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# Navy LX(R) Amphibious Ship Program: Background and Issues for Congress

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## Summary

The LX(R) program is a program to build a new class of 11 amphibious ships for the Navy. The Navy wants to procure the first LX(R) in FY2020.

The primary function of Navy amphibious ships is to lift (i.e., transport) 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.

The Navy wants to procure 11 LX(R)s as replacements for 12 aging Whidbey Island/Harpers Ferry (LSD-41/49) class amphibious ships, the first of which will reach age 40 in 2025. The Navy wants to procure the first four LX(R)s in FY2020, FY2022, FY2024, and FY2026, and the remaining seven ships at a rate of one per year during the period FY2028-FY2034. If this procurement schedule were implemented, the Navy projects that the first two ships would enter service in FY2026 and the 11<sup>th</sup> would enter service in 2038.

An October 20, 2014, press report stated that Secretary of the Navy Ray Mabus had signed a decision memorandum dated October 14 designating a design based on that of the Navy's San Antonio (LPD-17) class amphibious ship as the Navy's preferred alternative for the design of the LX(R).

The Navy's proposed FY2016 budget requests \$46.5 million in research and development funding for the LX(R) program, and \$550 million to complete the estimated procurement cost of a 12<sup>th</sup> LPD-17 class amphibious ship.

Issues for Congress include the following:

- whether to approve, reject, or modify the Navy's FY2016 requests for research and development funding for the LX(R) program and procurement funding for a 12<sup>th</sup> LPD-17 class ship;
- whether, in response to the procurement of a 12<sup>th</sup> LPD-17 class ship, the LX(R) program should be reduced from 11 ships to 10 ships;
- whether to approve, reject, or modify the Navy's proposal to use a combined solicitation for contract design support for the LX(R) program, the detailed design and construction of an amphibious assault ship called LHA-8 that the Navy wants to procure in FY2017, and the detailed design and construction of the first six TAO(X) oilers, and to limit the bidding in this combined solicitation to HII/Ingalls and GD/NASSCO; and
- whether to accelerate the procurement of the first LX(R) from FY2020 to an earlier year.

## Contents

Introduction.....	1
Background.....	1
Amphibious Ships in General.....	1
Roles and Missions of Amphibious Ships.....	1
Types of Amphibious Ships.....	2
Amphibious Lift Goal .....	2
Existing Force of LSD-41/49 Class Ships.....	3
LX(R) Program.....	4
Total of 11 Ships Envisaged .....	4
Program Schedule .....	4
Program Funding.....	5
Unit Procurement Cost Target.....	5
Analysis of Alternatives (AoA).....	5
Design Based on LPD-17 Hull Designated by Navy as Preferred Alternative for LX(R).....	6
Combined Solicitation Limited to Two Builders.....	7
Funding for a 12 <sup>th</sup> LPD-17 Class Ship.....	7
Issues for Congress.....	8
FY2016 Funding for LX(R) and LPD-17 Programs.....	8
Total Number of LX(R) Ships.....	8
Navy’s Proposal for Combined Solicitation Limited to Two Builders.....	8
Accelerating Procurement Date for First LX(R).....	9
Legislative Activity for FY2016.....	9
FY2016 Budget .....	9

## Figures

Figure 1. LSD-41/49 Class Ship.....	4
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## Tables

Table 1. LX(R) Program Funding.....	5
-------------------------------------	---

## Contacts

Author Contact Information.....	10
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## Introduction

This report provides background information and issues for Congress on the LX(R) amphibious ship program, a Navy program to build a new class of 11 amphibious ships. The Navy wants to procure the first LX(R) in FY2020.

The LX(R) program raises a number of oversight issues for Congress. Decisions Congress makes on the LX(R) program will affect Navy capabilities and funding requirements, and the U.S. shipbuilding industrial base.

