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Navy Next-Generation Logistics Ship (NGLS) Program: Background and Issues for Congress

Introduction

The Navy's Next-Generation Logistics Ship (NGLS) program envisages procuring new medium-sized at-sea resupply ships for the Navy. The Navy's proposed FY2023 budget requests \$3.0 million in research and development funding for the program. The Navy's five-year (FY2023-FY2027) shipbuilding plan programs the procurement of the first NGLS in FY2026 at a cost of \$150.0 million and the second in FY2027 at a cost of \$156.0 million.

Terminology

The Navy's *Combat Logistics Force (CLF)* ships, also called *underway replenishment (UNREP)* ships, are logistics ships that resupply the Navy's combatant ships (e.g., aircraft carriers, surface combatants, and amphibious ships) at sea, so that the combatant ships can continue operating without having to return to port.

The Navy's current CLF ships include oilers (TAOs), dry cargo and ammunition ships (TAKES), and fast combat support ships (TAOEs). In these designations, T means the ship is operated by the Military Sealift Command (MSC) with a mostly civilian crew, A means auxiliary ship, O means oiler, K means cargo, and E means ammunition (i.e., explosives). (In some documents, TAO, TAKE, etc. are typed as T-AO, T-AKE, etc.) These CLF ships are large auxiliary ships.

Anti-access/area-denial (A2/AD) capabilities aim to create a defended area around a country that in time of conflict would be a "no-go zone" for opposing military forces. *Operational concepts* are general approaches for how to use military forces for achieving certain objectives. *Fleet architecture* refers to the types and mix of ships that make up a navy.

New Fleet Architecture and Operational Concepts

To more effectively counter the improving A2/AD capabilities of China in particular, the Navy wants to begin shifting to a new, more distributed fleet architecture that is to include a reduced proportion of larger ships and an increased proportion of smaller ships. This more distributed fleet architecture is intended to support a new Navy and Marine Corps operational concept for countering adversary A2/AD forces, called *Distributed Maritime Operations (DMO)*, and an associated new Marine Corps operational concept called *Expeditionary Advanced Base Operations (EABO)*.

DMO aims at avoiding a situation in which an adversary could defeat U.S. naval forces by concentrating its attacks on a relatively small number of large, high-value U.S. Navy

ships. Under EABO, relatively small Marine Corps units armed with anti-ship cruise missiles and other weapons would hop on and off islands in the Western Pacific to conduct "shoot-and-scoot" operations against adversary ships. For more on DMO, EABO, and the Navy's more distributed fleet architecture, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke, and CRS Report R46374, *Navy Light Amphibious Warship (LAW) Program: Background and Issues for Congress*, by Ronald O'Rourke.

Logistics Ships Currently Being Procured

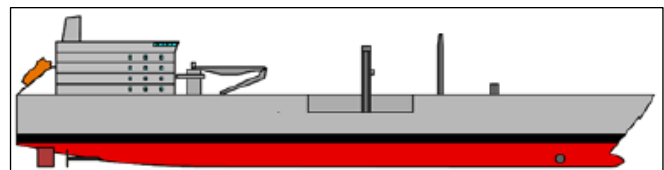
The Navy is currently procuring new John Lewis (TAO-205) class oilers (**Figure 1**), which are large CLF ships. When procured at a rate of one ship per year, TAO-205s have a currently estimated procurement cost of more than \$700 million per ship. For more on the TAO-205 program, see CRS Report R43546, *Navy John Lewis (TAO-205) Class Oiler Shipbuilding Program: Background and Issues for Congress*, by Ronald O'Rourke.

Next-Generation Logistics Ship (NGLS) Program

Basic Concept for Ship

The NGLS program, also known as the Next-Generation Medium Logistics Ship program, was initiated in the Navy's FY2021 budget submission. The program envisages building a new class of CLF ships (or a family of CLF ship designs) that would be smaller and individually less expensive to procure than the Navy's current CLF ships. **Figure 1** shows a sketch of a Navy notional NGLS design concept.

Figure 1. Navy Notional NGLS Design Concept



Source: U.S. Navy information paper, June 14, 2022, received by CRS from Navy Office of Legislative Affairs, June 16, 2022. The Navy states that the rendering "was developed by the Navy as an illustration of the indicative design that supports the refuel, rearm and resupply missions currently contemplated by the NGLS program. This illustration does not represent the final NGLS design."

