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Navy LPD-17 Flight II and LHA Amphibious Ship Programs: Background and Issues for Congress

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Summary

This report discusses two types of amphibious ships being procured for the Navy: LPD-17 Flight II class amphibious ships and LHA-type amphibious assault ships. Both types are built by Huntington Ingalls Industries/Ingalls Shipbuilding (HII/Ingalls) of Pascagoula, MS. The first LPD-17 Flight II class ship, LPD-30, was procured in FY2018; the Navy's FY2021 budget submission estimates its cost at $1,819.6 million (i.e., about $1.8 billion). LHA-type amphibious assault ships are procured once every few years. LHA-8 was procured in FY2017; the Navy's FY2021 budget submission estimates its cost at $3,832.0 million (i.e., about $3.8 billion).

The Navy's FY2021 budget submission presents the second LPD-17 Flight II amphibious ship, LPD-31, as a ship requested for procurement in FY2021, and the next amphibious assault ship, LHA-9, as a ship projected for procurement in FY2023. Consistent with congressional action on the Navy's FY2020 budget, this CRS report treats LPD-31 and LHA-9 as ships that Congress procured (i.e., authorized and provided procurement—not advance procurement—funding for) in FY2020. The Department of Defense's (DOD's) decision to present LPD-31 and LHA-9 as ships requested for procurement in FY2021 and FY2023, respectively, even though Congress procured both ships in FY2020, poses a potentially significant institutional issue for Congress regarding the preservation and use of Congress's power of the purse under Article 1 of the Constitution, and for maintaining Congress as a coequal branch of government relative to the executive branch.

The Navy's FY2021 budget submission estimates the procurement cost of LPD-31 at $2,029.9 million (i.e., about $2.0 billion). The ship has received $874.1 million in prior-year procurement and advanced procurement (AP) funding, including $350 million that Congress provided in FY2020. The Navy's proposed FY2021 budget requests the remaining $1,155.8 million needed to complete the ship's estimated procurement cost.

The Navy's FY2021 budget submission estimates the procurement cost of LHA-9, if procured in FY2023, at $3,873.5 million (i.e., about $3.9 billion). Congress provided $350 million for the ship in FY2019 and $650 million for the ship in FY2020. The Navy's FY2021 budget submission, which the Navy submitted to Congress on February 10, acknowledges this funding but does not program any further funding for the ship until FY2023.

On February 13, the Administration submitted a reprogramming action that transfers about $3.8 billion in DOD funding to Department of Homeland Security (DHS) counter-drug activities, commonly reported to mean the construction of the southern border wall. Included in this action is the $650 million that Congress appropriated in FY2020 for LHA-9. The reprogramming action acknowledges that LHA-9 is a congressional special interest item, meaning one that Congress funded at a level above what DOD had requested. (The Navy's FY2020 budget submission programmed LHA-9's procurement for FY2024 and requested no funding for the ship.) The reprogramming action characterizes the $650 million as "early to current programmatic need," even though it would be needed for a ship whose construction would begin in FY2020. In discussing its FY2021 budget submission, Navy officials characterize LHA-9 not as a ship whose procurement the Navy is proposing to delay from FY2020 to FY2023, but as a ship whose procurement the Navy is proposing to accelerate from FY2024 (the ship's procurement date under the Navy's FY2020 budget submission) to FY2023. The administration's reprogramming of the $650 million poses a potentially significant institutional issue for Congress regarding the preservation and use of Congress's power of the purse under Article 1 of the Constitution, and for maintaining Congress as a coequal branch of government relative to the executive branch.

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Introduction

This report provides background information and issues for Congress on two types of amphibious ships being procured for the Navy: LPD-17 Flight II class amphibious ships and LHA-type amphibious assault ships. Both types are built by Huntington Ingalls Industries/Ingalls Shipbuilding (HII/Ingalls) of Pascagoula, MS.

The Navy's FY2021 budget submission poses multiple issues for Congress concerning these two types of ships, including potentially significant institutional issues regarding the preservation and use of Congress's power of the purse under Article 1 of the Constitution, and for maintaining Congress as a coequal branch of government relative to the executive branch. Congress's decisions on the LPD-17 Flight II and LHA programs could also affect Navy capabilities and funding requirements and the shipbuilding industrial base.

A separate CRS report discusses the Navy's new Light Amphibious Warship (LAW) program.[1] For an overview of the strategic and budgetary context in which amphibious ship and other Navy shipbuilding programs may be considered, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

Background

Amphibious Ships in General

Roles and Missions

Navy amphibious ships are operated by the Navy, with crews consisting of Navy personnel. The primary function of Navy amphibious ships is to lift (i.e., transport) embarked U.S. Marines and their equipment and supplies to distant operating areas, and enable Marines to conduct expeditionary operations ashore in those areas. Although amphibious ships are designed to support Marine landings against opposing military forces, they are also used for operations in permissive or benign situations where there are no opposing forces. Due to their large storage spaces and their ability to use helicopters and landing craft to transfer people, equipment, and supplies from ship to shore without need for port facilities,[2] amphibious ships are potentially useful for a range of combat and noncombat operations.[3]

[1] CRS Report R46374, *Navy Light Amphibious Warship (LAW) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[2] Amphibious ships have berthing spaces for Marines; storage space for their wheeled vehicles, their other combat equipment, and their supplies; flight decks and hangar decks for their helicopters and vertical take-off and landing (VTOL) fixed-wing aircraft; and well decks for storing and launching their landing craft. (A well deck is a large, garage-like space in the stern of the ship. It can be flooded with water so that landing craft can leave or return to the ship. Access to the well deck is protected by a large stern gate that is somewhat like a garage door.)

[3] Amphibious ships and their embarked Marine forces can be used for launching and conducting humanitarian-assistance and disaster-response (HA/DR) operations; peacetime engagement and partnership-building activities, such as exercises; other nation-building operations, such as reconstruction operations; operations to train, advise, and assist foreign military forces; peace-enforcement operations; noncombatant evacuation operations (NEOs); maritime-security operations, such as anti-piracy operations; smaller-scale strike and counter-terrorism operations; and larger-scale ground combat operations. Amphibious ships and their embarked Marine forces can also be used for maintaining forward-deployed naval presence for purposes of deterrence, reassurance, and maintaining regional stability.

On any given day, some of the Navy's amphibious ships, like some of the Navy's other ships, are forward-deployed to various overseas operating areas. Forward-deployed U.S. Navy amphibious ships are often organized into three-ship formations called amphibious ready groups (ARGs).[4] On average, two or perhaps three ARGs might be forward-deployed at any given time. Amphibious ships are also sometimes forward-deployed on an individual basis to lower-threat operating areas, particularly for conducting peacetime engagement activities with foreign countries or for responding to smaller-scale or noncombat contingencies.

Types of Amphibious Ships

Navy amphibious ships can be divided into two main groups—the so-called "big-deck" amphibious assault ships, designated LHA and LHD, which look like medium-sized aircraft carriers, and the smaller (but still sizeable) amphibious ships designated LPD or LSD, which are sometimes called "small-deck" amphibious ships.[5] The LHAs and LHDs have large flight decks and hangar decks for embarking and operating numerous helicopters and vertical or short takeoff and landing (V/STOL) fixed-wing aircraft, while the LSDs and LPDs have much smaller flight decks and hangar decks for embarking and operating smaller numbers of helicopters. The LHAs and LHDs, as bigger ships, in general can individually embark more Marines and equipment than the LSDs and LPDs.

Current Amphibious Force-Level Goal

The Navy's 355-ship force-level goal, released in December 2016, calls for achieving and maintaining a 38-ship amphibious force that includes 12 LHA/LHD-type ships, 13 LPD-17 class ships, and 13 LSD/LPD-type ships (12+13+13).[6] The goal for achieving and maintaining a force of 38 amphibious ships relates primarily to meeting wartime needs for amphibious lift. Navy and Marine Corps officials have testified in the past that fully meeting U.S. regional combatant commander requests for day-to-day forward deployments of amphibious ships would require a force of 50 or more amphibious ships.[7]

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[4] An ARG notionally includes three amphibious ships—one LHA or LHD, one LSD, and one LPD. These three amphibious ships together can embark a Marine expeditionary unit (MEU) consisting of about 2,200 Marines, their aircraft, their landing craft, their combat equipment, and about 15 days' worth of supplies. ARGs can operate in conjunction with carrier strike groups (CSGs) to form larger naval task forces; ARGs can also be broken up into individual ships that are sent to separate operating areas.

