

Navy Guided Missile Battleship (BBG[X]) Program: Background and Issues for Congress

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submarines, and in the past has built various types of surface ships for the Navy, including battleships.

The Congressional Budget Office estimates that the first BBG(X), if procured in FY2030 and with a displacement 35,000 tons, would have a procurement cost of \$17.6 billion to \$18.9 billion in FY2025 dollars, including nonrecurring detailed design costs for the class, and that subsequent BBG(X)s would have a procurement cost of \$12.2 to \$13.1 billion each in FY2025 dollars, depending on the procurement rate for the program and other factors. (It is a traditional Navy budgeting practice to include all or most of the nonrecurring detailed design costs for a new class of ship in the procurement cost of the first ship in the class.) By comparison, the procurement cost of a DDG-51 is currently about \$2.7 billion when DDG-51s are procured at a rate of two per year, and CVN-81, an aircraft carrier that was procured in FY2019, has an estimated procurement cost in the Navy's FY2026 budget submission of about \$15.2 billion.

Large Navy Surface Combatants Since World War II

Navy battleships, cruisers, and similar ships with full load displacements of more than 15,000 tons that have been operated or proposed since World War II include the following:

- One Iowa-class battleship remained in service until 1955. The other three were removed from service in 1948-1949, returned to service in 1950-1951 for the Korean War, and remained in service until 1957-1958. One was returned to service in 1968-1969 for the Vietnam War. All four were modernized and returned to service in 1982-1988 and remained in service until 1990-1992.
- One nuclear-powered cruiser (CGN)—the 721-foot, 17,500-ton *Long Beach* (CGN-9)—was procured in FY1956, and served from 1961 to 1995. The Navy subsequently procured eight smaller CGNs (the CGN-25, CGN-35, CGN-36, and CGN-38 classes) with full load displacements of about 8,600 tons to about 11,000 tons.
- In the 1970s, the Navy considered three design options for its planned Aegis cruiser program: a 666-foot, 17,000-ton nuclear-powered strike cruiser (CSGN), a 588-foot, 12,000-ton variant of the CGN-38 design, and a variant of the conventionally powered 563-foot, 8,000-ton Spruance (DD-963) class destroyer design. For affordability reasons, the Navy selected the third option, resulting in the 567-foot, 10,150-ton CG-47 design.
- In March 1996, the Navy and the Defense Advanced Research Projects Agency (DARPA) initiated a program to develop and procure about six large and relatively low-cost Navy surface ships called arsenal ships or Maritime Fire Support Demonstrators (MFSDs), each of which would be armed with about 500 missiles. In October 1997, the Navy announced that it had decided to terminate the program. The ship's design was not

fully refined prior to the program's cancellation, but conceptual designs had full load displacements ranging from about 20,000 tons to about 40,000 tons. (The arsenal ship/MFSD program was covered in now-archived CRS reports 97-455 F of April 18, 1997 and 97-1044 F of December 10, 1997.)

- As noted earlier, the Navy operates three Zumwalt (DDG-1000) class destroyers (610 feet, 16,000 tons). The ships were procured in FY2007-FY2009.

Issues for Congress

In considering whether to approve, reject, or modify the Trump administration's proposal for building BBG(X)s through authorization and appropriations legislation, bill report language, or other oversight activities, Congress may consider several potential issues, including the following:

- Why has the Trump Administration decided to propose the acquisition of a new class of battleships? What sort of analysis—such as an Analysis of Alternatives (AOA)—informed the proposal to acquire a new class of surface combatants substantially larger than the previously planned DDG(X)? What other options did the analysis examine, and how did these options compare analytically to the option of a new class of surface combatants substantially larger than the DDG(X)? Would developing and procuring the proposed class of BBG(X)s as a complement other existing and planned Navy ships be the most cost-effective course of action? What steps in the DOD acquisition process, if any, were set aside to enable the initiation of the BBG(X) program in December 2025?
- Would BBG(X)s be consistent with the Navy's Distributed Maritime Operations (DMO) concept, which calls for spreading the Navy's sensors and weapons across a wider array of ships and aircraft, so as to avoid "putting too many eggs into one basket"? (For more on DMO, see CRS In Focus IF12599, *Defense Primer: Navy Distributed Maritime Operations (DMO) Concept*, by Ronald O'Rourke.)
- What impact would designing and procuring BBG(X)s have on available funding for other Navy program priorities? What would be the net impact on future Navy capabilities and funding requirements of developing and acquiring BBG(X)s instead of DDG(X)s?
- How much program-execution risk (i.e., risk of cost growth, schedule delay, or technical challenges) would a program to develop and acquire BBG(X)s have? Would new technologies that the Navy states are to be incorporated into the BBG(X) design, and which require further development—including an electromagnetic railgun and higher-power lasers—be mature enough by the early 2030s to be incorporated into BBG(X)s?

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