Like the Navy's current CLF ships, NGLSs would be operated by MSC with mostly civilian crews. The Navy's FY2023 30-year (FY2023-FY2052) shipbuilding plan refers to the NGLS as a TAOL (also typed as T-AOL),

meaning an MSC-operated light (i.e., small) oiler. The Navy states that

The Next Generation Logistics Ship (NGLS) is planned to be a new class of ships to augment the traditional Combat Logistics Force (CLF) to enable refueling, rearming, and resupply of Naval assets—afloat and ashore—near contested environments via ship-to-ship operations and ship-to port operations in support of Distributed Maritime Operations (DMO), Littoral Operations in a Contested Environment (LOCE), and Expeditionary Advanced Base Operations (EABO). Augmenting the traditional CLF, NGLS will provide a flexible, responsive platform to move fuel, personnel, equipment, and supplies between ships, advanced bases, ports, and dispersed nodes of the seabase; sustaining afloat (Surface Action Group) and ashore (Expeditionary Advanced Base) requirements.

(Source: *Department of Defense, Fiscal Year (FY) 2023 Budget Estimates, Navy, Research, Development, Test & Evaluation, Navy* [account], Justification Book Volume 2 of 5, April 2022, page 448.)

A February 1, 2022, report from *Inside Defense* stated that a Navy spokesman said that the NGLS will potentially be a family of vessels rather than a single class of ships. The Navy's Fleet Readiness and Logistics office (known as the N4 division within the Office of the Chief of Naval Operations, or OPNAV) approved the top-level requirements (i.e., major required features) for the NGLS in March 2020. The top-level requirements envision NGLSs being built in two variants: a Platform Supply Vessel (PSV) variant and a Fast Supply Vessel (FSV) variant. The two variants would perform the same missions, but the FSV variant would be smaller and faster than the PSV variant. The Navy states that commercial PSVs and FSVs are potential design solutions for the NGLS program, but that the Navy is not limiting the potential solution to those types of vessels.

Potential Procurement Quantity

The Navy has not yet determined how many NGLSs it wants to procure. The Navy's FY2023 30-year (FY2023-FY2052) shipbuilding plan, submitted on April 20, 2022, includes a table with figures for the potential future total number of CLF ships suggesting that the Navy might want to procure at least a dozen or so NGLSs, and perhaps twice or more than twice that number.

Potential Procurement Cost

The Navy's five-year (FY2023-FY2027) shipbuilding plan programs the procurement of the first NGLS in FY2026 at a cost of \$150.0 million and the second in FY2027 at a cost of \$156.0 million.

Industry Day

The Navy held an industry day for the NGLS program on June 25, 2020, the purpose of which was to introduce the

program to potential industry participants and give them a chance to ask initial questions about the program. Attendees included representatives from shipyards, ship-design firms, and component suppliers.

Industry Studies

A January 6, 2022, press report stated that the Navy on December 17, 2021, awarded contracts to Austal USA of Mobile, AL; Bollinger Shipyards of Lockport, LA; and TAI Engineers, with main offices in New Orleans, LA, for industry studies for the NGLS program. The contracts reportedly have a base value of \$2 million each, with Austal USA's contract having a potential value of up to \$3.65 million, Bollinger's up to \$4.1 million, and TAI Engineers' up to \$3.46 million. The Navy will use studies, which are to last 24 months, to inform its understanding of cost-capability trade-offs for the NGLS.

Program Schedule

As mentioned earlier, the Navy's five year (FY2023-FY2027) shipbuilding plan programs the procurement of the first NGLS for FY2026. The Navy's FY2023 budget submission states that the Navy wants to award the Detail Design and Construction (DD&C) contract for the program in FY2026.

FY2023 Funding Request and Congressional Action

The Navy's proposed FY2023 budget requests \$3.0 million in research and development funding for the NGLS program in Project 4045 (Next Generation Medium Logistics Ship) within Program Element (PE) 0603563N, Ship Concept Advanced Design, which is line 46 in the Navy's FY2023 research and development account.

The joint explanatory statement for the FY2023 National Defense Authorization Act (NDAA) (H.R. 7776) recommends approving the Navy's FY2023 research and development funding request for the NGLS program (PDF page 516 of 748).

The House Appropriations Committee's report (H.Rept. 117-388 of June 24, 2022) on the FY2023 DOD Appropriations Act (H.R. 8236) recommended a reduction of \$5.0 million to the funding request for line 46 for "Historical underexecution" (page 198). It is not clear whether some of this reduction applies to the funding request for the NGLS program (i.e., Project 4045 within line 46). The explanatory statement for the FY2023 DOD Appropriations Act (S. 4663) that the Senate Appropriations Committee released on July 28, 2022, recommend approving the Navy's FY2023 research and development funding request for the NGLS program (PDF page 186 of 257).

Ronald O'Rourke, Specialist in Naval Affairs

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