[5] U.S. Navy amphibious ships have designations starting with the letter L, as in amphibious *landing*. LHA can be translated as landing ship, helicopter-capable, assault; LHD can be translated as landing ship, helicopter-capable, well deck; LPD can be translated as landing ship, helicopter platform, well deck; and LSD can be translated as landing ship, well deck. Whether noted in the designation or not, almost all these ships have well decks. The exceptions are LHAs 6 and 7, which do not have well decks and instead have expanded aviation support capabilities. For an explanation of well decks, see footnote 2.

[6] For more on the Navy's 355-ship force-level goal, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke. For a more detailed review of the 38-ship force structure requirements, see Appendix A of archived CRS Report RL34476, *Navy LPD-17 Amphibious Ship Procurement: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

[7] For example, in testimony to the Seapower and Projection Forces subcommittee of the House Armed Services Committee on February 25, 2015, Marine Corps Lieutenant General Kenneth J. Glueck, Jr., Deputy Commandant for Combat Development and Integration and Commanding General of the Marine Corps Combat Development Command, stated that the number needed to fully meet regional combatant commander demands for forward-deployed amphibious ships is "close to 54." (Source: Spoken testimony of Lieutenant General Glueck, as reflected in transcript of hearing.)

Potential Change in Amphibious Force-Level Goal

Overview

The Navy's ship force-level goals, including its force-level goal for amphibious ships, are determined in a Navy analysis called a Force Structure Assessment (FSA). The Navy conducts a new FSA (or updates the most recent FSA) once every few years. The Navy recently completed a new FSA to succeed the one whose results were released in December 2016. Navy officials have stated that the new FSA is undergoing final review within DOD and may be released sometime during 2020.[8] Statements from the Commandant of the Marine Corps suggest that the new FSA will change the Navy's amphibious ship force to an architecture based on a new amphibious lift target and a new mix of amphibious ships.

The current 38-ship amphibious ship force-level goal is intended to meet a requirement for having enough amphibious lift to lift the assault echelons of two Marine Expeditionary Brigades (MEBs), a requirement known as the 2.0 MEB lift requirement. The 2.0 MEB lift requirement dates to 2006. The translation of this lift requirement into a Marine Corps-preferred force-level goal of 38 ships dates to 2009, and the Navy's formal incorporation of the 38-ship goal (rather than a more fiscally constrained goal of 33 or 34 ships) into the Navy's overall ship force-structure goal dates to the 2016 FSA, the results of which were released in December 2016.[9]

In July 2019, General David H. Berger, the Commandant of the Marine Corps, released a document entitled *Commandant's Planning Guidance* that states that the Marine Corp wants to, among other things, move away from the 38-ship amphibious ship force-level goal and the 2.0 MEB lift force-planning metric, and shift to a new and different mix of amphibious ships that includes not only LHA/LHD-type amphibious assault ships and LPD/LPD-type amphibious ships, but other kinds of ships as well, including smaller amphibious ships, ships like the Navy's Expeditionary Sea Base (ESB) and Expeditionary Fast Transport (EPF) ships, ships based on commercial-ship hull designs, and unmanned surface vehicles (USVs). The *Commandant's Planning Guidance*, which effectively announces a once-in-a-generation change in Marine Corps thinking on this and other issues relating to the Marine Corps, states in part (emphasis as in the original):

> Our Nation's ability to project power and influence beyond its shores is increasingly challenged by long-range precision fires; expanding air, surface, and subsurface threats; and the continued degradation of our amphibious and auxiliary ship readiness. The ability to project and maneuver from strategic distances will likely be detected and contested from the point of embarkation during a major contingency. Our naval expeditionary forces must possess a variety of deployment options, including L-class [amphibious ships] and E-class [expeditionary ships] ships, but also increasingly look to other available options such as unmanned platforms, stern landing vessels, other ocean-going connectors, and smaller more lethal and more risk-worthy platforms. **We must continue to seek the affordable and plentiful at the expense of the exquisite and few when conceiving of the future amphibious portion of the fleet.**
>
> We must also explore new options, such as inter-theater connectors and commercially available ships and craft that are smaller and less expensive, thereby increasing the affordability and allowing acquisition at a greater quantity. We recognize that we must

[8] For additional discussion of the FSA process and the next FSA, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

[9] For additional discussion of the 2.0 MEB lift goal and earlier amphibious lift goals dating back to 1980, see Appendix A of, Navy LPD-17 Amphibious Ship Procurement: Background, Issues, and Options for Congress, by Ronald O'Rourke.

distribute our forces ashore given the growth of adversary precision strike capabilities, so it would be illogical to continue to concentrate our forces on a few large ships. The adversary will quickly recognize that striking while concentrated (aboard ship) is the preferred option. We need to change this calculus with a new fleet design of smaller, more lethal, and more risk-worthy platforms. We must be fully integrated with the Navy to develop a vision and a new fleet architecture that can be successful against our peer adversaries while also maintaining affordability. To achieve this difficult task, the Navy and Marine Corps must ensure larger surface combatants possess mission agility across sea control, littoral, and amphibious operations, while we concurrently expand the quantity of more specialized manned and unmanned platforms….

We will no longer use a "2.0 MEB requirement" as the foundation for our arguments regarding amphibious ship building, to determine the requisite capacity of vehicles or other capabilities, or as pertains to the Maritime Prepositioning Force. We will no longer reference the 38-ship requirement memo from 2009, or the 2016 Force Structure Assessment, as the basis for our arguments and force structure CRS Report RL34476, *Navy LPD-17 Amphibious Ship Procurement: Background, Issues, and Options for Congress*, by Ronald O'Rourkejustifications. The ongoing 2019 Force Structure Assessment will inform the amphibious requirements based upon this guidance. The global options for amphibs [types of amphibious ships] include many more options than simply LHAs, LPDs, and LSDs. I will work closely with the Secretary of the Navy and Chief of Naval Operations (CNO) to ensure there are adequate numbers of the right types of ships, with the right capabilities, to meet national requirements.

I do not believe joint forcible entry operations (JFEO) are irrelevant or an operational anachronism; however, we must acknowledge that different approaches are required given the proliferation of anti-access/area denial (A2AD) threat capabilities in mutually contested spaces. Visions of a massed naval armada nine nautical miles off-shore in the South China Sea preparing to launch the landing force in swarms of ACVs [amphibious combat vehicles], LCUs [utility landing craft], and LCACs [air-cushioned landing craft]are impractical and unreasonable. We must accept the realities created by the proliferation of precision long-range fires, mines, and other smart-weapons, and seek innovative ways to overcome those threat capabilities. I encourage experimentation with lethal long-range unmanned systems capable of traveling 200 nautical miles, penetrating into the adversary enemy threat ring, and crossing the shoreline—causing the adversary to allocate resources to eliminate the threat, create dilemmas, and further create opportunities for fleet maneuver. We cannot wait to identify solutions to our mine countermeasure needs, and must make this a priority for our future force development efforts….

Over the coming months, we will release a new concept in support of the Navy's Distributed Maritime Operations (DMO) Concept and the NDS called – Stand-in Forces. The Stand-in Forces concept is designed to restore the strategic initiative to naval forces and empower our allies and partners to successfully confront regional hegemons that infringe on their territorial boundaries and interests. **Stand-in Forces are designed to generate technically disruptive, tactical stand-in engagements that confront aggressor naval forces with an array of low signature, affordable, and risk-worthy platforms and payloads.** Stand-in forces take advantage of the relative strength of the contemporary defense and rapidly-emerging new technologies to create an integrated maritime defense that is optimized to operate in close and confined seas in defiance of adversary long-range precision "stand-off capabilities."

Creating new capabilities that intentionally initiate stand-in engagements is a disruptive "button hook" in force development that runs counter to the action that our adversaries anticipate. Rather than heavily investing in expensive and exquisite capabilities that regional aggressors have optimized their forces to target, naval forces will persist forward with many smaller, low signature, affordable platforms that can economically host a dense array of lethal and nonlethal payloads.

