Congressional Research Service
Informing the legislative debate since 1914

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

Updated January 12, 2026

Congressional Research Service
https://crsreports.congress.gov
R43543

CRS REPORT
Prepared for Members and
Committees of Congress

Summary

The Navy is procuring two types of larger amphibious ships: LHA-type "big-deck" amphibious assault ships and LPD-17 Flight II class amphibious ships. Both types are built by Huntington Ingalls Industries/Ingalls Shipbuilding (HII/Ingalls) of Pascagoula, MS.

Four LPD-17 Flight II ships were procured in FY2018-FY2025. The Navy's FY2026 budget requests the procurement of the fifth LPD-17 Flight II class ship and estimates its procurement cost at $2,130.0 million (i.e., about $2.1 billion). The Navy's FY2026 budget submission also requests the procurement of an LHA-type amphibious assault ship, which is a type of ship that the Navy procures once every few years. The Navy's FY2026 budget submission estimates its procurement cost at $3,895.0 million (i.e., about $3.9 billion).

Section 1023 of the FY2023 National Defense Authorization Act (NDAA) (H.R. 7776/P.L. 117-263 of December 23, 2022) amended 10 U.S.C. 8062 to require the Navy to include not less than 31 operational larger amphibious ships, including not less than 10 LHA/LHD-type "big-deck" amphibious assault ships and the remaining ships to be LPD-type or older LSD-type amphibious ships. The Navy's Battle Force Ship Assessment and Requirement (BFSAR) study, which was provided to the congressional defense committees in June 2023, calls for achieving a future fleet of 381 manned battle force ships, including 31 larger amphibious ships, consisting of 10 LHA- and LHD-type "big-deck" amphibious assault ships and 21 LPD- and older LSD-type amphibious ships. (The requirement in 10 U.S.C. 8062 for having 31 larger amphibious ships applies in any case.) Taking into account the 13 LPD-17 Flight I class ships that were procured in FY1996-FY2017, achieving a force of 21 LPD-type amphibious ships would require procuring a total of 8 ships built to the LPD-17 Flight II design or a follow-on design.

Section 129 of the FY2023 NDAA permitted the Navy to enter into a block buy contract for procuring a combination of up to five LHA-type and LPD-17 amphibious ships. On September 24, 2024, the Department of Defense (DOD) announced that the Navy had awarded a block buy contract for the construction of three LPD-17 Flight II ships (LPDs 33, 34, and 35), and a modification to a separate contract for the construction of an LHA-type ship (LHA-10).

Oversight issues for Congress regarding larger amphibious ships include technical and cost risk in the LPD-17 Flight II and LHA programs, and the operational readiness of in-service amphibious ships. Marine Corps officials in public remarks have called attention to the number of in-service amphibious ships that are not operationally ready because they are undergoing or need maintenance and repair work, and have stated that inadequate numbers of operationally ready amphibious ships have resulted in instances of where the Navy has not been able to meet requests from U.S. regional combatant commanders for amphibious ships with embarked Marines for day-to-day forward presence or responding to contingencies.

Contents

Figures

Appendixes

Contacts

Introduction

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

The Navy's proposed FY2026 budget requests the procurement of the fifth LPD-17 Flight II ship and an LHA-type amphibious assault ship.

Oversight issues for Congress regarding larger amphibious ships include technical and cost risk in the LPD-17 Flight II and LHA procurement programs, and the operational readiness of in-service amphibious ships. Decisions that Congress makes on procurement amphibious ships could substantially affect Navy capabilities and funding requirements and the shipbuilding industrial base.

A separate CRS report discusses the Navy's Medium Landing Ship (LSM) program, previously known as the Light Amphibious Warship (LAW) program.[1]

Background

U.S. Navy Amphibious Ships

Roles and Missions

Navy amphibious ships are operated by the Navy, with crews consisting of Navy personnel. They are battle force ships, meaning ships that count toward the quoted size of the Navy and toward the Navy's force-level goal. The primary function of Navy amphibious ships is to lift (i.e., transport) embarked U.S. Marines and their weapons, equipment, and supplies to distant operating areas, and enable Marines to conduct expeditionary operations ashore in those areas. Although amphibious ships can be used 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 Medium Landing Ship (LSM) 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 in many cases 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 counterterrorism 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. Amphibious ships typically are forward-deployed in multiship formations called amphibious groups (ARGs). Amphibious ships are also sometimes forward-deployed on an individual basis, particularly for conducting peacetime engagement activities with foreign countries or for responding to smaller-scale or noncombat contingencies.

