

GAO@100 Highlights

Highlights of [GAO-21-257](#), a report to congressional committees

Why GAO Did This Study

The Navy plans to invest about \$128 billion in 12 *Columbia* class nuclear-powered ballistic missile submarines. The shipbuilders will construct the *Columbia* class at the same time as the *Virginia* class attack submarines. They plan to rely on materials produced by a supplier base that is roughly 70 percent smaller than in previous shipbuilding booms.

Congress included a provision in statute for GAO to examine the program's status. This report assesses the Navy's efforts to complete the design for the lead *Columbia* class submarine and actions the shipbuilders and the Navy have taken to prepare for construction and ensure the lead submarine is delivered according to schedule and quality expectations. GAO assessed Navy and shipbuilder design progress against cost and schedule estimates, reviewed documents, and interviewed officials about supplier readiness and quality assurance. This is a public version of a sensitive report that GAO issued in November 2020. Information that the Department of Defense (DOD) deemed sensitive has been omitted.

What GAO Recommends

GAO recommends that the Navy (1) provide Congress with updated cost information, (2) include information on supplier readiness in its annual report to Congress, and (3) reassess when to seek additional inspections at supplier facilities. DOD concurred with the recommendations but disagreed with some of the report's details. GAO incorporated DOD's comments as appropriate and maintains the validity of the findings, as discussed in the report.

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COLUMBIA CLASS SUBMARINE

Delivery Hinges on Timely and Quality Materials from an Atrophied Supplier Base

What GAO Found

The Navy's schedule for constructing the first submarine of the new *Columbia* class is threatened by continuing challenges with the computer-aided software tool that Electric Boat, the lead shipbuilder, is using to design the submarine. These challenges will likely impede construction because the shipbuilder is late in completing design products used for building the submarine. To ensure construction begins on schedule, the Navy modified its design contract with Electric Boat to include an option for constructing the first two submarines and requested sufficient authority from Congress for fiscal year 2021 to exercise it. Navy officials stated, however, that the Navy's budget request is lower than its current cost estimate, and it is not informed by an independent cost assessment. As a result, the program will likely need more funding to reflect the increased estimate.

Quality problems with supplier materials caused delays during early construction. These quality problems included missile tubes (depicted below) with defective welds. As the shipbuilders expand outsourcing to suppliers, quality assurance oversight at supplier facilities will be critical for avoiding further delays.

Quad Pack of Four Submarine Missile Tubes



Source: General Dynamics Electric Boat. | GAO-21-257

However, the Navy has not comprehensively reassessed when to seek additional inspections at supplier facilities that could better position it to identify quality problems early enough to limit delays.