



Photo courtesy of Northrop Grumman Shipbuilding

Christening a Submarine for the Golden State



PCU *California* (SSN 781), the U.S. Navy's newest attack submarine, was christened on Nov. 6 in a ceremony at Northrop Grumman Shipbuilding (now Huntington Ingalls Industries), in Newport News, Va. *California* is the eighth submarine of the *Virginia* class and the seventh ship to bear the name of the "Golden State." Her motto is "Silentium Est Aureum," Latin for "Silence is Golden."

Donna Willard, the ship's sponsor and wife of current Commander, U.S. Pacific Command, Adm. Robert F. Willard, performed the traditional honor of breaking a bottle of American sparkling wine against the submarine. Jackalyne Pfannenstiel, assistant secretary of the Navy for energy, installations and environment and a former chairman of the State of California Energy Commission, was the keynote speaker.

"To the men and women of Northrop

Grumman Shipbuilding, General Dynamics Electric Boat and the Navy's *Virginia*-Class Program, congratulations on another world-class submarine," said Pfannenstiel. "With her nuclear power, this sub demonstrates some of our [nation's] finest technical capabilities."

Also participating in the ceremony were U.S. Rep. Bobby Scott (D-Va.); U.S. Rep. Rob Wittman (R-Va.); Adm. Jonathan W. Greenert, vice chief of naval operations; Adm. Kirkland H. Donald, director, naval nuclear propulsion; Rear Adm. David Johnson, program executive officer for submarines; John Casey, president of General Dynamics Electric Boat; and Mike Petters, president of Northrop Grumman Shipbuilding.

"We know that the work we do is important," said Petters. "We know we are a critical part of the Navy-industry team that produces the most sophisticated and complex ships to

keep our nation safe. We know we have to earn our place on that team with each and every weld, with each and every pipe, and with each and every test. We do this by never losing focus on what our founder, Collis P. Huntington, committed to 125 years ago, when he promised, 'Always Good Ships'."

California honors the thousands of men and women from California who serve in today's armed forces and the millions of Californian veterans and their families. California is home to major naval and Marine Corps installations, so the selection of the state for a submarine name does not come as a surprise. San Diego has one of the world's largest concentrations of naval bases and facilities. Seven submarines—USS *Albuquerque* (SSN 706), USS *Asheville* (SSN 758), USS *Hampton* (SSN 767), USS *Helena* (SSN 725), USS *Jefferson City* (SSN 759), USS *San Francisco* (SSN 711), and USS *Topeka*



Photo courtesy of Northrop Grumman Shipbuilding

(Opposite) Donna Willard, sponsor of *California* (SSN 781), christens the submarine Nov. 6, 2010. (Above) *California* is launched on Nov. 13, 2010.

(SSN 754)—are currently homeported in San Diego at Naval Base Point Loma.

Eight days after her christening, *California* reached a significant construction milestone by successfully launching into the James River at Northrop Grumman Shipbuilding. On Nov. 11, shipbuilders used a transfer car system to move the ship out of the construction facility to the floating dry dock. Two days later, the floating dry dock was flooded, leaving the submarine afloat. Tugboats then moved *California* to the shipyard's submarine pier, where final outfitting and testing will take place.

"Launch is a special milestone in the life of a submarine. This is the first time she's put into water," said Becky Stewart, vice president of submarines and fleet support for Northrop Grumman Shipbuilding-Newport News. "*California* is 88 percent complete. This event means we're one step closer to

Students, STEM, and Submarines

In conjunction with *California's* christening, the U.S. Navy's Program Executive Office for Submarines (PEO SUB) sponsored three educational events in southern California during November aimed at encouraging young students to pursue careers in science, technology, engineering and mathematics (STEM).

One event was held at the Naval Surface Warfare Center in Corona, another at the Admiral Kidd Center on Naval Base Point Loma in San Diego, and the third at the California Science Center in Los Angeles. Over 1,000 students of middle school age, accompanied by teachers and parents, learned about submarines, science, robotics and other technological wonders.

"We're honored to host this public event for Californians as the Navy christens the first submarine for our state," said NSWC Corona Commanding Officer Capt. Jay Kadowaki. "This is a wonderful opportunity for our fellow residents to celebrate this historic occasion and an even greater opportunity for our young students to learn about the technologically advanced world that awaits them."

A signature feature of the events was the Mission Ocean Challenge, an interactive and collaborative teaching model sponsored by PEO SUB and developed by Purdue University Calumet's Center for Science and Technology Education. The year-long curriculum allows students to apply the math and science they learned in the classroom to driving a computer-generated research submarine on an underwater search for a volcano. The challenge teaches children about things like navigation, buoyancy and team work.

"In all three events, the students showed a tremendous amount of excitement and enthusiasm," said Dave Miskimins, director of undersea systems for PEO SUB. "It was amazing to see a room full of students cheering loudly for the speakers and for their submarine and then go completely silent as their peers demonstrated the Mission Ocean simulation."

The first STEM event occurred in conjunction with the christening of USS *Missouri* (SSN 780) in December 2009. With the three *California* christening events now completed, PEO SUB, Purdue Calumet, and their partners in California are looking forward to hosting similar gatherings when *California* commissions this fall. Historically, students who participate in Mission Ocean have scored significantly higher on standardized tests.

"It all comes down to getting students interested in STEM and showing them that they can have fun learning about these topics," said Rear Adm. Dave Johnson, program executive officer for submarines. "We in the acquisition community have a mandate from the Secretary of the Navy to increase our outreach efforts with STEM, and Mission Ocean has a proven track record for improving scores and showing students what a STEM-based job is like."

PEO SUB is also looking to bring Mission Ocean to Mississippi, Minnesota, and North Dakota, which are the other states with namesake *Virginia*-class submarines currently under construction.

delivering the ship well ahead of the contract delivery date."

California is being built under a teaming arrangement between Northrop Grumman Shipbuilding-Newport News and General Dynamics Electric Boat. Her construction began Feb. 15, 2006, with keel authentication occurring May 1, 2009. Most of the remaining construction work is related to compartment completion, pier-side testing

and exercising the ship's systems to prepare for sea trials, which are planned for this spring.

California is on schedule to be commissioned this fall. Cmdr. Dana A. Nelson, *California's* commanding officer, will lead a crew of approximately 134 officers and enlisted personnel.

Olivia Logan is managing editor of UNDERSEA WARFARE magazine.