

# Amphibious Capability

USS *America*, the first of the new America-class amphibious assault ships, is the largest amphibious ship ever built by the United States, and incorporates a number of visionary innovations into its design. One innovation is simply how it is built. Typically, large deck carriers take a long time to build and require huge, expensive dry docks. By contrast, most of USS *America* (LHA 6) has been built in factories, and was nearly 70% complete before it went to the dry dock. This innovative method allows production schedules for this class of ship to be stepped up over time.

Built at the Huntington Ingalls shipyard in Pascagoula, Mississippi, USS *America* is also the first large-deck amphibious ship that does not have a well deck for launching amphibious infantry vehicles. The well deck had been removed to focus the capability of the ship to support airborne amphibious assault, and given the innovations generated in recent years by the U.S. Marine Corps in such capabilities, and those already in line with the coming F-35B, the ship is intended to be a key part of changing how the USN and USMC team can do amphibious assault from the sea. However, the removal of the well deck has been the brunt of so much controversy that it will be added back into the third ship in the series (although NAVSEA will work to ensure the aviation workflow can be retained).



*Captain  
Chris Mercer,  
Amphibious  
Warfare Pro-  
gram Manager  
(PMS 377)*

During an interview conducted at the time of the ship's christening in 2012, Program Manager and head of amphibious ship building, Captain Chris Mercer noted that innovation and efficient ship design is where the main focus of attention was for this new class of ship. "Our partner design agents in Naval Air Systems Command (NAVAIR) joined with us to design the ship specifically for that synergy of the MV22

and joint strike fighter through air ship integration work. That's how we arrived at the design that we have for the Flight 0 ships *America* and *Tripoli*, which is LHA-7... inside the ship, we've got plenty of margins to bring in those C5ISR (*Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance*) systems into our command and control spaces, and electronic suite spaces. Certainly we have designed plenty of footprint for the various types of antennas they might need," he said.

The ship has three synergistic decks which work together to support flight deck operations. A major change that can be seen below the flight deck allows the assault force, enabled by new USMC aviation capabilities, to operate at greater range and ops tempo.

Traditionally, significant aviation maintenance on a large deck amphibious ship relies on the use of the flight deck, however, on *America*, maintenance can be done in a hangar deck below the flight deck. And below that is the intermediate area, where large workspaces exist to support operations with weapons, logistics and sustainment activities.

In a June 2014 interview aboard his ship, Navy Captain Robert Hall, Jr – USS *America*'s first skipper, underscored that the enhanced workflow of the crew working with Marines will allow the ship to generate greater operational tempo than a traditional amphibious ship and, due to the capabilities of the Ospreys and F-35Bs, will be able to operate much further from the

*USS America  
began her maiden  
voyage to San Diego  
on 11 July 2014.  
She is scheduled to be  
commissioned in San Francisco  
on 11 October 2014.*