Types of Amphibious Ships

The Navy's current amphibious ship force currently consists entirely of larger amphibious ships, including the so-called "big-deck" amphibious assault ships (because they have flight decks spanning the length of the ship), designated LHA and LHD, which look like medium-sized aircraft carriers, and the smaller (but still quite sizeable) amphibious ships, designated LPD or LSD, which are sometimes called "small-deck" amphibious ships (because their flight decks occupy only the aft part of the ship).[4] As mentioned earlier, a separate CRS report discusses the Navy's Medium Landing Ship (LSM) program, previously known as the Light Amphibious Warship (LAW) program, which is a program to build a new type of amphibious ship that would be much smaller than the Navy's current LHA/LHD- and LPD/LSD-type amphibious ships.[5]

Amphibious Ship Force-Level Goal

Requirement in 10 U.S.C. 8062

10 U.S.C. 8062(b) requires the Navy to include not less than 31 operational amphibious warfare ships, consisting of not less than 10 LHA/LHD-type "big-deck" amphibious assault ships and the remaining ships to be LPD/LSD-type amphibious ships. The requirement for the Navy to include these numbers and types of amphibious ships was added to 10 U.S.C. 8062 by Section 1023 of the FY2023 (NDAA) (H.R. 7776/P.L. 117-263 of December 23, 2022).

Force-Level Goal Under Navy's 381-Ship Plan

The Navy's Battle Force Ship Assessment and Requirement (BFSAR) study, which was provided to the congressional defense committees in June 2023, calls for achieving a future fleet of 381 manned battle force ships, including 31 larger amphibious ships, consisting of 10 LHA- and LHD-type "big-deck" amphibious assault ships and 21 LPD- and older LSD-type amphibious ships. The requirement in 10 U.S.C. 8062 for having 31 larger amphibious ships applies in any case.[6]

[4] 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. The terms "big-deck" and "small-deck" refer to the size of the ship's flight deck.

[5] CRS Report R46374, *Navy Medium Landing Ship (LSM) (Previously Light Amphibious Warship [LAW]) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[6] For more on the Navy's 381-ship goal, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke. For a review of earlier amphibious 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.

A forthcoming new Navy ship force-structure plan, sometimes called the Golden Fleet plan, is to succeed the 381-ship plan. As of mid-January 2026, the Navy had not yet announced the details of this successor force-structure plan.

FY2023 and FY2024 NDAA Provisions

The FY2023 NDAA included the following provisions relating to the amphibious ship force-level goal:

- Section 1022 amended 10 U.S.C. 8026 to require the Secretary of the Navy to ensure that the views of the Commandant of the Marine Corps are given appropriate consideration before a major decision is made by an element of the Department of the Navy outside the Marine Corps on a matter that directly concerns amphibious force structure and capability.
- Section 1023, as noted earlier, amended 10 U.S.C. 8062 to require the Navy to include not less than 31 operational larger amphibious ships, including 10 LHA/LHD-type ships and the remaining ships to be LPD or LSD type ships.
- Section 1025 amended 10 U.S.C. 8695 to state that, in preparing a periodic battle force ship assessment and requirement, the Commandant of the Marine Corps shall be specifically responsible for developing the requirements relating to amphibious warfare ships.

The FY2024 National Defense Authorization Act (NDAA) (H.R. 2670/P.L. 118-31 of December 22, 2023) included the following provisions relating to the amphibious ship force-level goal:

- Section 348 directed the Navy to submit, as part of its FY2025 budget submission, a 30-year shipbuilding plan that "meets the statutory requirement to maintain 31 amphibious warships as found in section 8062(b) of title 10, United States Code," and prohibited the obligation and expenditure of more than 50% of FY2024 funds for Administration and Servicewide Activities within the Operation and Maintenance, Navy (OPN), account until such a plan is submitted.
- Section 1019 amended 10 U.S.C. 8695(e), which sets forth the role of the Commandant of the Marine Corps in the preparation of an annual Navy battle force ship assessment and requirement, to state that the Commandant shall be specifically responsible for not only "for developing the requirements relating to amphibious warfare ships," as previously stated in 10 U.S.C. 8695(e), but also "for naval vessels with the primary mission of transporting Marines."

Current Numbers of Amphibious Ships

The Navy's force of amphibious ships at the start of FY2026 included 32 larger ships, including 9 LHA/LHD-type "big-deck" amphibious assault ships, 13 LPD-17 Flight I class ships, and 10 older LSD-41/49 class ships.

Existing LSD-41/49 Class Ships

The Navy procured a total of 12 Whidbey Island/Harpers Ferry (LSD-41/49) class ships (**Figure 1**) procured between FY1981 and FY1993. The ships entered service between 1985 and 1998.[7]

[7] The class was initially known as the Whidbey Island (LSD-41) class. The final four ships in the class, beginning with (continued...)

