

San Antonio-class amphibious transport dock ships USS San Diego (LPD 22) and USS Somerset (LPD 25) conduct routine operations in the eastern Pacific Ocean.

The ‘Do-Anything’ Ships

FLIGHT II OF THE SAN ANTONIO CLASS GOES INTO SERIAL PRODUCTION

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The U.S. Navy is scheduled to receive the first Flight II variant of its San Antonio-class amphibious platform dock ship (LPD) in the second quarter of fiscal 2025, a Navy official said, and the type is in serial production with the recent contract award of the second Flight II ship.

Construction of the first Flight II LPD 17, USS Harrisburg (LPD 30), began last April, and the Navy in April 2020 awarded a contract to the ship’s builder, Huntington Ingalls, a contract to build the second, LPD 31, scheduled for delivery in fiscal 2027. The two ships will be the 14th and 15th of the San Antonio class.

The Flight I San Antonio-class LPDs replaced older LPDs in the fleet. The Flight II ships will replace the eight Whidbey Island- and four Harpers Ferry-class dock landing ships (LSDs). The Navy plans to procure 13 Flight II ships, for a total of 26 LPD 17s in the fleet.

LPDs “are used to transport and land Marines, their equipment and supplies by embarked landing craft air cushion [LCAC] or conventional landing craft and amphibious assault vehicles [AAV] augmented by helicopters or vertical take-off and landing aircraft,” said Capt. Scot Searles, LPD 17 class program manager for Program Executive Office (PEO)-Ships.

“These ships support amphibious assault, special operations or expeditionary warfare ... and serve as secondary aviation platforms for amphibious operations. LPD 17 is a very flexible and versatile class of ships and perform a variety of expeditionary warfare missions and are designed to operate independently or as part of an amphibious task force, amphibious readiness group, expeditionary strike group or joint task force.”

LSDs are similar in concept to the LPDs but in an amphibious ready group typically have a somewhat different load-out of vehicles, equipment and Marines. But with replacement by the Flight II class, the two Flights of LPD will have differences but will be interchangeable.

LPD Flight II — initially known as LX(R) for amphibious warfare ship replacement — is the functional replacement for the retiring LSD class. However, the LPD-class ships have a larger flight deck, a maintenance hangar for aircraft, more vehicle square stowage, more command-and-control capability and a much more robust medical capability than the LSD class,” Searles said. “They are agile, versatile multimission platforms that are adaptable with wide-ranging utility. The LPD Flight II ships can perform all the same missions as the LPD Flight I ships.”

Flight II, beginning with LPD 30, will include improvements such as the Enterprise Air Search Radar (EASR), Consolidated Afloat Networks and Enterprise Services (CANES) architecture, a destroyer-style mast, a boat deck, SLQ-32 Surface Electronic Warfare Improvement Program and the Rolling Airframe Missile. Flight II will have improved communications and give amphib ready groups the ability to operate in a disaggregated manner — more typical of operations in recent years. Flight II will handle the new CH-53K King Stallion helicopter and the MV-22B Osprey tilt-rotor transport.

Much Leftover From Flight I LPDs

The Flight II will retain the same hull and propulsion plant as a Flight I ship but have improved fuel efficiency and electrical distribution. The common hull form and propulsion with Flight I ships was a major factor in the Navy’s decision to replace LSDs with Flight II LPD 17s rather than launching a competition for a new LSD.

The main visual distinction between the Flight I and Flight II LPDs is the mast configuration, with the Flight II using a traditional steel stick mast like those found on destroyers, Searles said. The original Flight I design featured an enclosed composite mast.

The change was made for two reasons, he said. “First, the Gulfport, Mississippi, composite facility that built the LPD 17–27 masts has closed and no readily available manufacturer exists. Second, the DDG [guided-missile destroyer]-style stick mast is a proven design and can be built by the shipbuilder in their facility.”

The Navy is using the last two Flight I LPDs, now under construction, as transition ships to Flight II.

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— Capt. Scot Searles, LPD 17 class program manager, PEO Ships

“LPDs 28 and 29 are transition ships which incorporate technically feasible cost-reduction initiatives and class lessons learned,” Searles said. “All changes introduced on LPD 28/29 are included in the LPD Flight II ships.”