## Background

### Amphibious Ships in General

#### Roles and Missions of Amphibious Ships

The primary function of Navy amphibious ships is to lift (i.e., transport) 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,<sup>1</sup> amphibious ships are potentially useful for a range of combat and non-combat operations.<sup>2</sup>

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<sup>1</sup> 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.)

<sup>2</sup> 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; non-combatant 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.

Although the Marines have not conducted a large-scale amphibious assault against opposing military forces since the Korean conflict, Marine Corps officials stated in 2008 that about 85 U.S. amphibious operations of other kinds were conducted between 1990 and April 2008. (Source: Marine Corps briefing to CRS on April 25, 2008.) In addition, presenting the potential for conducting an amphibious landing can generate tactical benefits, even if the landing is not carried out. During the 1991 Persian Gulf conflict, for example, the potential for conducting an amphibious landing by a force of about 17,000 Marines embarked on amphibious ships in the Persian Gulf tied down several Iraqi divisions in coastal-defense positions. Those Iraqi divisions' positions were not available for use against U.S.-coalition ground forces moving north from Saudi Arabia. (See CRS Report 91-421, *Persian Gulf War: Defense Policy Implications for Congress*, coordinated by Ronald O'Rourke, p. 41. [May 15, 1991; out of print and available directly from the report coordinator.])

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).<sup>3</sup> 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 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.

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.<sup>4</sup> In the designation LX(R), the X means that the exact design of the ship has not yet been determined, and the R means it is intended as a replacement for existing ships.

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.

## **Amphibious Lift Goal**

The Navy's 306-ship force structure goal calls for achieving and maintaining a 33-ship amphibious force that includes 11 LHA/LHA-type amphibious assault ships, 11 San Antonio (LPD-17) class amphibious ships, and 11 LSD/LX(R)-type amphibious ships (11+11+11). Navy and Marine Corps officials have agreed that this force would minimally meet the Marine Corps' goal of having an amphibious ship force with enough combined capacity to lift the assault echelons (AEs) of 2.0 Marine Expeditionary Brigades (MEBs). A 33-ship force would include 15 amphibious ships for each MEB, plus 3 additional ships to account for roughly 10% of the amphibious ship force being in overhaul at any given time.

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<sup>3</sup> 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.

<sup>4</sup> 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 1.

Marine Corps and Navy officials also agree that a 38-ship amphibious force would more fully meet the Marine Corps' 2.0 MEB AE amphibious lift requirement. Such a force would include 17 amphibious ships for each MEB, plus 4 additional ships to account for ships in overhaul. Although a 38-ship force would more fully meet the Marine Corps' lift requirement, the Navy and Marine Corps have agreed to accept the operational risks associated with having a 33-ship force rather than a 38-ship force as a means of living within fiscal constraints.<sup>5</sup>

The requirement for a force of 33 (or 38) amphibious ships relates primarily to meeting wartime needs for amphibious lift. Navy and Marine Corps officials have also testified that fully meeting U.S. regional combatant commander (COCOM) requests for day-to-day forward deployments of amphibious ships would require a force of 50 or more amphibious ships. 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 COCOM demands for forward-deployed amphibious ships is "close to 54."<sup>6</sup>

## **Existing Force of LSD-41/49 Class Ships**

The Navy's existing force of LSD-type ships includes 12 Whidbey Island/Harpers Ferry (LSD-41/49) class ships (**Figure 1**).<sup>7</sup> These ships were procured between FY1981 and FY1993 and entered service between 1985 and 1998. They have an expected service life of 40 years; the first ship will reach that age in 2025. The ships are about 609 feet long and have a full load displacement of about 16,800 tons. The class includes 12 ships because they were built at a time when the Navy was planning a 36-ship (12+12+12) amphibious force.