Figure 1. LSD-41/49 Class Ship

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

The LSD-41/49 class included 12 ships because the class was built at a time when the Navy was planning a 36-ship amphibious force that included 12 LSD-41/49 class ships. LSD-41/49 class ships have an expected service life of 40 years. The Navy began retiring LSD-41/49 class ships in 2021.

Amphibious Warship Industrial Base

Huntington Ingalls Industries/Ingalls Shipbuilding (HII/Ingalls) of Pascagoula, MS, is the Navy's current builder of both LHA- and LPD-type amphibious ships, although other U.S. shipyards could also build amphibious ships.[8] The amphibious warship industrial base also includes many supplier firms in numerous U.S. states that provide materials and components for Navy amphibious ships. The Amphibious Warship Industrial Base Coalition (AWIBC), an association of many of these firms, states that it represents 650 supplier firms in 39 states and 238 congressional districts.[9]

LPD-17 Flight II Program

Program Origin and 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

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.

[8] 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.

[9] See the AWIBC website at https://amphibiouswarship.org/, and "Amphibious Warship Spending by State: 2020-2024," https://amphibiouswarship.org/wp-content/uploads/2025/09/AWIBC-Spend-Map-2025.pdf, both accessed January 11, 2026.

the LPD-17 Flight II class ships.[10] By implication, the Navy's original LPD-17 design became the LPD-17 Flight I design. The first LPD-17 Flight II class ship is designated LPD-30. Subsequent LPD-17 Flight II class ships are designated LPD-31, LPD-32, and so on.

Whether the LPD-17 Flight II class 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 class shipbuilding effort as a separate program. Years from now, LPD-17 Flight I and Flight II class 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 class ship, will be named Harrisburg, for the city of Harrisburg, PA.[11] As a consequence, LPD-17 Flight II ships, 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.[12] 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 class 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.

Procurement Cost

Under the Navy's FY2026 budget submission, the LPD-17 Flight II class ship requested for procurement in FY2026 has estimated unit procurement cost of $2,129.9 million (i.e., about $2.1 billion).

Procurement Quantities Through FY2025

The first LPD-17 Flight II class ship (LPD-30) was procured in FY2018, the second (LPD-31) in FY2020 (the Navy states that the year was FY2021),[13] the third (LPD-32) in FY2023, and the fourth (LPD-33) in FY2025.

[10] Megan Eckstein, "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 and before that as the LSD(X) program.

[11] 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.

[12] 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.

[13] For further discussion, see the **Appendix**.

Figure 2. LPD-17 Flight II Design

Artist's rendering

Source: Cropped version of Huntington Ingalls Industries rendering accessed March 2, 2021, at https://newsroom.huntingtoningalls.com/file?fid=5c9a85ca2cfac22774673031.

LHA-9 Amphibious Assault Ship

LHA-type amphibious assault ships (**Figure 3** and **Figure 4**) are procured once every few years. The most recent such ship to be procured, LHA-9, was procured in FY2023. The Navy's FY2026 budget submission estimates its procurement cost at $3,881.2 million (i.e., about $3.9 billion).

NDAA Provisions Authorizing Block Buys

FY2021 and FY2022 NDAAs

Section 124 of the FY2021 NDAA (H.R. 6395/P.L. 116-283 of January 1, 2021), as amended by Section 121 of the FY2022 NDAA (S. 1605/P.L. 117-821 of December 27, 2021), permitted the Navy to enter into a block buy contract in FY2021 or FY2022 for the procurement of three LPD-17 class ships and one LHA-type amphibious assault ship. Such a contract would have been the first block buy contract to cover the procurement of ships from two separate ship classes. Using block buy contracting could reduce the unit procurement costs of LPD-17 Flight II and LHA-type ships and affect Congress's flexibility for making changes to Navy shipbuilding programs in response to potential changes in strategic or budgetary circumstances during the period covered by the block buy contract.[14]

[14] For more on block buy contracting, see CRS Report R41909, *Multiyear Procurement (MYP) and Block Buy Contracting in Defense Acquisition: Background and Issues for Congress*, by Ronald O'Rourke. See also Megan Eckstein, "Ingalls Eyeing LPD Cost Reductions, Capability Increases As Future Fleet Design Evolves," *USNI News*, January 21, 2021.

Figure 3. LHA-8 Amphibious Assault Ship

Artist's rendering

Source: Rendering 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.