> By exploiting the technical revolution in autonomy, advanced manufacturing, and artificial intelligence, the naval forces can create many new risk-worthy unmanned and minimally-manned platforms that can be employed in stand-in engagements to create tactical dilemmas that adversaries will confront when attacking our allies and forces forward.[10]

Light Amphibious Warship (LAW) Program

As one reflection of the potential change in the amphibious force-level goal discussed above, the Navy is now envisioning procuring a class of 28 to 30 smaller amphibious ships called Light Amphibious Warships (LAWs). A separate CRS report discusses the LAW program in detail.[11]

Current and Projected Force Levels

The Navy's force of amphibious ships at the end of FY2019 included 32 ships, including 9 amphibious assault ships (1 LHA and 8 LHDs), 11 LPD-17 Flight I ships, and 12 LSD-41/49 class ships. The LSD-41/49 class ships, which are the ships to be replaced by LPD-17 Flight II ships, are discussed in the next section.

The Navy's FY2020 30-year (FY2020-FY2049) shipbuilding plan projects that the Navy's force of amphibious ships will increase gradually to 38 ships by FY2026, remain at a total of 36 to 38 ships in FY2027 to FY2034, decline to 34 or 35 ships in FY2035-FY2038, increase to 36 or 37 ships in FY2039-FY2046, and remain at 35 ships in FY2047-FY2049. Over the entire 30-year period, the force is projected to include an average of about 35.8 ships, or about 94% of the required figure of 38 ships, although the resulting amount of lift capability provided by the ships would not necessarily equate to about 94% of the amphibious lift goal, due to the mix of ships in service at any given moment and their individual lift capabilities.

Existing LSD-41/49 Class Ships

The Navy's 12 aging Whidbey Island/Harpers Ferry (LSD-41/49) class ships (**Figure 1**) were procured between FY1981 and FY1993 and entered service between 1985 and 1998.[12] The class

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[10] U.S. Marine Corps, *Commandant's Planning Guidance, 38th Commandant of the Marine Corps*, undated, released July 2019, pp. 4-5, 10. See also Megan Eckstein, "New Commandant Berger Sheds 38-Amphib Requirement in Quest to Modernize USMC for High-End Fight," *USNI News*, July 18, 2019; Paul McLeary, "Sacred Cows Die As Marine Commandant Changes Course On Amphibs," *Breaking Defense*, July 26, 2019; David Ignatius, "The Marines' New Commandant Has Set the Bar for Real Military Reform," *Washington Post*, August 8, 2019; Megan Eckstein, "Marine Planners Using Commandant's Guidance to Start Crafting Future of the Corps," *USNI News*, September 18, 2019; Shawn Snow, "An Unmanned Ship That Can Travel 500 Nautical Miles Without Resupply—the Corps Is Looking at It," *Marine Corps Times*, September 19, 2019; Megan Eckstein, "Marines, Navy Both Considering Something Like an Offshore Support Vessel to Supplement Amphibs," *USNI News*, September 20, 2019; David Axe, "U.S. Navy and Marine Corps Want Small Ships to Land Troops in a War," *National Interest*, September 21, 2019; Megan Eckstein, "Navy, Marines Rethinking How to Build Future Fleet with Unmanned, Expeditionary Ships," *USNI News*, September 26, 2019; David Barno and Nora Bensahel, "A Striking New Vision for the marines, and a Wakeup Call for the Other Services," *War on the Rocks*, October 1, 2019; Megan Eckstein, "Berger: Marine 2030 Force Design Is Nearly Complete; Concepts Now Being Modeled, Tested," *USNI News*, October 3, 2019; Patrick Tucker, "The Future of the Marines Is Smaller, More Robotic, More Naval," *Defense One*, October 3, 2019.

[11] CRS Report R46374, *Navy Light Amphibious Warship (LAW) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[12] The class was initially known as the Whidbey Island (LSD-41) class. The final four ships in the class, beginning with *Harpers Ferry* (LSD-49), were built to a modified version of the original LSD-41 design, prompting the name of the class to be changed to the Harpers Ferry/Whidbey Island (LSD-41/49) class. Some sources refer to these 12 ships as two separate classes. The first three were built by Lockheed Shipbuilding of Seattle, WA, a firm that subsequently exited the Navy shipbuilding business. The final nine were built by Avondale Shipyards of New Orleans, LA, a

includes 12 ships because they were built at a time when the Navy was planning a 36-ship (12+12+12) amphibious force. They have an expected service life of 40 years; the first ship will reach that age in 2025. The Navy's FY2020 30-year shipbuilding plan projects that the 12 ships will retire between FY2026 and FY2038.

Figure 1. LSD-41/49 Class Ship

Source: U.S. Navy photo dated July 13, 2013, showing the *Pearl Harbor* (LSD-52).

Amphibious Warship Industrial Base

Huntington Ingalls Industries/Ingalls Shipbuilding (HII/Ingalls) of Pascagoula, MS, is the Navy's current builder of both LPDs and LHA-type ships, although other U.S. shipyards could also build amphibious ships.[13] The amphibious warship industrial base also includes many supplier firms in numerous U.S. states that provide materials and components for Navy amphibious ships. HII states that the supplier base for its LHA production line, for example, includes 457 companies in 39 states.[14]

shipyard that eventually became part of the shipbuilding firm Huntington Ingalls Industries (HII). Avondale, like Lockheed Shipbuilding, no longer builds Navy ships. HII wound down Navy shipbuilding operations at Avondale in 2014, after Avondale finished building LPD-25, the ninth LPD-17 class ship. HII continues to operate two other shipyards that build Navy ships—Ingalls Shipbuilding in Pascagoula, MS (HII/Ingalls), and Newport News Shipbuilding in Newport News, VA (HII/NNS). HII's construction of amphibious ships, previously divided between Avondale and Ingalls, now takes place primarily at Ingalls.

[13] Amphibious ships could also be built by U.S. shipyards such as HII/Newport News Shipbuilding (HII/NNS) of Newport News, VA; General Dynamics/National Steel and Shipbuilding Company (GD/NASSCO) of San Diego, CA; and (for LPDs at least) General Dynamics/Bath Iron Works (GD/BIW) of Bath, ME. The Navy over the years has from time to time conducted competitions among shipyards for contracts to build amphibious ships.

[14] Source: HII statement as quoted in Frank Wolfe, "Navy Budget Plan Delays Buy of Amphibious Ships," *Defense Daily*, March 15, 2019.

LPD-17 Flight II Program

Program Name

The Navy decided in 2014 that the LSD-41/49 replacement ships would be built to a variant of the design of the Navy's San Antonio (LPD-17) class amphibious ships. (A total of 13 LPD-17 class ships [LPDs 17 through 29] were procured between FY1996 and FY2017.) Reflecting that decision, the Navy announced on April 10, 2018, that the replacement ships would be known as the LPD-17 Flight II ships.[15] By implication, the Navy's original LPD-17 design became the LPD-17 Flight I design. The first LPD-17 Flight II ship is designated LPD-30. Subsequent LPD-17 Flight II ships are to be designated LPD-31, LPD-32, and so on.

Whether the LPD-17 Flight II ships constitute their own shipbuilding program or an extension of the original LPD-17 shipbuilding program might be a matter of perspective. As a matter of convenience, this CRS report refers to the Flight II shipbuilding effort as a separate program. Years from now, LPD-17 Flight I and Flight II ships might come to be known collectively as either the LPD-17 class, the LPD-17/30 class, or the LPD-17 and LPD-30 classes.

On October 10, 2019, the Navy announced that LPD-30, the first LPD-17 Flight II ship, will be named Harrisburg, for the city of Harrisburg, PA.[16] As a consequence, LPD-17 Flight II, if treated as a separate class, would be referred to as Harrisburg (LPD-30) class ships.

Design

Compared to the LPD-17 Flight I design, the LPD-17 Flight II design (**Figure 2**) is somewhat less expensive to procure, and in some ways less capable—a reflection of how the Flight II design was developed to meet Navy and Marine Corps operational requirements while staying within a unit procurement cost target that had been established for the program.[17] In many other respects, however, the LPD-17 Flight II design is similar in appearance and capabilities to the LPD-17 Flight I design. Of the 13 LPD-17 Flight I ships, the final two (LPDs 28 and 29) incorporate some design changes that make them transitional ships between the Flight I design and the Flight II design.