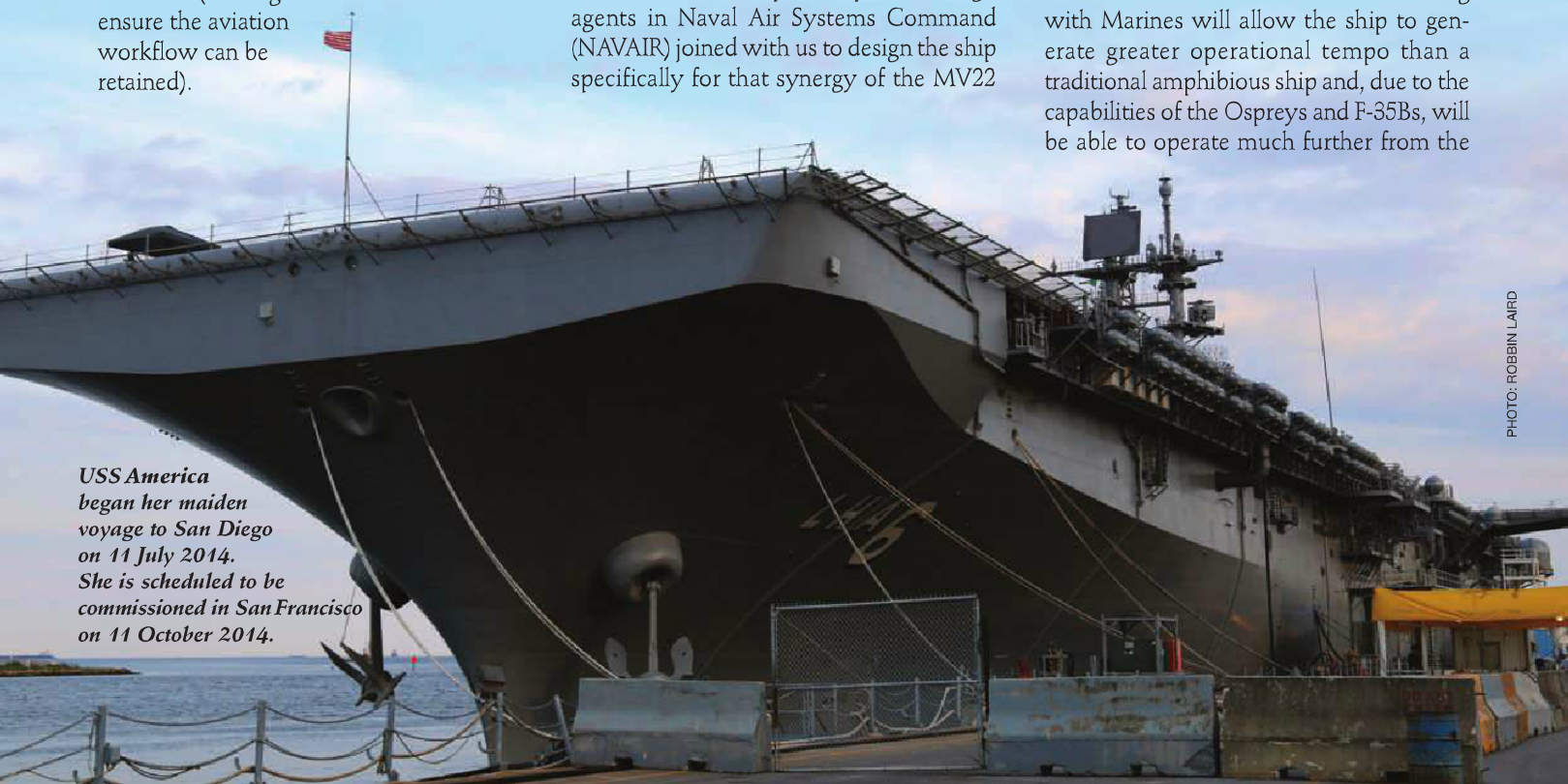
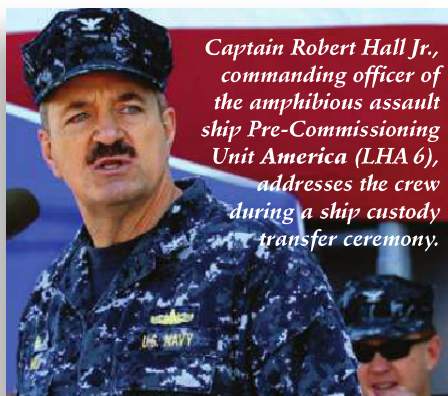


PHOTO: ROBBIN LAIRD



**Captain Robert Hall Jr., commanding officer of the amphibious assault ship *Pre-Commissioning Unit America* (LHA 6), addresses the crew during a ship custody transfer ceremony.**

USN PHOTO: MCS 1ST CLASS, JASON GRAHAM

objective area and will have the ability to insert force over much greater distance than a traditional amphibious ship. "I'm pretty excited to see the innovative approaches and ideas *America* facilitates with regard to amphibious ops and warfighting in general," he enthused.

In fact, the captain himself is also part of the innovative process. An experienced CRUDES officer (Cruiser-Destroyer surface fleet background), he served as chief engineer on a Spruance-class destroyer. Afloat, Capt Hall most recently served as commanding officer of USS *Porter* (DDG 78) from December 2006 to June 2008.

As naval analyst Ed Timperlake reminds us, it is important to remember 1942 when Admiral Halsey recommended that his surface ship Commander (a "black shoe" in Navy parlance) Admiral Spruance take command of the Task Force 16 battle group. When the Commander in Chief of Pacific Forces, a submariner, accepted Halsey's recommendation, he leaned on Spruance's ability to maneuver the ships to attack and withdraw as a key element of operational dominance. We are seeing once again a merging of the black shoe community with the strike community – this time in the form of the 21st century amphibious assault force.

Looking at innovation enablers, this ship addresses a key gap in the fleet, that of sustainability and operational tempo, which is a common limitation facing 21st century assault forces. The *America*-class will provide both for the tiltrotar-enabled assault force. There is space to maintain and sustain the Osprey and the other aviation assets, and prepares for the coming of the F-35B as the ISR C2 asset taking the assault force to another level of capability.

Another advantage, in terms of operations, is the fuel capacity, which is more than double that of a traditional LHA.

Obviously important for support to organic operations, humanitarian assistance or disaster relief operations, having deployed fuel to support military operations is a huge advantage to the operational commander.

The ship is part of a cluster of innovations the USN-USMC team is bringing to amphibious operations. Having begun its service life with V-22 Ospreys onboard, and the USMC as the only tiltrotar-enabled force in the world, *America* is helping reinvent ways to accomplish long distance, rapid force insertion.

The range and speed of the Osprey and pairings with the KC-130J have led to the formation of a radical innovation, namely the Special Purpose Marine Air-Ground Task Force for Crisis Response (SP-MAGTF-CR). With the ability to operate at great distances, the force can influence events more rapidly and with more agility than hitherto.

For example, in late December 2013, an SP-MAGTF embarked from Spain for South Sudan on a noncombat evacuation mission (NEO). A total of 160 Special Task Force Marines and Sailors were flown from Spain, where they are temporarily based, to Djibouti and then Uganda using two Hercules and four Ospreys. With 3,400 nautical miles (equivalent to flying from Denver to Honolulu), this was the longest-range insert ever performed by this force – thanks to its self-deployable capability.