FY2023 NDAA

Section 129 of the FY2023 NDAA permits the Navy to enter into a block buy contract for procuring a combination of up to five LPD-17 and LHA-type amphibious ships. Similar to the point made in the previous paragraph, such a contract would be the first block buy contract to cover the procurement of ships from two separate ship classes. As noted above, using block buy contracting could reduce the unit procurement costs of LPD-17 Flight II and LHA-type ships and affect Congress's flexibility for making changes to Navy shipbuilding programs in response to potential changes in strategic or budgetary circumstances during the period covered by the block buy contract. At an April 17 hearing on FY2025 seapower and projection forces programs before the Seapower and Projection Forces subcommittee of the House Armed Services Committee, the Department of the Navy (DON) testified that HII/Ingalls had informed DON that, as estimated by HII/Ingalls, using the block buy contract authority could reduce the combined procurement cost of the ships being procured under the contract by about $914 million.[15]

September 2024 Contract Awards

On September 24, 2024, the Department of Defense (DOD) announced that the Navy had awarded a block buy contract for the construction of three LPD-17 Flight II ships (LPDs 33, 34,

[15] Source: Spoken testimony of Lieutenant General Karsten Heckl, Deputy Commandant, Combat Development and Integration, and Commanding General, Marine Corps Combat Development Command, as reflected in the CQ transcript for the hearing. See also Justin Katz, "Multi-Ship Amphib Buy Could Net $900M in Savings, Say Navy, Marine Corps officials," *Breaking Defense*, April 18, 2024.

and 35), and a modification to a separate contract for the construction of an LHA-type ship (LHA-10).[16]

Figure 4. LHA-7 Amphibious Assault Ship

Shown with 20 F-35B Joint Strike Fighters (JSFs) on Flight Deck

Source: Photograph accompanying Stavros Atlamazoglou, "The US's Experimental 'Lightning Carriers' Are 'Much More Capable' than China's Current Carriers, US Admiral Says," *Business Insider*, December 6, 2022. The article credits the photograph to U.S. Marine Corps/Sgt. Samuel Ruiz.

Issues for Congress

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

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

LPD-17 Flight II Program

A July 9, 2025, press report states:

> The Navy is predicting delays of nine to 11 months for its first three Flight II San Antonio-class amphibious warships, according to the service's fiscal year 2026 budget books, which point to workforce-related challenges.
>
> The first Flight II ship, Harrisburg (LPD-30), is now projected to deliver nine months late in February 2027 rather than May 2026 "based on early construction performance indicators related to shipyard labor challenges," the shipbuilding justification document states….

[16] Department of Defense, "Contracts For Sept. 24, 2024." See also Sam LaGrone, "Ingalls Wins $9.6B in Shipbuilding Contracts for 4 Amphibious Warships," *USNI News*, September 24 (updated September 25), 2024; Justin Katz, "Navy Inks Long Awaited $9.4b Deal with HII for 4 Amphibious Warships," *Breaking Defense*, September 24, 2024.

> The document cites the same workforce-related performance indicators for the two follow-on vessels.[17]

A June 2024 Government Accountability Office (GAO) report—the 2024 edition of GAO's annual report surveying DOD major acquisition programs—stated the following about the LPD-17 Flight II program:[18]

> **Current Status**
>
> The Office of the Secretary of Defense paused the program in the spring of 2023 to study the costs and capabilities of the platform. As of January 2024, the Navy-led study has been completed. The Navy is evaluating program quantities and if the acquisition strategy for using what the Navy refers to as a block buy would generate cost savings for LPD Flight II purchases.
>
> The Navy now expects delivery of LPD 30 in fiscal year 2026, a delay of approximately 6 months since our last assessment. The Navy attributed LPD 30 delays to COVID-19-related labor shortfalls in the 2020 to 2022 time frame. Navy program officials stated that the shipyard is holding hiring events and accelerating training efforts to grow its workforce in response to this challenge.
>
> The program continues to track risks associated with the integration of a new surface radar system as construction of LPD 30 and 31 continues. The new radar was developed to standardize the Navy's surface search radars in response to the Navy's ship collisions. The radar has been installed on several in-service ships but has yet to go through independent testing. Navy officials anticipate that the program's master plan for operational testing—to include testing the integration of the new radar system—will be approved prior to LPD 30 delivery and testing, which begins in 2026. While fleet officials reported some issues with the new radar, radar program officials are confident that they can fix the issues and the radar will meet requirements.
>
> **Program Office Comments**
>
> We provided a draft of this assessment to the program office for review and comment. It provided technical comments, which we incorporated where appropriate. According to the program office, the Navy continues to successfully manage and deliver LPD 17 class ships. The program reported that it received funding for LPD 30, 31, and 32, and has budgeted for LPD 33, 34, and 35. The program also stated that in 2023, it: (1) conducted final contract trials for LPD 28; (2) took LPD 29 to sea with a new radar; (3) continued construction of LPD 30 and 31; and (4) placed LPD 32 under contract for construction.[19]

LHA Program

A January 2025 report from DOD's Director, Operational Test and Evaluation (DOT&E)—DOT&E's annual report for FY2024—stated the following about the LHA program:

> **TEST ADEQUACY**
>
> As first reported in the FY21 Annual Report, DOT&E and the LHA 6 Program Office have yet to agree on an LHA Flight 1 LFT&E (Live Fire Test and Evaluation] Strategy to evaluate the survivability of the LHA 6 Flight 1 against air-delivered or underwater kinetic

[17] Nick Wilson, "Initial Flight II LPDs face nine- to 11-month delays," *Inside Defense*, July 9, 2025.