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[15] Megan Ecsteain, "Navy Designates Upcoming LX(R) Amphibs as San Antonio-Class LPD Flight II," *USNI News*, April 11, 2018. Within a program to build a class of Navy ships, the term *flight* refers to a group of ships within the class that are built to a particular version of the class design. The LPD-17 Fight II program was previously known as the LX(R) program. In the designation LX(R), the X meant that the exact design of the ship had not yet been determined, and the R meant that the ships are intended as replacements for the LSD-41/49 class ships. Prior to being referred to as the LX(R) program, the program was referred to as the LSD(X) program, meaning an LSD-type ship whose design had not yet been determined. The program's designation was changed to LX(R) in 2012 to signal that the replacement for the existing LSD-41/49 class ships would be an amphibious ship that would best meet future Navy and Marine Corps needs, regardless of whether that turned out to be a ship that one might refer to as an LSD. For an article discussing this earlier change in the program's designation, see Christopher P. Cavas, "Different Missions Might Await New USN Amphib," *Defense News*, November 12, 2012.

[16] Secretary of the Navy Public Affairs, "SECNAV Names Future Amphibious Transport Dock Ship in Honor of the city of Harrisburg, Pennsylvania," *Navy News Service*, October 10, 2019.

[17] The Navy's unit procurement cost targets for the LPD-17 Flight II program were $1,643 million in constant FY2014 dollars for the lead ship, and an average of $1,400 million in constant FY2014 dollars for ships 2 through 11. (Source: Navy briefing on LX(R) program to CRS and CBO, March 23, 2015.) The cost target for the lead ship was greater than the cost target for the subsequent ships primarily because the procurement cost of the lead ship incorporates much or all of the detail design and nonrecurring engineering (DD/NRE) costs for the program. Incorporating much or all of the DD/NRE costs of for a shipbuilding program into the procurement cost of the lead ship in the program is a traditional Navy shipbuilding budgeting practice.

Figure 2. LPD-17 Flight II Design

Artist's rendering

Source: Huntington Ingalls Industries rendering accessed April 22, 2019, at https://www.huntingtoningalls.com/lpd-flight-ii/.

Procurement Quantity

Consistent with the Navy's 38-ship amphibious force-level goal, the Navy wants to procure a total of 13 LPD-17 Flight II ships.

Procurement Schedule

Overview

The Navy's FY2021 budget submission presents the second LPD-17 Flight II amphibious ship, LPD-31, as a ship requested for procurement in FY2021. Consistent with congressional action on the Navy's FY2020 budget, this CRS report treats LPD-31 as a ship that Congress procured (i.e., authorized and provided procurement—not advance procurement—funding for) in FY2020. (For additional discussion, see the **Appendix**.)[18] Under the Navy's FY2021 budget submission, the third and fourth LPD-17 Flight II class ships (i.e., LPDs 32 and 33) are programmed for procurement in FY2023 and FY2025.

Procurement Cost

The Navy's FY2021 budget submission estimates the procurement costs of LPDs 30, 31, 32, and 33 as $1,819.6 million, $2,029.9 million, $1,847.6 million, and $1,864.7 million, respectively (i.e., about $1.8 billion, $2,0 billion, $1.8 billion, and $1.9 billion, respectively).

[18] An appendix in another CRS report—CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke—provides a similar discussion regarding the procurement dates of LPD-31 and LHA-9, and includes an additional discussion of the procurement date of a third ship, the aircraft carrier CVN-81.

LHA-9 Amphibious Assault Ship

LHA-type amphibious assault ships are procured once every few years. LHA-8 (**Figure 3**) was procured in FY2017; the Navy's FY2021 budget submission estimates its cost at $3,832.0 million (i.e., about $3.8 billion).

Figure 3. LHA-8 Amphibious Assault Ship

Artist's rendering

Source: Photo accompanying Tyler Rogoway, "The Next America Class Amphibious Assault Ship Will Almost Be In a Class of its Own," The Drive, April 17, 2018. A note on the photo credits the photo to HII.

The Navy's FY2020 budget submission projected the procurement of the next amphibious assault ship, LHA-9, for FY2024. Some in Congress have been interested in accelerating the procurement of LHA-9 from FY2024 to an earlier year, such as FY2020 or FY2021, in part to achieve better production learning curve benefits in shifting from production of LHA-8 to LHA-9 and thereby reduce LHA-9's procurement cost in real (i.e., inflation-adjusted) terms. As part of its action on the Navy's proposed FY2019 budget, Congress provided $350 million in unrequested advance procurement (AP) funding for LHA-9, in part to encourage the Navy to accelerate the procurement of LHA-9 from FY2024 to an earlier fiscal year, such as FY2020 or FY2021. As part of its action on the Navy's proposed FY2020 budget, Congress provided an additional $650 million in procurement (not AP) funding for the ship, and included a provision (Section 127) in the FY2020 National Defense Authorization Act (S. 1790/P.L. 116-92 of December 20, 2019) that authorizes the Navy to enter into a contract for the procurement of LHA-9 and to use incremental funding provided during the period FY2019-FY2025 to fund the contract.

The Navy's FY2021 budget submission presents LHA-9 as a ship projected for procurement in FY2023. Consistent with the above-noted congressional action on the Navy's FY2020 budget, this CRS report treats LHA-9 as a ship that Congress procured (i.e., authorized and provided

procurement—not advance procurement—funding for) in FY2020. (For additional discussion, see **Appendix**.)[19]

The Navy's FY2021 budget submission estimates the procurement cost of LHA-9, if procured in FY2023, at $3,873.5 million (i.e., about $3.9 billion). The Navy's FY2021 budget submission, which the Navy submitted to Congress on February 10, acknowledges the $350 million in FY2019 advanced procurement (AP) funding and $650 million in FY2020 procurement funding that Congress provided for the ship, but does not program any further funding for the ship until FY2023.

On February 13, the Administration submitted a reprogramming action that transfers about $3.8 billion in DOD funding to Department of Homeland Security (DHS) counter-drug activities, commonly reported to mean the construction of the southern border wall. Included in this action is the $650 million that Congress appropriated in FY2020 for LHA-9.[20] The reprogramming action acknowledges that LHA-9 is a congressional special interest item, meaning one that Congress funded at a level above what DOD had requested. (The Navy's FY2020 budget submission requested no funding for the ship.) The reprogramming action characterizes the $650 million as "early to current programmatic need," even though it would be needed for a ship whose construction would begin in FY2020. In discussing its FY2021 budget submission, Navy officials characterize LHA-9 not as ship whose procurement the Navy is proposing to delay from FY2020 to FY2023, but as a ship whose procurement the Navy is proposing to accelerate from FY2024 (the ship's procurement date under the Navy's FY2020 budget submission) to FY2023.

Issues for Congress

Potential Impact of Continuing Resolution (CR) on LPD-31

Overview

One issue for Congress concerns the potential impact on the procurement of LPD-31 if the Navy is funded for some portion of FY2021 by one or more continuing resolutions (CRs). The impact of a CR on the procurement of LPD-31 could depend to a large degree on whether, in implementing the CR(s), the Navy's FY2021 budget submission is deemed to be correct in showing LPD-31 a ship requested for procurement in FY2021.

As discussed more fully in another CRS report,[21] CRs typically prohibit new program starts ("new starts")—meaning the initiation of new program efforts that did not exist in the prior year—and an increase in procurement quantity for a program compared to that program's procurement quantity in the prior year. As also discussed in the other CRS report, CRs typically distinguish between procurement and advance procurement (AP) funding for Navy shipbuilding programs.

[19] An appendix in another CRS report—CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke—provides a similar discussion regarding the procurement dates of LPD-31 and LHA-9, and includes an additional discussion of the procurement date of a third ship, the aircraft carrier CVN-81.

[20] Department of Defense, Reprogramming action (form DD 1415), DOD Serial Number FY 20-01 RA, February 13, 2020, page 3 of 5.

[21] CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

As discussed earlier, the Navy's FY2021 budget submission presents LPD-31, an LPD-17 Flight II amphibious ship, as a ship requested for procurement in FY2021. Consistent with congressional action on the Navy's FY2020 budget regarding the procurement of LPD-31, this CRS report treats LPD-31 as a ship that Congress procured (i.e., authorized and provided procurement funding for) in FY2020.

