously and the efficiencies that shipyards gain as they produce additional ships of a given type. CBO applied those adjustments to the estimated cost of the first ship of the class to estimate the costs for all subsequent PSCs. Finally, CBO adjusted its estimates to reflect its expectation that the costs of labor and materials would continue to grow at a rate that is 1 percentage point faster in the naval shipbuilding industry than in the economy as a whole, as they generally have for several decades.³

I hope you find this information helpful, and I am happy to answer any questions you may have.

3. Congressional Budget Office, *The Shipbuilding Composite Index and Its Rates of Change Compared With Economywide Inflation Rates* (April 2024), www.cbo.gov/publication/59026.

Eric J. Labs prepared this testimony, with guidance from David Mosher and Edward G. Keating. In keeping with CBO's mandate to provide objective, impartial analysis, this testimony makes no recommendations. Jeffrey Kling and Robert Sunshine reviewed the testimony, Christine Browne edited it, and R. L. Rebach prepared it for publication. The testimony is available at www.cbo.gov/publication/60168.