[18] The 2025 edition of this annual GAO report (Government Accountability Office, *Weapon Systems Annual Assessment[:] DOD Leaders Should Ensure That Newer Programs Are Structured for Speed and Innovation*, GAO-25-107569, June 2025, 222 pp.) does not include coverage of the LPD-17 Flight II program.

[19] Government Accountability Office, *Weapon Systems Annual Assessment[:] DOD Is Not Yet Well-Positioned to Field Systems with Speed*, GAO-24-106831, June 2024, p. 152.

threats. Specific DOT&E concerns are the lack of fire testing for embarked vehicle spaces and the lack of a Full Ship Shock Trial. DOT&E approval of the pending LHA Flight 1 TEMP [Test and Evaluation Master Plan] is dependent of its inclusion of these test events and associated resources.

No testing was conducted in FY24. The Navy expects to begin FOT&E [Follow-On Test and Evaluation] of LHA 6 Flight 1 in FY26.

PERFORMANCE

EFFECTIVENESS, SUITABILITY, AND SURVIVABILITY

No data are available to assess LHA 6 Flight 1 operational effectiveness, suitability, and survivability. DOT&E expects to report on LHA 6 Flight 1 operational effectiveness, suitability, and survivability after completion of FOT&E that the Navy expects to commence in FY26.

RECOMMENDATIONS

The Navy should:

1. As recommended in the FY23 Annual Report, continue to investigate aviation space allocation options that support sustained operations with an F-35B-heavy ACE [Aviation Combat Element] embarked.

2. As recommended in the FY23 Annual Report, continue to investigate supplemental crewing options for sustained LHA 6 Flight 0 operations with an F-35B-heavy ACE embarked.

3. As recommended in the last three DOT&E Annual Reports, deliver the LHA 6 Flight 1 LFT&E Strategy to DOT&E for approval in FY25. Identify resources in the updated TEMP for embarked vehicle fire testing and a Full Ship Shock Trial.[20]

Operational Readiness of In-Service Amphibious Ships

Another issue for Congress concerns the operational readiness of in-service amphibious ships. Marine Corps officials in public remarks have called attention to the number of in-service amphibious ships that are not operationally ready because they are undergoing or are in need of maintenance and repair work, and have stated that inadequate numbers of operationally ready amphibious ships have resulted in instances of where the Navy has not been able to meet requests from U.S. regional combatant commanders for amphibious ships for day-to-day forward presence or responding to contingencies.[21] The situation has prompted the Marine Corps to explore alternatives for deploying Marines on other kinds of ships that are not designed for embarking and transporting Marine forces.[22]

[20] Director, Operational Test & Evaluation, *FY 2023 Annual Report*, January 2024, pp. 203-204.

[21] See, for example, Mallory Shelbourne, "Marines, Navy Crafting Long-Term Fixes for Amphibious Warship Shortages," *USNI News*, May 3, 2024; Drew F. Lawrence and Konstantin Toropin, "Marines Can't Count on Navy Ships to Carry Them to Global Emergencies, One of the Service's Top Generals Says," *Military.com*, January 25, 2024. See also James G. Foggo, "Evacuating Sudan: An Amphibious Gap and Missed Opportunity," *Defense News*, May 3, 2023; Justin Katz, "Short on Amphibs for Turkey, Sudan, the Marines Grapple with Crisis Response Ethos," *Breaking Defense*, May 1, 2023; Nancy A. Youssef, "Grounding of U.S. Marine Unit Spotlights Lack of Ships in Asia-Pacific," *Wall Street Journal*, April 30, 2023.Richard R. Burgess, "Berger: Lack of Amphibs Left AFRICOM with No Sea-Based Option for Sudan Evacuation," *Seapower*, April 28, 2023; Konstantin Toropin, "'I Let Down the Combatant Commander': Marine Leader Regrets His Forces Weren't Available for Recent Crises," *Military.com*, April 28, 2023.