The future USS Fort Lauderdale (LPD 28), a Flight I ship, will be the first LPD to have CANES installed and be fitted with a destroyer-style mast. The ship is scheduled for delivery in fourth quarter of fiscal 2021.

CANES will be retrofitted to older ships of the class, said Capt. Brian Metcalf, the previous LPD 17 program manager, speaking at the Surface Navy Association convention in January. The future USS Richard M. McCool Jr. (LPD 29), the last Flight I ship, will have the EASR installed. The ship is scheduled for delivery in the fourth quarter of fiscal 2023.

Searles said the LPD 17 Program Office anticipates about a 15% reduction in cost for the first Flight II compared to LPD 27, the last standard Flight I before the ships transition.

“With the award of LPD 30 as the first of 13 Flight II ships, Ingalls embarked upon a journey to capture further savings on the program derived from both capital investment as well as a design perspective,” said Steve Sloan, LPD program manager for Huntington Ingalls.

“Over the past five years, Huntington Ingalls Industries, the state of Mississippi and the Navy have invested more than \$800 million in capital improvements to lower the cost of ships built at the Ingalls facility. From a comprehensive 3D model that directly feeds new and/or

HUNTINGTON INGALLS INDUSTRIES



A rendering of the USS Harrisburg (LPD 30), the first Flight II variant of the San Antonio-class amphibious platform dock ship, which is headed into serial production.

U.S. MARINE CORPS / Colton K. Garrett



Assault amphibious vehicles with Apache Company, Battalion Landing Team, 1st Battalion, 5th Marines, 31st Marine Expeditionary Unit, disembark the San Antonio-class dock landing ship USS Green Bay (LPD 20) to link up with Royal Thai Marines and conduct an amphibious raid at Hat Yao Beach, Thailand, in February during exercise Cobra Gold 2020.

enhanced process lanes, to design optimization initiatives that simplify the design and increase efficiencies, Ingalls has enabled significant savings to the Navy as a direct result.”

The Navy contract for LPD 31 was advanced two months to shore up the shipbuilder and stabilize its supplier base during the COVID-19 pandemic, James F. Geurts, assistant secretary of the Navy for research, development and acquisition, said during an April 15 teleconference with reporters.

“We know pretty well what an LPD costs,” Geurts said on April 16. “We used a price offer process where, using all the data that we collectively had, we made an offer on what we thought a fair and reasonable, yet aggressive, price was on LPD 31.”

“We have thousands of shipbuilders working on LPDs at Ingalls Shipbuilding, more than 1,500 shipbuilders on each LPD at some point in construction and having recently started fabrication on LPD 30, we are ready to go to work on LPD 31,” Sloan said.

“Having these ships on regular, predictable intervals is key to achieving the stability and learning that maximizes affordability across the class. In addition, the award of LPD 31 enables Ingalls to place materiel orders to the hundreds of large and small businesses all over the United States who provide materiel, machinery and equipment needed to construct these mighty combatants and to have the materiel on site to build that ship on an efficient interval.”

The build rate for the Flight II LPDs is governed by defense budget priorities as approved annually by Congress.

“The Navy is currently procuring the ships on two-year intervals,” Sloan said. “Should the needs of the nation, the Navy and Marine Corps require it, Ingalls could produce LPDs on one-year intervals.

Metcalf stressed that the LPDs are not just troop carriers but are combatants built to military specifications. “They will have to fight to get to the fight,” he said, speaking of the need to operate in a high-threat environment. “They can do anything,” he said of the LPDs, “recovering spacecraft or put 800 Marines in your back yard.”

One ship of the class, USS Portland (LPD 27), is deploying this year with a solid-state laser weapons system installed.

“The Navy has installed the Solid State Laser-Technology Maturation Laser Weapon System Demonstrator [LWSD] on the forward portion of the USS Portland,” Searles said. “LWSD is a weapon intended to counter unmanned aerial vehicles, small boats and sensors. In addition, LWSD will provide expanded visual capability to enhance the commander’s decision-making process and is in addition to other ship systems.” ■