Revival Plan

A veteran maker of naval aircraft would bring back the seaplane as an unmanned vehicle outfitted for a multitude of missions

By RICHARD R. BURGESS, Managing Editor

A one-time maker of hundreds of tactical aircraft for the U.S. Navy is proposing a small unmanned seaplane to perform several naval missions including strike, surveillance and the forward deployment of unmanned underwater vehicles for mine countermeasures and other tasks.

Called the Kingfisher II, the single-engine jet seaplane is envisioned as a simple straight-wing, V-tailed monoplane built with composite materials and equipped with sophisticated control and mission systems. It would operate from the Navy's future Littoral Combat Ship (LCS) and other vessels. Vought Aircraft Corp. envisions the aircraft as a replacement for, or companion to, other unmanned aerial vehicles (UAVs) being purchased by the Navy.

Christopher Wilt, Vought's director of technology business development, said the Kingfisher II provides "a lot more range and payload, but you can still get it on and off the ship." At a top cruise speed of 345 knots, the Kingfisher II would be much faster than a helicopter UAV such as the Northrop Grumman Fire Scout, which has a maximum speed of approximately 125 knots and is being developed for operations aboard the LCS.

The Kingfisher II, which is under development, would have a maximum payload of 2,500 pounds, more than the Fire Scout's payload of 600 pounds.

The Kingfisher II design features wings that fold rearward, allowing the aircraft to be winched up a ramp and stored in a shipboard hangar being designed for the LCS.

Located in Dallas, Vought once built a variety of tactical aircraft for the Navy, including the A-7 Corsair II. Today, it specializes in the manufacture of nacelles, wings and other components for airplanes including the C-17 and C-130J transports, the B-2 bomber and the F/A-18 family of tactical aircraft. One of Vought's more famous craft was the World War II OS2U Kingfisher scout floatplane that operated from surface ships for observation, gunfire spotting and rescue work. Wilt said that old floatplane was the inspiration for the Kingfisher II.

However, Vought faces a challenge as it attempts to convince the Navy of the modern-day value of seaplanes. The Fire Scout appears to be the Navy's aircraft of choice for many of the roles Vought envisions for the Kingfisher II. Vought is leveraging a $497,000 contract from the Defense Advanced Research Projects Agency (DARPA) to advance the Kingfisher II concept.

Van Olinger, the project's manager at DARPA, said "DARPA's current interest is limited to the feasibility of an unmanned seaplane demonstrating autonomous takeoffs and landings."

The Naval Air Systems Command "is interested in seaplanes as a sea basing technology and is following the DARPA effort," said Amy Behrman, a spokeswomen for the command. "However, we do not have an active seaplane [technology] effort at this time."

The Navy operated seaplanes, including flying boats, floatplanes and amphibians, for 65 years and retired its last patrol seaplanes, the Martin SP-5B Marlins, in 1967. Its last amphibian, the Grumman HU-16, capable of operation from sea or land, was retired in 1976.

Seaplanes were phased out for good reasons. Corrosion of metal from the intense salinity of the ocean environment demanded constant attention. Operations from sea always were inherently hazardous, especially in high sea states, stormy conditions and at night. Increased numbers of airfields gave worldwide reach to conventional aircraft. Helicopters, which are easier on shipboard operations and able to rescue people without lighting on the water, replaced floatplanes.

However, the composite materials commonly used in building modern aircraft are resistant to salt-water corrosion and Vought hopes their use in the Kingfisher II will help foster new interest in the seaplane concept.

To demonstrate the capability, Vought is modifying a Dakota, a rugged 200-pound UAV built by Geneva Aerospace of Carrollton, Texas, with floats and a flight computer designed for UAVs that will be adapted for operations from water. The Dakota was designed by Daedelus Research Inc. during the 1980s as a rugged test-bed for the Naval Research Laboratory, according to David Duggan, vice president of business development for Geneva. Daedelus went out of business and Geneva later bought the rights to build the Dakota.

The adaptation by Geneva involves integration of a motion-sensing device into the tiny flightTEK computer to calculate wave motion and allow the UAV to land on the backside of a wave.

The flightTEK computer “is being used on a lot of different unmanned systems,” Duggan said, including the Navmar Applied Sciences Corp. LR-3 Tigershark UAV, as well as others he declined to name for reasons of security classification.

Duggan told Seapower the Dakota built for Vought was flight-tested on May 18 and would be shipped to Vought for installation of floats. Water-borne tests are planned for November.

The payload capability of the Kingfisher II would allow the UAV to carry two Mk54 antisubmarine torpedoes and land in the water to deploy them. With positive mission control, the Kingfisher could deploy sonobuoys, taxi on the water to a submarine’s updated position, activate a dipping sonar and more accurately launch the torpedo.

Wilt said the Kingfisher would be ideal for delivery and retrieval of unmanned underwater vehicles such as mine countermeasures vehicles. “We can get them out farther and faster,” he said

The Kingfisher also could be armed with Hellfire air-to-surface missiles or the Joint Common Missile now under development, as well as small-diameter bombs and small-caliber machine guns for strike roles. In addition, the aircraft could perform search-and-rescue operations, deliver high-priority supplies or parts to ships at sea, or transport special operations forces in emergency circumstances.

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