The first three LSD-41/49 class ships were built by Lockheed Shipbuilding of Seattle, WA, a firm that subsequently exited the Navy shipbuilding business. The final nine ships were built by Avondale Shipyards of New Orleans, LA, a shipyard that eventually became part of the shipbuilding firm Huntington Ingalls Industries (HII). HII is currently winding down Navy shipbuilding operations at Avondale and plans to have Avondale exit the Navy shipbuilding business. (HII continues to operate two other shipyards that build Navy ships—Ingalls Shipbuilding in Pascagoula, MS, and Newport News Shipbuilding in Newport News, VA.)

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<sup>5</sup> For a more detailed review of the 33- and 38-ship force structure requirements, see Appendix A of CRS Report RL34476, *Navy LPD-17 Amphibious Ship Procurement: Background, Issues, and Options for Congress*, by Ronald O'Rourke, which is an archived report.

<sup>6</sup> Source: Spoken testimony of Lieutenant General Glueck, as reflected in transcript of hearing.

<sup>7</sup> 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.

**Figure I. LSD-41/49 Class Ship**



**Source:** U.S. Navy photo accessed May 7, 2014, at [http://www.navy.mil/gallery\\_search\\_results.asp?terms=lsd+52&page=4&r=4](http://www.navy.mil/gallery_search_results.asp?terms=lsd+52&page=4&r=4). The Navy's caption for the photo states that the photo is dated July 13, 2013, and that it shows the *Pearl Harbor* (LSD-52) anchored off Majuro atoll in the Republic of the Marshall Islands during an exercise called Pacific Partnership 2013.

## LX(R) Program<sup>8</sup>

### Total of 11 Ships Envisaged

Consistent with the 33-ship (11+11+11) amphibious force level goal, the Navy envisages building 11 new LX(R)s as replacements for the 12 LSD-41/49 class ships.

### Program Schedule

The Navy wants to procure the first four LX(R)s in FY2020, FY2022, FY2024, and FY2026, and the remaining seven ships at a rate of one per year during the period FY2028-FY2034. If this procurement schedule were implemented, the Navy projects that the first two ships would enter service in FY2026 and the 11<sup>th</sup> would enter service in 2038.

The Navy's FY2012 budget submission scheduled the procurement of the first LX(R) for FY2017. The Navy's FY2013, FY2014, and FY2015 budget submissions deferred the scheduled procurement of the first LX(R) progressively, to FY2018, FY2019, and FY2020, respectively.

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<sup>8</sup> The LX(R) program was previously referred to as the LSD(X) program; the 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 turns out to be a ship that one might refer to as an LSD. For an article discussing the change in the program's designation, see Christopher P. Cavas, "Different Missions Might Await New USN Amphib," *DefenseNews.com*, November 12, 2012.

The Navy’s FY2016 budget submission, like the Navy’s FY2015 budget submission, schedules it for FY2020.

## Program Funding

**Table 1** shows LX(R) program funding for FY2015-FY2020. The procurement funding shown for FY2019 is advance procurement (AP) funding for the first ship in the class.

**Table 1. LX(R) Program Funding**  
Millions of dollars, rounded to nearest tenth

	FY15	FY16 (req.)	FY17 (proj.)	FY18 (proj.)	FY19 (proj.)	FY20 (proj.)
Research and development	36.9	46.5	28.7	12.4	9.5	9.7
Procurement	0	0	0	0	170.8	1,624.1
<b>TOTAL</b>	<b>36.9</b>	<b>46.5</b>	<b>28.7</b>	<b>12.4</b>	<b>180.3</b>	<b>1,633.8</b>

**Source:** Navy FY2016 budget submission.

**Notes:** Research and development funding is Project 2474 (LX(R) Design and Total Ship Integration) within PE (Program Element) 0604454N (LX(R)). Procurement funding in FY2019 is advance procurement (AP) funding for the first ship in the class, which is scheduled for procurement in FY2020.