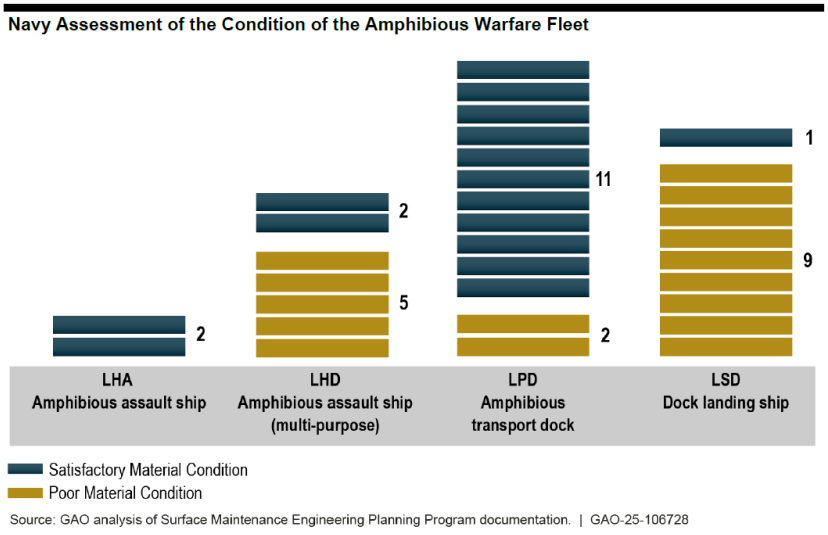
[22] See, for example, Megan Eckstein, "Ship Shortage Forces Marines to Consider Alternate Deployments," *Defense News*, January 25, 2024.

In the FY2026 National Defense Authorization Act (S. 1071/P.L. 119-60 of December 18, 2025):

- Section 132 requires the Navy to include information on amphibious ship spares and repair parts in the Navy's annual budget-justification materials.
- Section 340 extends and modifies a requirement for the Navy to provide semiannual briefings on the operational status of the Navy's amphibious fleet.
- Section 1011 amends 10 U.S.C. 8062 to require the Navy to ensure that the Navy prioritizes scheduled maintenance and repair actions so as to maintain the minimum number of available amphibious ships to meet operational requirements.
- Section 1015 requires the Navy, in allocating funds authorized to be appropriated by S. 1071/P.L. 119-60 or otherwise made available for FY2026 for the Operation and Maintenance, Navy (OPN) account for ship maintenance, to ensure that funds are allocated to provide, on a per capita basis, an equal or greater amount of funding for each amphibious warfare ship that enters into maintenance availability during FY2026 relative to the amount of funding provided for each surface combatant ship.

A December 2024 Government Accountability Office (GAO) report on the condition of the Navy's amphibious ships states:

> Amphibious warfare ships are critical for Marine Corps missions, but the Navy has struggled to ensure they are available for operations and training. In some cases, ships in the amphibious fleet have not been available for years at a time. The Navy and Marine Corps are working to agree on a ship availability goal but have yet to complete a metrics-based analysis to support such a goal. Until the Navy completes this analysis, it risks jeopardizing its ability to align amphibious ship schedules with the Marine Corps units that deploy on them.
>
> As of March 2024, half of the amphibious fleet is in poor condition and these ships are not on track to meet their expected service lives.



GAO identified factors that contributed to the fleet's poor condition and reduced its availability for Marine Corps' operations and training. For example, the Navy faces challenges with spare parts, reliability of ship systems, and canceled maintenance. GAO found that the Navy canceled maintenance for aging amphibious ships it planned to divest before completing the required waiver process. Navy officials said they no longer plan to

> cancel maintenance prior to completing the process, but the Navy has yet to update its maintenance policy to reflect that decision. Updating the policy would help ensure ships the Navy plans to divest do not miss maintenance if Congress restricts funds for divestment.
>
> The Navy is likely to face difficulties meeting a statutory requirement to have at least 31 amphibious ships in the future given the age of many ships and other factors. The Navy is considering extending the service life for some ships to meet the 31-ship requirement. However, these efforts will require up to $1 billion per ship, according to the Navy, with six ships needing service life extensions in the next 3 decades amid rising ship construction costs and maintenance backlogs.[23]

An August 18, 2025, press report states:

> The readiness rate of amphibious ships critical to Marine missions has dropped to 41%, a defense official tells Military Times, as thousands of Marines and sailors are being sent to Latin America and the Caribbean amid the Trump administration's ramped-up effort to combat drug cartels.
>
> The lack of available amphibious warfare ships, known as amphibs, resulted in a more than five-month gap in Marine Expeditionary Unit deployments this year. The 31st MEU [Marine Expeditionary Unit] completed its last patrol aboard the America Amphibious Ready Group in early March. The 22nd MEU deployed aboard the Iwo Jima Amphibious Ready Group on Thursday [August 14, 2025]….
>
> The decline in amphib readiness highlights the Navy's inability to tackle major fleet maintenance issues plaguing the force at a time when the Trump administration has been eager to increase military options available to the president to carry out his Make America Great Again agenda….
>
> Officials who spoke to Military Times on Monday [August 18, 2025] warned that the deployed Marines would not have the training needed for drug interdictions….
>
> The Marine Corps has said it needs the amphib [amphibious ship] readiness rate at 80% or higher to complete its missions with the current number of ships in the fleet, and Marine Corps commandant Gen. Eric Smith has called the amphib readiness rate a "crisis."
>
> "I have the Marines, and I have the squadrons, and I have the battalions and the batteries … I just don't have the amphibs [amphibious ships]," Marine Corps Commandant Gen. Eric Smith told VOA late last year."[24]

