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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 envisions procuring a new class of medium-sized at-sea resupply ships for the Navy. The Navy's proposed FY2022 budget requests \$27.8 million in research and development funding for the program. The issue for Congress is whether to approve, reject, or modify the Navy's proposed funding requests and emerging acquisition strategy for the NGLS program. Congress's decisions on this issue could affect Navy capabilities and funding requirements, and the U.S. shipbuilding industrial base.

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). 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. 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.

Figure 1. John Lewis (TAO-205)



Source: Cropped version of photograph accompanying National Steel and Shipbuilding Company, "General Dynamics NASSCO Launches First Ship in the T-AO Fleet Oiler Program for the U.S. Navy," January 13, 2021.

Note: Launching is when a ship that is under construction is put into the water for the final phases of its construction.

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 envisions building a new class of CLF ships that would be smaller and individually less expensive to procure than the Navy's current CLF ships. Like the Navy's current CLF ships, NGLSs would be operated by MSC with mostly civilian crews. The Navy states that

The Next Generation Logistics Ship (NGLS) is planned to be a new class of ships to augment the current Combat Logistics Force ships, through the use of commercial ship designs tailored for military applications to conduct logistics missions. The NGLS will enable refueling, rearming, and resupply of Naval assets—afloat and ashore—in support of Distributed Maritime Operations, Littoral Operations Contested Environment, and Expeditionary Advanced Base Operations. The NGLS is envisioned to be smaller than existing ships in the Combat Logistics Force, and will operate near contested environments, sustaining afloat (Surface Action Group) and ashore (Expeditionary Advanced Base) requirements. NGLS is potentially a family of vessels with commercial designs tailored for military applications. RDT&E [research, development, test, and evaluation] funding will continue to support requirements trade-off studies, development of indicative [i.e., notional] designs, specification development, and demonstrations of experimentation and proof-of-concepts focused on the Refuel, Resupply, and Rearm logistics missions.

(Source: *Department of Defense, Fiscal Year (FY) 2022 Budget Estimates, Navy, Research, Development, Test & Evaluation, Navy* [account], Justification Book Volume 2 of 5, May 2021, page 452.)

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. Long-range Navy shipbuilding documents released by the Trump Administration and the Biden Administration on December 9, 2020, and June 17, 2021, respectively, call for future Navy fleets with an increased number of CLF ships, some of which are to be NGLSs. Press reports about the Navy's new fleet architecture have suggested that the Navy might want to procure between 18 and 30.

Potential Procurement Cost

The procurement cost for an NGLS is to be substantially less than that of the TAO-205 design, which is about \$670 million per ship when procured at a rate of one per year.

The December 9, 2020, long-range Navy shipbuilding document showed an NGLS procurement cost of \$150 million per ship.

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

The Navy plans to award contracts for industry studies for the NGLS program to multiple shipyards and/or design agents in August 2021. The Navy will use the results of the studies to inform its understanding of cost-capability trade-offs for the NGLS.

Program Schedule

Under a schedule shown in the Navy's industry day briefing, the contract for designing and constructing or converting the first NGLS would be awarded in the second quarter of FY2023. The December 9, 2020, shipbuilding document submitted by the Trump Administration showed the first six NGLSs being procured in FY2023-FY2026 in annual quantities of 1-1-2-2.

FY2022 Funding Request and Congressional Action

The Navy's proposed FY2022 budget requests \$27.8 million in research and development funding for the 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 FY2022 research and development account. (Other Navy documents show the requested amount as \$28.0 million.)

The House and Senate Armed Services Committees' reports (H.Rept. 117-118 of September 10, 2021, and S.Rept. 117-39 of September 22 [legislative day, September 21], 2021, respectively) on the FY2022 National Defense Authorization Act (H.R. 4350/S. 2792) recommend approving this funding request.

The House Appropriations Committee's report (H.Rept. 117-88 of July 15, 2021) on the FY2022 DOD Appropriations Act (H.R. 4432) recommends reducing the request by \$3.5 million for "industry studies and design contract award delay" (\$1.0 million) and "special studies excess to need" (\$2.5 million). (Page 266) The Senate Appropriations Committee, in the explanatory statement it released on October 18, 2021, for the FY2022 DOD Appropriations Act (S. XXXX), recommends reducing the request by \$6.57 million for "Project 4045 prior year execution baseline adjustment." (PDF page 175 of 253)

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