## Unit Procurement Cost Target

A July 8, 2013, press report stated that the Navy wanted the LX(R) to have a unit procurement cost about one-third less than that of the LPD-17 design.<sup>9</sup> The 11<sup>th</sup> LPD-17, which was procured in FY2012, has an estimated end cost of \$2,079.2 million (i.e., about \$2.1 billion), suggesting that the Navy wants the LX(R) to have a procurement cost of no more than about \$1.4 billion. A July 28, 2014, press report quoted Sean Stackley, the Assistant Secretary of the Navy for Research, Development and Acquisition (i.e., the Navy’s acquisition executive), as stating that the Navy wants the LX(R) to have a unit procurement cost of \$1.43 billion.<sup>10</sup> An October 20, 2014, press report, apparently quoting a Navy decision memorandum on the LX(R) program, stated that the lead ship in the program is to cost \$1.63 billion, and that the 10 follow-on ships in the program are to have an average cost of \$1.4 billion.<sup>11</sup>

## Analysis of Alternatives (AoA)

From the first quarter of FY2013 through March 2014, the Navy conducted an Analysis of Alternatives (AoA) to evaluate alternative design concepts for the LX(R). Concepts evaluated included the existing LPD-17 design (which apparently was included primarily as a baseline or reference design for helping the Navy to evaluate other LX(R) design concepts, because the Navy

<sup>9</sup> Andrea Shalal-Esa, “U.S. Navy Seeks More Affordable Replacement For Dock Landing Ships,” *Reuters*, July 8, 2013.

<sup>10</sup> Sam LaGrone, “Cost Continues To Drive Quest For Next Amphib,” *USNI News* (<http://news.usni.org>), July 28, 2014.

<sup>11</sup> Lara Seligman, “Mabus Signs Decision Memo: LPD-17 Variant Preferred Platform For LX(R),” *Inside the Navy*, October 20, 2014.



considers the existing LPD-17 design to be unaffordable for the purposes of the LX(R) program),<sup>12</sup> a modified (reduced capability/reduced-cost) version of the LPD-17 design, brand new (i.e., “clean-sheet”) designs, and foreign designs. A June 1, 2014, press report stated that the Navy, as part of the AoA, considered incorporating commercial-ship components into the LX(R) design as a means of helping to minimize the ship’s procurement cost.<sup>13</sup> The Navy used the results of the AoA to inform its decision on a preferred design solution for the LX(R).

HII, the builder of LPD-17 class ships, promoted a modified LPD-17 as the design solution for the LX(R) program, citing the capabilities of the LPD-17 hull design, the reduced up-front design costs of modifying an existing design compared to those of developing an entirely new design, and the potential benefits in terms of life-cycle operation and support (O&S) costs of building the LX(R) to a design that uses the same basic hull and many of the same components as the LPD-17 design. Marine Corps leaders, citing their satisfaction with the LPD-17 design, expressed support for a modified LPD-17 design as the design solution for the LX(R) program.<sup>14</sup> Other observers, noting that the LPD-17, with a full load displacement of about 25,000 tons, is considerably larger than the LSD-41/49 class ships, questioned whether a modified LPD-17 could meet the Navy’s reported unit procurement cost target for the LX(R) program.

### **Design Based on LPD-17 Hull Designated by Navy as Preferred Alternative for LX(R)**

An October 20, 2014, press report stated that Secretary of the Navy Ray Mabus had signed a decision memorandum dated October 14 designating a design based on that of the Navy’s San Antonio (LPD-17) class amphibious ship as the Navy’s preferred alternative for the design of the LX(R). According to the press report, the decision memorandum had been previously signed by Admiral Jonathan Greenert, the Chief of Naval Operations (CNO), General Joseph Dunford, Commandant of the Marine Corps, General James Amos, former Commandant of the Marine Corps, and Sean Stackley, Assistant Secretary of the Navy for Research, Development and Acquisition. According to the press report, the decision memorandum stated that preliminary design efforts for the LX(R) would begin “immediately.”<sup>15</sup>

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<sup>12</sup> A May 29, 2014, press report quotes Vice Admiral William Hilarides, the Commander of the Naval Sea Systems Command (NAVSEA), as stating, in connection with the AoA, that “an LPD-17 variant that’s built exactly like the current LPD-17 is off the table. It is unaffordable in the context of the ship we need to replace.” (As quoted in Sam LaGrone, “NAVSEA: Affordability Prompted Second Look at LX(R),” *USNI News* (<http://news.usni.org>), May 29, 2014. The same quote (without the final two words) appears in Kris Osborn, “Navy Considers Commercial Technology for New Amphib,” *DOD Buzz* ([www.dodbuzz.com](http://www.dodbuzz.com)), June 1, 2014.)