An April 8, 2025, press report states:

> About 50% of amphibious warships are ready at any given time to deploy if needed for a crisis or conflict — far less than the Navy's goal of 80%—the Marine Corps commandant said Monday [April 7].
>
> The Navy set a goal in 2024 to have 80% of its force—including ships, submarines and aircraft—trained, equipped and ready to deploy at a moment's notice. Ships, submarines and aircraft are hovering at about a 67-70% readiness, Navy leaders said Monday during the 2025 Sea Air Space Symposium. But the Navy's amphibious warships, which transport Marine Corps forces when they must deploy, are lagging behind….
>
> "The amphibious maintenance has been vexing us. We had significant trouble with the [USS Boxer and USS Wasp] last year," said Vice Adm. James Kilby, the acting chief of naval operations, the Navy's top operational job.

[23] Government Accountability Office, *Amphibious Warfare Fleet[:] Navy Needs to Complete Key Efforts to Better Ensure Ships Are Available for Marines*, GAO-25-106728, December 2024, highlights page.

[24] Carla Babb, "Navy Amphib [ship] Readiness Dips as Sailors, Marines Deploy for Caribbean," *Military Times*, August 18, 2025.

> In 2024, the USS Boxer amphibious ready group and its Marine Expeditionary Unit experienced operational challenges that resulted in a delayed deployment and missed exercises due to lack of available ships. Maintenance problems forced the Boxer to return to California in April 2024, just days into its first deployment in five years for "additional maintenance in support of its deployment," the Navy said at the time. The delayed deployment came after a 2020 maintenance period stretched into two years—about seven months longer than planned—followed by an additional year of mechanical problems. The maintenance issues interrupted training meant to certify the ship for deployment.
>
> Also in 2024, ship spotters observed the USS Wasp in March and the USS Iwo Jima in September limping back to port following training exercises off coast of Virginia. In both instances, Navy officials confirmed the ships had experienced mechanical problems.
>
> As a result, the Navy and Marines Corps have struggled to keep three amphibious ships per ready group operational.
>
> But Kilby said getting amphibious ship maintenance back on schedule has his full attention….
>
> The USS America, an amphibious assault ship, will undergo what the Navy calls a "signature maintenance availability" in the fall. A signature availability, Navy leaders said, takes a new approach to how the service plans and conducts maintenance on amphibious warships. The new approach aims to determine what maintenance needs to be done 500 days before starting the work and award the contract to contractors about one year before the overhaul begins.
>
> "With these complex [availabilities] for a big deck amphib, the lead maintenance activities are going to need some more time," Vice Adm. Brendan McLane, the commander of Naval Surface Force, said during a panel at the symposium.
>
> Navy leaders said deciding what work needs to be done on the ship more than one year in advance allows for more time to plan the maintenance and will ultimately reduce delays. Advance notice, McLane said, will also ensure contractors can pre-order necessary parts to have them in stock, rather than having to stop maintenance work to wait for parts to arrive.[25]

An April 7, 2025, press report states:

> A new pilot program aimed at improving Navy amphibious ship readiness will kick off this year in shipyards on both the east and west coasts, service officials said Monday [April 7].
>
> Under the program, the Navy will complete the proposed maintenance package 500 days before the start of the so-called "signature availability" and award the contract 360 days before the overhaul begins, Vice Adm. Brendan McLane said at the annual Sea Air Space symposium.
>
> "With these complex avails for a big deck amphib, the lead maintenance activities are going to need some more time," McLane, the commander of Naval Surface Force, said during a panel. "The [availability] minus 120 [days] is not going to cut it."
>
> The hope is that knowing what the work package is more than one year in advance and having more time to plan the availability will drive down the number of delay days on the amphibious ship maintenance.
>
> This will also help the contractors order long lead time items ahead of the availability to ensure they have parts ready to go and a rotating stock of systems in the inventory once the ship is in the yard, McLane said.

[25] Caitlyn Burchett, "Amphibious Ships Lagging Behind Navy's 80% Ready-to-Deploy Goal," *Stars and Stripes*, April 8, 2025.