The range and speed of the Osprey has generated pressures to shape new ways to empower the Ground Combat Element. Coming off the Osprey is not the same as coming off a rotorcraft; the force needs to

think differently and operate differently if it is to maximize mission effectiveness.

As the Marines focus on ways to take small group insertion forces over greater distance to perform NEO and other combat operations, a key concern has been how to empower the Marines with greater situational awareness during the flight. For instance, an assault force aboard an Osprey will operate at significantly greater distance, speed and range than a traditional helo assault force. This means that mission planning can be done *en route* as conditions in the target area change – contingency planning can evolve. Based on this, the leadership of the Infantry Officer Course at Quantico has been working with VMX-22 Squadron (which is currently embarked on USS *America*) to think this through and engage in several exercises to shape the way ahead. The ground-air integration built into the USMC is a significant facilitator for change as new aviation assets are added. But the change will not happen without significant engagement of ground force leaders.

The approach has been to deploy the Ground Combat Element over a tiltrotar-enabled distance and insert the force with situational awareness that enhances mission success. The connectivity technologies being refined by the Marines are providing an important compliment to the flexibility of the Osprey itself in terms of approaches and departures from a landing zone.

Experiments over the past 15 months will lead to a deployed capability for expeditionary and crisis response missions.



**LtCmdr Bryan Cable, navigation officer, and Quartermaster 1st Class Andrew Sanders plot the course as the future amphibious assault ship USS *America* (LHA 6) departs for its maiden voyage. *America* is the first ship of its class, replacing the Tarawa-class of amphibious assault ships.**

US NAVY PHOTO: MCS 1ST CLASS LEWIS HUNSAKER



July 2014 – A tilt-rotor MV-22 Osprey prepares to land aboard the future amphibious assault ship USS *America* (LHA 6) on her maiden transit.



U.S. NAVY PHOTO: MCS 2ND CLASS RYAN RILEY

These units, then, can subsequently use the initial capability to drive further innovation.

USS *America* is the seabase from which tiltrotar innovation receives a significant boost, and the newly enabled GCE will operate at much greater distance from the objective area, if needed.

With the coming of the F-35B to USS *America*, the tiltrotar-enabled force adds significant capability. This can work a couple of different ways. The ship can hold more than 20 F-35Bs, but more likely would have combinations of 16 F-35Bs and 4 Ospreys. The Ospreys would be used to carry fuel and/or weapons, so the jets can move to the mission and operate in a distributed base. This is what the Marines refer to as shaping distributed STOVL ops, of which a sea base is a key lily pad from which the plane could operate from.

Alternatively, the F-35B could operate as the ISR, C2 and strike asset to work with the rest of the assault force. The beauty of the F-35B for the Marines, is that it allows them to operate off of an amphibious ship with a plane that can do C2 or provide forward leaning ISR. In a recent exercise where Marines assaulted San Clemente Island, they began to sketch out a new way to think about Close Air Support.

Operating from the training base in Twentynine Palms, and landing on San

Clemente Island off of California, approximately 100 students from the Infantry Officer Course in Quantico flew aboard Ospreys to the simulated test area to eliminate cruise missile threats and take back an airfield from enemy forces.

The exercise was conducted by the Infantry Officer Course paired with VMX-22, and the Ospreys were accompanied by a specially configured airborne communication gateway with a Wi-Fi network that linked the tables carried by the squads riding in the Ospreys.

The Cat Bird, the F-35 surrogate sensor aircraft, sent real time information to the Marines *en route* to the objective area. The information included maps, images and text messaging from the ground force element aboard the Ospreys.

The F-35s provided the capability to eliminate the ground missile threats and allowed a distributed company to be inserted to do their job. In other words, the Osprey carried the force and the F-35 surrogate provided the cover to insert the force more effectively. Such an approach has NOTHING to do with the classic thinking of how a rotorcraft force would approach the challenge of ground force insertion into air enabled contested areas.

In other words, the F-35 working with an Osprey-enabled insertion force oper-

ating off of USS *America* could re-define the meaning of Close Air Support. The F-35 could enter the objective area prior to the arrival of the combat landing team or CLT, push data back to the incoming force, and then provide fire support, “kinetic” and “non-kinetic,” C2 and ISR support during the insertion and operation.

The other new innovation that will fly off of *America*, is the CH-53K (the replacement for the CH-53E). The ‘K’ is a backbone element for an airborne amphibious strike force. It will be able to carry three times the external payload than its predecessor and has many operational improvements, such as a fly by wire system first pioneered in the USMC by the Osprey.

In short, looking at the outside of the America-class ships with a flight deck roughly the size of its predecessors, one could totally miss the point of how this ship fits into USN-USMC innovation. Looking under the decks, understanding the radical change in workflow, enabling and operating with 21st century USMC strike and insertion assets, is how to truly understand the ship and its impact. It is an enabler of 21st century amphibious assault operations – not simply an upgrade. **FL**

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