<sup>13</sup> Kris Osborn, “Navy Considers Commercial Technology for New Amphib,” *DOD Buzz* ([www.dodbuzz.com](http://www.dodbuzz.com)), June 1, 2014.

<sup>14</sup> A group of 20 Marine Corps generals expressed support for the LPD-17 hull form as the design solution for the LX(R) program in a letter to the Senate Armed Services Committee dated March 25, 2014. See Lara Seligman, “Officials On LX(R): LPD-17 Design Is Best Fit For Marine Lift Requirements,” *Inside the Navy*, April 7, 2014. See also Megan Eckstein, “Amos: LPD Hull Production Should Continue, Serve As LSD Replacement,” *Inside the Navy*, April 15, 2013.

<sup>15</sup> Lara Seligman, “Mabus Signs Decision Memo: LPD-17 Variant Preferred Platform For LX(R),” *Inside the Navy*, October 20, 2014. See also Sam LaGrone, “Memo: Hull Based On San Antonio Design Is Navy’s Preferred Option For Next Generation Amphib,” *USNI News*, October 20, 2014; Lara Seligman, “Senior Navy Officials Tell Mabus LPD-17 Variant Is Best Option For LX(R),” *Inside the Navy*, October 13, 2014; Lara Seligman, “Senior Leadership Get Decision Brief On LX(R); MOA Expected This Month,” *Inside the Navy*, October 6, 2014; Lara Seligman, “Navy Moving Forward With ‘Paper Review’ Of LX(R) Amphibious Program,” *Inside the Navy*, September 22, 2014; Lara Seligman, “Navy: LX(R) Will Either Be Modified LPD-17 Or ‘Completely New’ Design,” *Inside the Navy*, August 18, (continued...)

## Combined Solicitation Limited to Two Builders

It was reported in January and February 2015 that the Navy, as part of its acquisition strategy for the LX(R) program, wants to issue a combined solicitation consisting of separate Requests for Proposals (RFPs) for contract design support for the LX(R) program, the detailed design and construction of an amphibious assault ship called LHA-8 that the Navy wants to procure in FY2017, and the detailed design and construction of six TAO(X) oilers, the first of which the Navy wants to procure in FY2016.<sup>16</sup> It was also reported that the Navy wants to limit bidding on this combined solicitation to two bidders—Ingalls Shipbuilding of Huntington Ingalls Industries (HII/Ingalls) and National Steel and Shipbuilding Company of General Dynamics (GD/NASSCO)—on the grounds that these are the only two shipbuilders that have the capability to build both TAO(X)s and LHA-8.<sup>17</sup>

## Funding for a 12<sup>th</sup> LPD-17 Class Ship

Although the Navy, consistent with the 33-ship (11+11+11) amphibious ship force-level goal, had wanted the 11<sup>th</sup> LPD-17 class ship to be the final ship in the LPD-17 program, Congress has supported the procurement of a 12<sup>th</sup> LPD-17 class ship, which would be LPD-28. Congress provided \$263.3 million in unrequested advance procurement (AP) funding for a 12<sup>th</sup> LPD-17 class ship in FY2013 (this funding figure was later reduced to \$243.0 million by the sequester of March 1, 2013), and an additional \$1.0 billion in unrequested procurement funding for a 12<sup>th</sup> LPD-17 class ship in FY2015.