> The SWOBOSS [surface warfare office boss] also said big deck amphibious warships, like the carriers and submarines, need to have their own personnel focused on ordering material.[26]

[26] Mallory Shelbourne, "Troubled Amphib Readiness Prompting Navy to Rethink Maintenance Plan," *USNI News*, April 7, 2025.

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

This appendix presents background information 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]

Overview

An institutional issue for Congress in FY2021 concerned the treatment in the Navy's proposed FY2021 budget of the procurement dates of LPD-31 and LHA-9. The Navy's FY2021 budget submission presented 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 and FY2021 budgets regarding the procurement of LPD-31 and LHA-9, this CRS report treats LPD-31 and LHA-9 as ships that Congress procured (i.e., authorized and provided procurement funding for) in FY2020 and FY2021, respectively. Potential oversight issues for Congress included 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 FY2021), was DOD, in its FY2021 budget submission, disregarding or mischaracterizing the actions of Congress regarding the procurement dates of these three ships? If so
    - Was 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?

The Navy's FY2024 budget submission, similar to its FY2023, FY2022, and FY2021 budget submissions, presents LHA-9 as a ship procured or projected for procurement in FY2023. Navy officials have described the listing of LHA-9 in the Navy's FY2023 budget submission as a ship being requested for procurement in FY2023 as an oversight.

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

The Navy's FY2021 budget submission presented LPD-31, an LPD-17 Flight II class 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,

[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.

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 class 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 class 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 class 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 class 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) provided procurement (not AP) funding for an LPD-17 Flight II class ship. The paragraph in this act that appropriated funding 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 class ship in FY2020, as originally characterized in the explanatory statement accompanying that act.[32]

[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.

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

LHA-9 Amphibious Assault Ship

The Navy's FY2024 budget submission, similar to its FY2023, FY2022, and FY2021 budget submissions, presents LHA-9 as a ship procured or 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 FY2021, consistent with the following congressional action on the Navy's FY2020 and FY2021 budgets 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) provided procurement (not AP) funding for an LHA amphibious assault ship. The explanatory statement for Division A of H.R. 1158/P.L. 116-93 stated that the funding was for LHA-9.[36]
- The procurement (not AP) funding provided for LHA-9 in the FY2020 DOD Appropriations Act (see previous bullet point) was subsequently reprogrammed to provide support for counter-drug activities of the Department of Homeland Security (DHS) along the U.S. southern border.[37] The final version of the FY2021 DOD Appropriations Act (Division C of H.R. 133/P.L. 116-260 of December 27, 2020, the Consolidated Appropriations Act, 2021), however, once again provided procurement (not AP) funding for an LHA amphibious assault ship. The explanatory statement for Division C of H.R. 133/P.L. 116-260 stated that the funding is for "Program increase—LHA 9."[38] As a result of the FY2021 procurement (not AP) funding for LHA-9, the ship once again has an authorization (provided in the FY2020 National Defense Authorization Act), authority for using incremental funding in procuring it (provided by Section 127

[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.

[37] Reprograming action (Form DD 1415) FY 20-01 RA, February 13, 2020, page 3 of 5.

[38] Explanatory statement for Division C of H.R. 133/P.L. 116-260, PDF page 204 of 469, line 17.

of the FY2020 National Defense Authorization Act), and procurement (not AP) funding (provided in the FY2021 DOD Appropriations Act).

Provision in FY2021 NDAA Relating to Ship Procurement Date

The Department of Defense's (DOD's) decision to present LPD-31 and LHA-9 in its FY2021 budget submission as ships requested for procurement in FY2021 and FY2023, respectively, even though Congress procured the two ships in FY2020 and FY2021, respectively, posed an 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. Section 126 of the FY2021 NDAA (H.R. 6395/P.L. 116-283 of January 1, 2021) states

> SEC. 126. TREATMENT IN FUTURE BUDGETS OF THE PRESIDENT OF SYSTEMS ADDED BY CONGRESS.
>
> In the event the procurement quantity for a system authorized by Congress in a National Defense Authorization Act for a fiscal year, and for which funds for such procurement quantity are appropriated by Congress in the Shipbuilding and Conversion, Navy account for such fiscal year, exceeds the procurement quantity specified in the budget of the President, as submitted to Congress under section 1105 of title 31, United States Code, for such fiscal year, such excess procurement quantity shall not be specified as a new procurement quantity in any budget of the President, as so submitted, for any fiscal year after such fiscal year.

Regarding the original Senate version of this provision, the Senate Armed Services Committee's report (S.Rept. 116-236 of June 24, 2020) on the FY2021 National Defense Authorization Act (S. 4049) 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)

Author Information

Ronald O'Rourke
Specialist in Naval Affairs

Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS's institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.