If, in implementing a CR for FY2021, the Navy's FY2021 budget submission is deemed to be correct in showing LPD-31 as a ship requested for procurement in FY2021, and consequently that no LPD-17 Flight II ship was procured in FY2020, then a CR's prohibitions on new starts and an increase in procurement quantity for a program compared to that program's procurement quantity in the prior year could prevent the Navy during that part of FY2021 from obligating and expending FY2021 funding for the procurement of LPD-31, unless the CR were to include an anomaly (i.e., a special legislative provision) that specifically exempts LPD-31 from the provisions.

On the other hand, if, in implementing a CR for FY2021, LPD-31 is deemed to have been procured in FY2020, as treated in this CRS report, then a CR's prohibitions on new starts and an increase in procurement quantity for a program compared to that program's procurement quantity in the prior year would not directly affect work on the ship, and the impact on the ship of the Navy being funded for part of FY2021 by one or more CRs could consequently be reduced.

CR Extending Through December 11, 2020, Does Not Include Anomaly for LPD-31

As of October 1, 2020, DOD and other federal government operations are funded under the Continuing Appropriations Act, 2021 and Other Extensions Act (H.R. 8337/P.L. 116-159 of October 1, 2020), a CR that extends through December 11, 2020. H.R. 8337 was passed by the House and Senate on September 22 and 30, 2020, respectively, and signed into law by the President on October 1, 2020. H.R. 8337/P.L. 116-159 does not include an anomaly for LPD-31.

Potential Impact of COVID-19 Situation

Another issue for Congress concerns the potential impact of the COVID-19 situation on the execution of U.S. military shipbuilding programs, including the LPD-17 Flight II and LHA programs. For additional discussion of this issue, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

Procurement Dates of LPD-31 and LHA-9, and Congress's Power of the Purse

A potentially significant institutional issue for Congress concerns the treatment in the Navy's proposed FY2021 budget of the procurement dates of LPD-31 and LHA-9. As discussed earlier, the Navy's FY2021 budget submission presents LPD-31 as a ship requested for procurement in FY2021 and LHA-9 as a ship projected for procurement in FY2023. Consistent with congressional action on the Navy's FY2020 budget regarding the procurement of LPD-31 and LHA-9 (see the **Appendix**), this CRS report treats LPD-31 and LHA-9 as ships that Congress procured (i.e., authorized and provided procurement funding for) in FY2020. Potential oversight issues for Congress include the following:

- By presenting LPD-31 as a ship requested for procurement in FY2021 (instead of a ship that was procured in FY2020) and LHA-9 as a ship projected for

procurement in FY2023 (instead of a ship that was procured in FY2020), is DOD, in its FY2021 budget submission, disregarding or mischaracterizing the actions of Congress regarding the procurement dates of these three ships? If so:

- Is DOD doing this to inflate the apparent number of ships requested for procurement in FY2021 and the apparent number of ships included in the five-year (FY2021-FY2025) shipbuilding plan?
- Could this establish a precedent for DOD or other parts of the executive branch in the future to disregard or mischaracterize the actions of Congress regarding the procurement or program-initiation dates for other Navy ships, other Navy programs, other DOD programs, or other federal programs? If so, what implications might that have for the preservation and use of Congress's power of the purse under Article 1 of the Constitution, and for maintaining Congress as a coequal branch of government relative to the executive branch?

Reprogramming of $650 Million for LHA-9 and Congress's Power of the Purse

Another potentially significant institutional issue for Congress concerns the Administration's reprogramming of $650 million in FY2020 procurement funding for LHA-9 to DHS counter-drug activities, commonly reported to mean the construction of the southern border wall, even though the reprogramming action acknowledges that LHA-9 is a congressional special interest item, meaning one that Congress funded at a level above what DOD had requested. As discussed earlier, some in Congress have been interested in accelerating the procurement of LHA-9 from FY2024 to an earlier year, such as FY2020 or FY2021, and Congress has provided funding in both FY2019 and FY2020 in support of that goal. Potential oversight issues for Congress include the following:

- By reprogramming this funding to another purpose, is DOD, in its FY2021 budget submission, disregarding the expressed intent of Congress regarding the procurement of LHA-9?
- If so, could this establish a precedent for DOD or other parts of the executive branch in the future to disregard the intent of Congress regarding the procurement or program-initiation dates for other Navy ships, other Navy programs, other DOD programs, or other federal programs? What implications might that have for the preservation and use of Congress's power of the purse under Article 1 of the Constitution, and for maintaining Congress as a coequal branch of government relative to the executive branch?

Potential Change in Required Number of LPD-17 Flight II and LHA-Type Ships

Another potential issue for Congress is whether the Navy's next FSA will change the required number of LPD-17 Flight II and LHA-type amphibious ships, and if so, whether that might change Navy plans for procuring these ships in future fiscal years. As discussed earlier, statements from the Commandant of the Marine Corps suggest that the new FSA that is to be completed by the end of 2019 might change the Navy's amphibious ship force to an architecture based on a new amphibious lift target and a new mix of amphibious ships.

Technical and Cost Risk in LPD-17 Flight II and LHA Programs

Another potential issue for Congress is technical and cost risk in the LPD-17 Flight II and LHA programs.

Technical Risk

Regarding technical risk in the LPD-17 Flight II program, a June 2020 Government Accountability Office (GAO) report—the 2020 edition of GAO's annual report surveying DOD major acquisition programs—states the following about the LPD-17 Flight II program:

> **Current Status**
>
> The Navy purchased the first Flight II ship—LPD 30—in March 2019 and plans to begin construction in April 2020 after a production readiness review in the first quarter of fiscal year 2020. It made about 200 design changes from the first to second flight, including replacing the composite mast with a steel stick, which the Navy plans to complete prior to lead ship construction. Program officials stated that the updated design does not rely on any new technologies. However, the Navy plans to install the new Enterprise Air Surveillance Radar (EASR), which is still in development, on Flight II ships. Live radar system testing on an EASR prototype is underway. Although program officials consider this low risk, the Navy will begin ship construction with little time to incorporate any lessons learned from radar testing, which could require the Navy to absorb costly changes and rework during ship construction if test results require design changes….
>
> **Program Office Comments**
>
> We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. Program officials said the Navy has subsumed LPD 17 Flight II into the LPD 17 program and existing cost baseline. Program officials also stated that EASR testing is ongoing as of March 2020. Further, these officials stated that the Navy acquired LPD 30 under a sole source contract with Huntington Ingalls Incorporated. In addition, program officials reported they have completed LPD 30 critical design and production readiness reviews and intend to begin construction as planned.[22]

Regarding technical risk in the LHA program, the June 2020 GAO report stated the following about the LHA program:

> **Current Status**
>
> The Navy began construction in October 2018 with about 61 percent of the LHA 8 product model completed—an approach inconsistent with shipbuilding best practices, which call for the completion of modeling before construction begins. Ninety-nine percent of the product model is now complete, with the exception of the mast and two other compartments on the top of the ship. LHA 8 construction is now 5 percent complete.
>
> The LHA 8 program office has not identified any critical technologies, but has identified risks from its reliance on technology from another Navy program. Specifically, LHA 8 program officials identified the use of the Enterprise Air Surveillance Radar (EASR)—a rotating radar system derived from the preexisting Air and Missile Defense Radar program—as the program's highest development risk. EASR is planned to be delivered in August 2021 and provide self-defense and situational awareness capabilities for LHA 8. Officials stated that during EASR development, they found that the mast blocked EASR's field of view. They said that to reduce the obstruction and electromagnetic interference

[22] Government Accountability Office, *Defense Acquisitions Annual Assessment[:] Drive to Deliver Capabilities Faster Increases Importance of Program Knowledge and Consistent Data for Oversight*, GAO-20-439, June 2020, p. 147.

from EASR, they have to reconfigure the mast and nearby antennas, which may affect the ship's planned delivery date of January 2024. Officials said they would test the configuration in a laboratory environment to determine the impact of EASR prior to its delivery to the ship.