In response to Congress' FY2013 and FY2015 funding actions, the Navy, as a part of its FY2016 budget submission, has inserted a 12<sup>th</sup> LPD-17 class ship into its shipbuilding program, and is requesting \$550 million in FY2016 procurement funding to complete the ship's estimated procurement cost of \$1,793.0 million. This estimated procurement cost is \$286.2 million less than that of the 11<sup>th</sup> LPD-17 class ship, which was procured in FY2012 and has an estimated procurement cost of \$2,079.2 million. The Navy states that it plans to achieve the lower estimated cost of the 12<sup>th</sup> LPD-17 class ship by incorporating design innovations and cost-reduction strategies intended for the LX(R).<sup>18</sup>

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<sup>16</sup> For more on the TAO(X) program, see CRS Report R43546, *Navy TAO(X) Oiler Shipbuilding Program: Background and Issues for Congress*, by Ronald O'Rourke.

<sup>17</sup> See Christopher P. Cavas, "Bidding for New Oiler, Amphibs to be Bundled," *Defense News*, January 30, 2015; Lara Seligman, "Ingalls, NASSCO Will Compete For Single Contract For New Amphibs, Oiler," *Inside the Navy*, January 30, 2015 (with additional reporting by Lee Hudson); Lara Seligman, "Navy: Bidder With Lowest Total Price For LHA, Oiler To Win Bulk Of LX(R)," *Inside the Navy*, February 20, 2015; Megan Eckstein, "Navy to Compete LHA-8 and 6 Oilers to HII, NASSCO," *USNI News*, February 23, 2015; Mike McCarthy, "Navy Grouping Competition For LHA-8, Oilers, LXR Work," *Defense Daily*, February 25, 2015: 3-4; Otto Kreisher, "Navy Plans Packaged Competition for LHAs, Oilers; Marine Reserve to fly V-22 CODs," *Seapower*, February 26, 2015. See also "LHA 8 Detail Design and Construction, TAO(X) Detail Design and Construction 1-6 and LX(R) Contract Design Support," Solicitation Number N00024-15-R-2200, accessed at FedBizOpps.gov (<https://www.fbo.gov>) February 24, 2015. Initial press reports referred to the Navy's proposed action as a bundled competition, but the Navy says it is a combined solicitation that, when released, will include separate RFPs for the design and construction of the first six TAO(X)s, the detail design and construction of LHA-8, and contract design support for the LX(R) program. Contract design work develops the design of a ship enough so that a contract can then be issued for the final stage of design work, called detailed design.

<sup>18</sup> Lara Seligman, "Navy: To Stay Under \$1.8 Billion, LPD-28 Will Exploit LX(R) Development Efforts," *Inside the* (continued...)

A 12<sup>th</sup> LPD-17 could be built in addition to the 11 planned LX(R)s, which would make for an eventual amphibious force of 34 rather than 33 ships, or could become one of a force of 33 amphibious ships, perhaps taking the place of one of the 11 planned LX(R)s. Building a 12<sup>th</sup> LPD-17 class ship between now and FY2020 would extend HII/Ingalls' LPD-17 production learning curve heading into the competition for the LX(R) program.

## **Issues for Congress**

### **FY2016 Funding for LX(R) and LPD-17 Programs**

One issue for Congress is whether to approve, reject, or modify the Navy's FY2016 requests for research and development funding for the LX(R) program and procurement funding for a 12<sup>th</sup> LPD-17 class ship. Potential matters to consider include whether the Navy has accurately estimated the procurement cost of the 12<sup>th</sup> LPD-17, which, as noted above, is to incorporate design innovations and cost-reduction strategies intended for the LX(R).

### **Total Number of LX(R) Ships**

Another issue for Congress is whether, in response to the procurement of a 12<sup>th</sup> LPD-17 class ship, the LX(R) program should be reduced from 11 ships to 10 ships. As stated earlier, a 12<sup>th</sup> LPD-17 could be built in addition to the 11 planned LX(R)s, which would make for an eventual amphibious force of 34 rather than 33 ships, or could become one of a force of 33 amphibious ships, perhaps taking the place of one of the 11 planned LX(R)s.

In testimony to the Seapower and Projection Forces subcommittee of the House Armed Services Committee on February 25, 2015, Vice Admiral Joseph P. Mulloy, Deputy Chief of Naval Operations for Integration of Capabilities and Resources, stated that the amphibious-ship force-level requirement has been increased to 34 ships as a result of the anticipated procurement of a 12<sup>th</sup> LPD-17 class ship.<sup>19</sup>

### **Navy's Proposal for Combined Solicitation Limited to Two Builders**

Another issue for Congress is whether to approve, reject, or modify the Navy's proposal to use a combined solicitation consisting of separate Requests for Proposals (RFPs) for contract design support for the LX(R) program, the detailed design and construction of LHA-8, and the detailed design and construction of the first six TAO(X)s, and to limit bidding on this combined solicitation to HII/Ingalls and GD/NASSCO. Potential matters to consider include the Navy's rationale for using the combined solicitation (which may relate, in part at least, to achieving effective competition in the bidding for all of the programs in the combined solicitation) and the

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Navy, February 16, 2015; and Megan Eckstein, "Marines Will Use LPD-28 to Begin Transitioning to LX(R) Ship Systems," *Defense Daily*, February 4, 2015: 3-4.

<sup>19</sup> Source: Spoken testimony of Vice Admiral Mulloy, as reflected in transcript of hearing.

potential impact on various shipyards of the Navy's proposal to limit bidding to HII/Ingalls and GD/NASSCO.

## **Accelerating Procurement Date for First LX(R)**

Another issue for Congress is whether to accelerate the procurement of the first LX(R) from FY2020 to an earlier year. As noted earlier, the Navy's FY2012, FY2013, and FY2014 budget submissions scheduled the procurement of the first LX(R) in FY2017, FY2018, and FY2019, respectively.

Supporters of accelerating the procurement of the first LX(R) to an earlier year could argue that it would restore the procurement date shown in an earlier Navy budget submission, and that it would close the gap between the end of LPD-17 procurement and the start of LX(R) procurement, which would increase production learning curve benefits in shifting from LPD-17 production to LX(R) production, should HII/Ingalls be selected as the builder of the first LX(R). They could also argue that it would move funding requirements for the first LX(R) away from those of the first Ohio replacement (SSBN[X]) ballistic missile submarine, which is scheduled to be procured in FY2021.<sup>20</sup>)

Opponents of accelerating the procurement of the first LX(R) to an earlier year could argue that the builder of the first LX(R) has not yet been selected, making the production learning curve benefits of bringing the start of LX(R) procurement close to the end of LPD-17 procurement uncertain. They could also argue that it would add a funding requirement to the Navy's budget in a year prior to FY2020, potentially making it harder for the Navy to fund other programs in that earlier year, and that procuring the ship prior to FY2020 would be ahead of need (i.e., earlier than needed to replace the first retiring LSD-41/49 class ship).

## **Legislative Activity for FY2016**

### **FY2016 Budget**

The Navy's proposed FY2016 budget was submitted to Congress on February 2, 2015. As shown in **Table 1**, the budget requests \$46.5 million in research and development funding for the LX(R) program. The funding is requested in Program Element (PE) 0604454N, entitled LX(R), which is line 79 in the Navy's FY2016 research and development account. The Navy's proposed FY2016 budget also requests \$550.0 million in the Navy's shipbuilding account to complete the procurement cost of a 12<sup>th</sup> LPD-17 class ship.

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<sup>20</sup> Observers are concerned about the pressure that the Ohio replacement program might place on the Navy's ability to fund other shipbuilding programs. For a discussion, see CRS Report R41129, *Navy Ohio Replacement (SSBN[X]) Ballistic Missile Submarine Program: Background and Issues for Congress*, by Ronald O'Rourke.

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