The program has also encountered construction challenges that have increased schedule risk. Program officials said that the subcontractor manufacturing the ship's Main Reduction Gears (MRG) encountered quality issues that delayed their delivery. Officials report that the contractor had been following a more aggressive construction schedule for ship delivery, but that the delay to the MRGs pushed them back to the contract's schedule.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate. Officials stated that LHA 8 is progressing well and is 12 percent complete as of March 2020. Officials stated that the Navy has reduced risk in the topside design changes and finalized them with the contractor, and that EASR remains a development risk that the Navy is managing closely.[23]

Cost Risk

Regarding cost risk in the LPD-17 Flight II program, an October 2019 Congressional Budget Office (CBO) report on the cost of the Navy's shipbuilding programs states the following:

> The Navy estimates that the LPD-17 Flight IIs would cost $1.6 billion each, on average, and that the lead ship would cost $1.7 billion to $1.8 billion.… To achieve its cost goal for the LPD-17 Flight II, the Navy plans to further alter the LPD-17 design and, perhaps, to change the way it buys them: The Flight II variant would have substantially less capability than the LPD-17 class, and the Navy might use block-buy or multiyear authority to purchase the ships, although it has not yet stated an intention to do so. Such authority would commit the government to buying a group of ships over several years, thereby realizing savings as a result of the predictable and steady work provided to the construction shipyard and to the vendors that provide parts and components to the shipbuilder. The authority would be similar to that provided for the Arleigh Burke class destroyers, Virginia class attack submarines, and LCSs [Littoral Combat Ships].
>
> CBO estimates that the LPD-17 Flight II class would cost an average of $1.9 billion per ship. The agency [CBO] used the existing LPD-17 hull as the starting point for its estimate and then adjusted the ship's size to reflect the reduced capability it expects for the Flight II. CBO's estimate reflects the assumption that the Navy would ultimately use multiyear or block-buy procurement authority to purchase the ships.[24]

The June 2020 GAO report states

> Program officials stated that they have sufficient funding for LPD 30 construction, but that without multi-year procurement authority to buy multiple ships across up to 5 years with a single contract, they will be challenged to achieve the current cost requirement and complete construction of ships. Statute requires programs requesting multi-year authority to have a realistic cost estimate, among other things. The LPD 17 program does not have an independent cost estimate for Flight II ships nor plans to establish a cost baseline

[23] Government Accountability Office, *Defense Acquisitions Annual Assessment[:] Drive to Deliver Capabilities Faster Increases Importance of Program Knowledge and Consistent Data for Oversight*, GAO-20-439, June 2020, p. 146.

[24] Congressional Budget Office, *An Analysis of the Navy's Fiscal Year 2020 Shipbuilding Plan*, October 2019, pp. 26-27.

> specific to Flight II. Consequently, the Navy does not have an accurate and credible estimate of Flight II costs.[25]

Regarding cost risk in the LHA program, the October 2019 CBO report states the following:

> The Navy estimates that the LHA-6 class amphibious assault ships would cost $3.4 billion each …. Under the 2020 plan, a seven-year gap separates the last LHA-6 class ship ordered in 2017 and the next one, slated to be purchased in 2024, which in CBO's estimation would effectively eliminate any manufacturing learning gleaned from building the first 3 ships of the class. As a result, CBO's estimate is higher than the Navy's, at $3.9 billion per ship.[26]

Legislative Activity for FY2021

Continuing Appropriations Act, 2021 and Other Extensions Act (H.R. 8337/P.L. 116-159)

As of October 1, 2020, DOD and other federal government operations are funded under the Continuing Appropriations Act, 2021 and Other Extensions Act (H.R. 8337/P.L. 116-159 of October 1, 2020), a continuing resolution (CR) that extends through December 11, 2020. H.R. 8337 was passed by the House and Senate on September 22 and 30, 2020, respectively, and signed into law by the President on October 1, 2020.

As discussed earlier, the impact of a CR on the procurement of LPD-31 could depend to a large degree on whether, in implementing the CR(s), the Navy's FY2021 budget submission is deemed to be correct in showing LPD-31 a ship requested for procurement in FY2021. If, in implementing a CR for FY2021, the Navy's FY2021 budget submission is deemed to be correct in showing LPD-31 as a ship requested for procurement in FY2021, and consequently that no LPD-17 Flight II ship was procured in FY2020, then a CR's prohibitions on new starts and an increase in procurement quantity for a program compared to that program's procurement quantity in the prior year could prevent the Navy during that part of FY2021 from obligating and expending FY2021 funding for the procurement of LPD-31, unless the CR were to include an anomaly (i.e., a special legislative provision) that specifically exempts LPD-31 from the provisions.

On the other hand, if, in implementing a CR for FY2021, LPD-31 is deemed to have been procured in FY2020, as treated in this CRS report, then a CR's prohibitions on new starts and an increase in procurement quantity for a program compared to that program's procurement quantity in the prior year would not directly affect work on the ship, and the impact on the ship of the Navy being funded for part of FY2021 by one or more CRs could consequently be reduced.

H.R. 8337/P.L. 116-159 does not include an anomaly for LPD-31.

Summary of Congressional Action on FY2021 Funding Request

Table 1 summarizes congressional action on the Navy's FY2021 funding request for LPD-31 and LHA-9.

[25] Government Accountability Office, *Defense Acquisitions Annual Assessment[:] Drive to Deliver Capabilities Faster Increases Importance of Program Knowledge and Consistent Data for Oversight*, GAO-20-439, June 2020, p. 147.

[26] Congressional Budget Office, *An Analysis of the Navy's Fiscal Year 2020 Shipbuilding Plan*, October 2019, p. 26.

Table 1. Summary of Congressional Action on FY2021 Procurement Funding Request

Millions of dollars, rounded to nearest tenth

		Authorization			Appropriation		
	Request	HASC	SASC	Conf.	HAC	SAC	Conf.
LPD-31 procurement	1,155.8	1,118.1	905.8		1,155.8		
LPD-32 and LPD-33 advance procurement (AP)	0	0	500.0		0		
LHA-9 procurement	0	0	250.0		0		

Source: Table prepared by CRS based on Navy's FY2021 budget submission, committee and conference reports, and explanatory statements on FY2021 National Defense Authorization Act and FY2021 DOD Appropriations Act.

Notes: HASC is House Armed Services Committee; **SASC** is Senate Armed Services Committee; **HAC** is House Appropriations Committee; **SAC** is Senate Appropriations Committee; **Conf.** is conference agreement.

FY2021 National Defense Authorization Act (H.R. 6395/S. 4049)

House

The House Armed Services Committee, in its report (H.Rept. 116-442 of July 9, 2020) on H.R. 6395, recommended the funding levels shown in the HASC column of **Table 1**. The recommended reduction of $37.7 million in LPD-31 procurement funding is for "Excessive unit cost growth." (Page 345)

Section 1028 of H.R. 6395 as reported by the committee states:

> SEC. 1028. REPORT ON IMPLEMENTATION OF COMMANDANT'S PLANNING GUIDANCE.
>
> (a) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees a report on the implementation of the Commandant's Planning Guidance. Such report shall include a detailed description of each of the following:
>
> (1) The specific number and type of manned littoral ships required to execute such Guidance.
>
> (2) The role of long-range unmanned surface vessels in the execution of such Guidance.
>
> (3) How platforms referred to in paragraphs (1) and (2) account for and interact with ground-based missiles fielded by teams of Marines deployed throughout the Indo-Pacific region.
>
> (4) The integrated naval command and control architecture required to support the platforms referred to in paragraphs (1) and (2);
>
> (5) The projected cost and any additional resources required to deliver the platforms referred to in paragraph (1) and (2) by not later than five years after the date of the enactment of this Act.
>
> (b) FORM OF REPORT.—The report required under this section shall be submitted in unclassified form, but may contain a classified annex. The unclassified report shall be made publicly available.

H.Rept. 116-442 states:

Amphibious Shipbuilding

The Committee notes the President's Budget Request for Fiscal Year 2021 includes $1.156 billion for LPD 31, the 2nd ship of the San Antonio-class LPD Flight II, which was authorized in the National Defense Authorization Act for Fiscal Year 2020 (P.L. 116–92). The Committee continues to support the most efficient procurement and construction of these warships and further notes there are only 2 active amphibious vessel production lines within the shipbuilding industrial base. In the absence of a 30 Year Shipbuilding Plan, Future Naval Force Study, and Integrated Naval Force Structure Assessment, the only available shipbuilding forecast available for review is the Future Years' Defense Plan accompanying the fiscal year 2021 request. The Future Years' Defense Plan forecasts construction of 3 additional amphibious warships, including an America-class LHA amphibious assault ship and 2 San Antonio-class LPD Flight II vessels. The Committee is further aware of recent guidance issued by the Commandant of the Marine Corps which envisions new approaches and new platforms for the integrated naval force. The Committee supports developing additional amphibious capabilities to enable these new approaches while maintaining the existing industrial base to produce survivable L-class warships that support the integrated naval force.

The Committee is aware of alternative contracting strategies for the construction of these warships which may reduce the overall cost of acquisition. Therefore, the Committee directs the Secretary of the Navy to provide a report within 180 days which provides options for the most efficient procurement of the 3 forecasted amphibious warships. The report should include a list of any additional necessary legislative authorities and an estimate of cost efficiencies generated by each option. (Page 17)

Senate

The Senate Armed Services Committee, in its report (S.Rept. 116-236 of June 24, 2020) on S. 4049, recommended the funding levels shown in the SASC column of **Table 1**. The recommended reduction of $250.0 in LPD-31 procurement funding is for transfer to LPD-32 and LPD-33 advance procurement (AP) funding. The recommended increase of $500.0 million for LPD-32 and LPD-33 advance procurement (AP) funding includes the $250.0 million transferred from LPD-31 procurement funding and an additional $250.0 million for "LPD–32 and LPD–33 program increase." The recommended increase of $250.0 million for LHA-9 is for "LHA-9 program increase." (Pages 458-459)

Regarding these funding recommendations, S.Rept. 116-236 states:

LPD Flight II

The budget request included $1.2 billion in line number 14 of Shipbuilding and Conversion, Navy (SCN), for LPD Flight II ships.

The committee notes that the Navy received incremental funding authority in section 129 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116–92) for the LPD–31, which would be fully funded in this request.

The committee further notes that additional funding is required in line number 15 of SCN to maximize the benefit of the amphibious ship procurement authorities provided elsewhere in this Act through the procurement of long lead material for LPD–32 and LPD–33.

Therefore, the committee recommends a decrease of $250.0 million in line number 14 of SCN. This sum is added to line number 15 of SCN elsewhere in this Report.

LPD Flight II advance procurement

The budget request included no funding in line number 15 of Shipbuilding and Conversion, Navy (SCN), for LPD Flight II advance procurement.

The committee notes that $500.0 million is required in line number 15 of SCN to maximize the benefit of the amphibious ship procurement authorities provided elsewhere in this Act through the procurement of long lead material for LPD–32 and LPD–33.

Therefore, the committee recommends an increase of $500.0 million in line number 15 of SCN, of which $250.0 million is a transfer from line number 14.

LHA replacement amphibious assault ship

The budget request included no funding in line number 17 of Shipbuilding and Conversion, Navy (SCN), for the LHA replacement amphibious assault ship.

The committee remains concerned with the procurement profile for large deck amphibious assault ships, which includes a span of 6 years until the next large deck amphibious assault ship (LHA–9) would be procured in fiscal year 2023.

The committee notes that efficiencies could be gained by reducing this time span, including steadier workflow with an increased learning curve, material and equipment suppliers with more predictable delivery contracts, and a more effective continuous improvement schedule.

The committee urges the Secretary of the Navy to accelerate the construction of LHA–9, including putting the remainder of the $350.0 million appropriated in fiscal year 2019 for this ship on contract as soon as possible, leveraging the incremental funding authority in section 127 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116–92) to build LHA–9 as efficiently as possible and utilizing the amphibious ship procurement authorities provided elsewhere in this Act to further increase efficiency and stability in the shipbuilding industrial base.

Therefore, the committee recommends an increase of $250.0 million in line number 17 of SCN. (Pages 31-32)

Section 124 of S. 4049 as reported by the committee states:

SEC. 124. PROCUREMENT AUTHORITIES FOR CERTAIN AMPHIBIOUS SHIPBUILDING PROGRAMS.

(a) CONTRACT AUTHORITY.—

(1) PROCUREMENT AUTHORIZED.—In fiscal year 2021, the Secretary of the Navy may enter into one or more contracts for the procurement of three San Antonio-class amphibious ships and one America-class amphibious ship.

(2) PROCUREMENT IN CONJUNCTION WITH EX

ISTING CONTRACTS.—The ships authorized to be procured under paragraph (1) may be procured as additions to existing contracts covering such programs.

(b) CERTIFICATION REQUIRED.—A contract may not be entered into under subsection (a) unless the Secretary of the Navy certifies to the congressional defense commit tees, in writing, not later than 30 days before entry into the contract, each of the following, which shall be prepared by the milestone decision authority for such programs:

(1) The use of such a contract is consistent with the Department of the Navy's projected force structure requirements for amphibious ships.

(2) The use of such a contract will result in significant savings compared to the total anticipated costs of carrying out the program through annual contracts. In certifying cost savings under the preceding sentence, the Secretary shall include a written explanation of—

(A) the estimated end cost and appropriated funds by fiscal year, by hull, without the authority provided in subsection (a);

(B) the estimated end cost and appropriated funds by fiscal year, by hull, with the authority provided in subsection (a);

(C) the estimated cost savings or increase by fiscal year, by hull, with the authority provided in subsection (a);

(D) the discrete actions that will accomplish such cost savings or avoidance; and

(E) the contractual actions that will ensure the estimated cost savings are realized.

(3) There is a reasonable expectation that throughout the contemplated contract period the Secretary of the Navy will request funding for the contract at the level required to avoid contract cancellation.

(4) There is a stable design for the property to be acquired and the technical risks associated with such property are not excessive.

(5) The estimates of both the cost of the contract and the anticipated cost avoidance through the use of a contract authorized under subsection (a) are realistic.

(6) The use of such a contract will promote the national security of the United States.

(7) During the fiscal year in which such contract is to be awarded, sufficient funds will be available to perform the contract in such fiscal year, and the future-years defense program (as defined under section 221 of title 10, United States Code) for such fiscal year will include the funding required to execute the program without cancellation.

(c) AUTHORITY FOR ADVANCE PROCUREMENT.—The Secretary of the Navy may enter into one or more contracts for advance procurement associated with a vessel or vessels for which authorization to enter into a contract is provided under subsection (a), and for systems and subsystems associated with such vessels in economic order quantities when cost savings are achievable.

(d) CONDITION FOR OUT-YEAR CONTRACT PAY

MENTS.—A contract entered into under subsection (a) shall provide that any obligation of the United States to make a payment under the contract for a fiscal year is subject to the availability of appropriations for that purpose for such fiscal year.

(e) MILESTONE DECISION AUTHORITY DEFINED.—In this section. the term ‘‘milestone decision authority’’ has the meaning given the term in section 2366a(d) of title 10, United States Code.

Regarding Section 124, S.Rept. 116-236 states:

Procurement authorities for certain amphibious shipbuilding programs (sec. 124)

The committee recommends a provision that would allow the Secretary of the Navy to enter into one or more contracts for the procurement of three San Antonio-class amphibious ships and one America-class amphibious ship.

The committee notes that the Assistant Secretary of the Navy for Research, Development, and Acquisition testified on March 4, 2020, that the authorities provided in this provision would be ‘‘tremendously beneficial’’ and added, ‘‘[W]e will look forward to those authorities, should they come in the [National Defense Authorization Act for Fiscal Year 2021].’’

The committee further notes that the Navy is estimating savings of 8 to 12 percent, or roughly $1 billion, for the multiple ship procurement of these 4 ships as compared to 4 separate ship procurement contracts.

Accordingly, this provision would provide the necessary authorities for implementing such an approach. (Page 10)

Section 126 of S. 4049 as reported by the committee states:

> SEC. 126. TREATMENT OF SYSTEMS ADDED BY CONGRESS IN FUTURE PRESIDENT'S BUDGET REQUESTS.
>
> A procurement quantity of a system authorized by Congress in a National Defense Authorization Act for a given fiscal year that is subsequently appropriated by Congress in an amount greater than the quantity of such system included in the President's annual budget request submitted to Congress under section 1105 of title 31, United States Code, for such fiscal year shall not be included as a new procurement quantity in future annual budget requests.

Regarding Section 126, S.Rept. 116-236 states:

> **Treatment of weapon systems added by Congress in future President's budget requests (sec. 126)**
>
> The committee recommends a provision that would preclude the inclusion in future annual budget requests of a procurement quantity of a system previously authorized and appropriated by the Congress that was greater than the quantity of such system requested in the President's budget request.
>
> The committee is concerned that by presenting CVN–81 as a ship that was procured in fiscal year 2020 (instead of as a ship that was procured in fiscal year 2019), LPD–31 as a ship requested for procurement in fiscal year 2021 (instead of as a ship that was procured in fiscal year 2020), and LHA–9 as a ship projected for procurement in fiscal year 2023 (instead of as a ship that was procured in fiscal year 2020), the Department of Defense, in its fiscal year 2021 budget submission, is disregarding or mischaracterizing the actions of Congress regarding the procurement dates of these three ships. (Page 11)

Section 1025 of S. 4049 as reported by the committee states (emphasis added):

> SEC. 1025. SENSE OF CONGRESS ON ACTIONS NECESSARY TO ACHIEVE A 355-SHIP NAVY.
>
> It is the sense of Congress that to achieve the national policy of the United States to have available, as soon as practicable, not fewer than 355 battle force ships—
>
> (1) the Navy must be adequately resourced to increase the size of the Navy in accordance with the national policy, which includes the associated ships, aircraft, personnel, sustainment, and munitions;
>
> (2) **across fiscal years 2021 through 2025, the Navy should start construction on not fewer than**—
>
> (A) 12 Arleigh Burke-class destroyers;
>
> (B) 10 Virginia-class submarines;
>
> (C) 2 Columbia-class submarines;
>
> (D) **3 San Antonio-class amphibious ships**;
>
> (E) **1 LHA-class amphibious ship**;
>
> (F) 6 John Lewis-class fleet oilers; and
>
> (G) 5 guided missile frigates;
>
> (3) new guided missile frigate construction should increase to a rate of between two and four ships per year once design maturity and construction readiness permit;
>
> (4) the Columbia-class submarine program should be funded with additions to the Navy budget significantly above the historical average, given the critical single national mission

that these vessels will perform and the high priority of the shipbuilding budget for implementing the National Defense Strategy;

(5) stable shipbuilding rates of construction should be maintained for each vessel class, utilizing multi-year or block buy contract authorities when appropriate, until a deliberate transition plan is identified; and

(6) prototyping of potential new shipboard sub systems should be accelerated to build knowledge systematically, and, to the maximum extent practicable, shipbuilding prototyping should occur at the subsystem-level in advance of ship design.

FY2021 DOD Appropriations Act (H.R. 7617)

House

The House Appropriations Committee, in its report (H.Rept. 116-453 of July 16, 2020) on H.R. 7617, recommended the funding levels shown in the HAC column of **Table 1**.

Appendix. Procurement Dates of LPD-31 and LHA-9

This appendix presents background information on congressional action regarding the procurement dates of LPD-31 and LHA-9. In reviewing the bullet points presented below, it can be noted that procurement funding is funding for a ship that is either being procured in that fiscal year or has been procured in a prior fiscal year, while advance procurement (AP) funding is funding for a ship that is to be procured in a future fiscal year.[27]

LPD-31—an LPD-17 Flight II Amphibious Ship

The Navy's FY2021 budget submission presents LPD-31, an LPD-17 Flight II amphibious ship, as a ship requested for procurement in FY2021. This CRS report treats LPD-31 as a ship that Congress procured (i.e., authorized and provided procurement funding for) in FY2020, consistent with the following congressional action on the Navy's FY2020 budget regarding the procurement of LPD-31:

- The House Armed Services Committee's report (H.Rept. 116-120 of June 19, 2019) on H.R. 2500, the FY2020 National Defense Authorization Act, recommended authorizing the procurement of an LPD-17 Flight II ship in FY2020, showing a quantity increase of one ship above the Navy's request and recommending procurement (not just AP) funding for the program.[28]
- The Senate Armed Services Committee's report (S.Rept. 116-48 of June 11, 2019) on S. 1790, the FY2020 National Defense Authorization Act, recommended authorizing the procurement of an LPD-17 Flight II ship in FY2020, showing a quantity increase of one ship above the Navy's request and recommending procurement (rather than AP) funding for the program.[29]
- The conference report (H.Rept. 116-333 of December 9, 2019) on S. 1790/P.L. 116-92 of December 20, 2019, the FY2020 National Defense Authorization Act, authorized the procurement of an LPD-17 Flight II ship in FY2020, showing a quantity increase of one ship above the Navy's request and recommending procurement (rather than AP) funding for the program.[30] Section 129 of S. 1790/P.L. 116-92 authorizes the Navy to enter into a contract, beginning in FY2020, for the procurement of LPD-31, and to use incremental funding to fund the contract.
- The Senate Appropriations Committee's report (S.Rept. 116-103 of September 12, 2019) on S. 2474, the FY2020 DOD Appropriations Act, recommended funding for the procurement of an LPD-17 Flight II ship in FY2020, showing a quantity increase of one ship above the Navy's request and recommending procurement (rather than AP) funding for the program.[31]
- The final version of the FY2020 DOD Appropriations Act (Division A of H.R. 1158/P.L. 116-93 of December 20, 2019) provides procurement (not AP) funding for an LPD-17 Flight II ship. The paragraph in this act that appropriates funding

[27] For additional discussion, see CRS Report RL31404, *Defense Procurement: Full Funding Policy—Background, Issues, and Options for Congress*, by Ronald O'Rourke and Stephen Daggett.

[28] H.Rept. 116-120, p. 379, line 012.

[29] S.Rept. 116-48, p. 433, line 12. See also pp. 23-24 for associated report language.

[30] H.Rept. 116-333, p. 1566, line 012. See also p. 1144 for associated report language.

[31] S.Rept. 116-103, p. 118, line 12. See also p. 122 for associated report language.

for the Navy's shipbuilding account, including this ship, includes a provision stating "*Provided further*, That an appropriation made under the heading 'Shipbuilding and Conversion, Navy' provided for the purpose of 'Program increase—advance procurement for fiscal year 2020 LPD Flight II and/or multiyear procurement economic order quantity' shall be considered to be for the purpose of 'Program increase—advance procurement of LPD–31'." This provision relates to funding appropriated in the FY2019 DOD Appropriations Act (Division A of H.R. 6157/P.L. 115-245 of September 28, 2018) for the procurement of an LPD-17 Flight II ship in FY2020, as originally characterized in the explanatory statement accompanying that act.[32]

LHA-9 Amphibious Assault Ship

The Navy's FY2021 budget submission presents the amphibious assault ship LHA-9 as a ship projected for procurement in FY2023. This CRS report treats LHA-9 as a ship that Congress procured (i.e., authorized and provided procurement funding for) in FY2020, consistent with the following congressional action on the Navy's FY2020 budget regarding the procurement of LHA-9:

- The Senate Armed Services Committee's report (S.Rept. 116-48 of June 11, 2019) on S. 1790, the FY2020 National Defense Authorization Act, recommended authorizing the procurement of LHA-9 in FY2020, showing a quantity increase of one ship above the Navy's request and recommending procurement (rather than AP) funding for the program.[33]
- The conference report (H.Rept. 116-333 of December 9, 2019) on S. 1790/P.L. 116-92 of December 20, 2019, the FY2020 National Defense Authorization Act, authorized the procurement of LHA-9 in FY2020, showing a quantity increase of one ship above the Navy's request and recommending procurement (rather than AP) funding for the program.[34] Section 127 of S. 1790/P.L. 116-92 authorizes the Navy to enter into a contract for the procurement of LHA-9 and to use incremental funding provided during the period FY2019-FY2025 to fund the contract.
- The Senate Appropriations Committee's report (S.Rept. 116-103 of September 12, 2019) on S. 2474, the FY2020 DOD Appropriations Act, recommended funding for the procurement of an LHA amphibious assault ship in FY2020, showing a quantity increase of one ship above the Navy's request and recommending procurement (rather than AP) funding for the program.[35]
- The final version of the FY2020 DOD Appropriations Act (Division A of H.R. 1158/P.L. 116-93 of December 20, 2019) provides procurement (not AP) funding for an LHA amphibious assault ship. The explanatory statement for Division A of H.R. 1158/P.L. 116-93 states that the funding is for LHA-9.[36]

[32] See PDF page 176 of 559, line 12, of the explanatory statement for H.R. 6157/P.L. 115-245.

[33] S.Rept. 116-48, p. 433, line 15.

[34] H.Rept. 116-333, p. 1566, line 015.

[35] S.Rept. 116-103, p. 118, line 15.

[36] Explanatory statement for Division A of H.R. 1158, PDF page 175 of 414, line 15.

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