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INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE

Lighter-than-Air ISR

Navy, Coast Guard evaluation of reconnaissance blimp renews interest in airship platforms, but for how long?

By PATRICIA KIME, *Seapower* Correspondent

Flight of Fancy?

The U.S. Navy and Coast Guard recently concluded an evaluation exercise of a Skyship 600 airship for reconnaissance and maritime surveillance missions.

- The Persistent Maritime Unmanned Aircraft Systems office at Naval Air Systems Command is coordinating the development and testing of several lighter-than-air platforms, even though the Navy has no official lighter-than-air programs.
- The U.S. military has flirted with a number of airship programs in the past, but none have gotten off the ground.
- George Spyrou, president of Airship Management Services, remains optimistic, noting 'we wouldn't be in this business if we lived on hope.'

Airships once again are taking to the skies as test craft for possible U.S. military reconnaissance and maritime surveillance missions.

An evaluation exercise this summer of a Skyship 600 airship in the Florida Straits has renewed enthusiasm for reconnaissance blimps, mainly among airship devotees and environmentalists who applaud their thrifty fuel consumption. But whether the timing is right for an actual lighter-than-air craft revival is yet to be determined, and airships must compete for interest — both financially and politically — over the long term.

"No service is clamoring to say, 'We've got to have airships now.' Maybe it's just a 20-year science project," said Capt. Robert Dishman, project manager for the Persistent Maritime Unmanned Aircraft Systems office (PMA-262) at Naval Air Systems Command (NAVAIR).

Currently, the U.S. Navy has no official lighter-than-air programs. Ongoing exploration is overseen by Dishman's office and funded by congressional add-ons to defense appropriations bills. The purpose of such experimentation is to determine whether airships — manned or unmanned

— could help the services meet Defense Secretary Robert Gates' intelligence, surveillance and reconnaissance (ISR) initiative demands.

"What really is driving this is the potential attributes that can be leveraged to reduce the manpower required to provide persistent operations. What we are looking to do is un-man the airship and elevate the endurance you can get without the contraptions [needed for] a human onboard," Dishman said.

The U.S. military has operated airship programs in the past. The Navy decommissioned its official program in 1962, but in 1984, then-Navy Secretary John Lehman commissioned a study and proposed that

the service build two squadrons' worth of airships — 48 in all. That program never got off the ground.

In 1980, the Coast Guard and NASA sought to develop a fleet of airships for maritime surveillance. The program was scuttled two years later for lack of funding.

And in the 1990s and early 2000s, a number of experimental programs were examined, including the Defense Department-sponsored YEZ-2A maritime surveillance craft and the Defense Advanced Research Projects Agency-sponsored WALRUS, a craft intended to carry a payload of 500 tons more than 12,000 nautical miles. Information gleaned from such efforts has proved useful for additional experimentation, Dishman said, but the programs remain undeveloped.

"As far as the Navy feeling like the airship is the wave of the future, that's not true. Maybe they show some promise and opportunity," he said. "It's the scientific data and technology exploration rather than the overall support that has the Navy interested in airships."

Among those who are keenly aware of the experimental fits and starts involving lighter-than-air craft is George

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Handlers from Airship Management Services race toward a Skyship 600 blimp as it prepares to touch down at Naval Air Station Key West, Fla., June 27. The lighter-than-air vehicle was in Key West for six weeks to conduct a series of Navy and Coast Guard maritime surveillance evaluations.

Spyrou, president of Airship Management Services (AMS) Inc., the company that owns the blimp that was tested in the Florida Straits.

"There's not a huge lobby for the airship industry ... but we wouldn't be in this business if we lived on hope. Although it's been on and off since the '60s, the Navy has expressed ongoing interest since the 1990s and we're hopeful this effort will grow," he said.

In the Florida test, the Navy and Coast Guard, working through the joint National Office of Global Maritime Situational Awareness, used the Skyship 600 for persistent maritime surveillance, patrolling up to eight hours a day out of Naval Air Station Key West. For the test, the Navy leased the Skyship from AMS for \$1.6 million. It was piloted by AMS employees and carried Navy Reserve personnel to monitor its ISR components.

During the evaluation, the airship detected at least one incident of illegal activity. On July 12, the ship's sensor package, which includes a Furuno radar system for craft detection, forward-looking infrared sensors, an electro-optic infrared camera and full-motion video capability, detected 26 Cuban migrants crossing the straits aboard a raft. They were intercepted by the Coast Guard patrol boat *Kodiak Island* and returned to Cuba.

The 197-foot Skyship can patrol for up to 16 hours at 3,000 feet, using about 10 gallons of fuel per hour. By contrast, a typical C-130 patrol aircraft uses roughly 725 gallons per hour, according to Air Force reports.

Blimps do have drawbacks: they are slow (the Skyship 600 travels at a maximum speed of 65 mph) and cruise at limited altitudes.

While it's too early to determine whether blimps can contribute significantly to the Coast Guard's quest for total maritime domain awareness, Lt. j.g. Matthew Meinhold, spokesman for Coast Guard Sector Key West, said they do have appeal to the cost-conscious service.

"This brings us time-on-scene. [Blimps] can be out there for multiple hours when helicopters have to return to base to refuel. This blimp has extended our legs better than a helicopter or a C-130," he said.

At the end of the test, the program was extended two weeks into August because there was money left over for continuing evaluation, Meinhold said.

The demonstration was funded in the 2007 Defense Appropriations

Act at the request of Rep. Christopher Shays, R-Conn., Sen. Joseph Lieberman, I-Conn., and Rep. George Butterfield, D-N.C. AMS is headquartered in Greenwich, Conn., and houses its airships near Elizabeth City, N.C.

The Skyship demonstrator is not the Navy's only current foray into airship and lighter-than-air craft development. NAVAIR's PMA-262 is coordinating the development and testing of a Skybus 30K airship, an unmanned system designed for a variety of security and intelligence operations; is overseeing the Navy-owned MZ-3A airship, built by American Blimp Co., and currently in caretaker status in Lakehurst, N.J.; and is handling a Joint Capability Technology Demonstration for an unmanned hybrid airship that will provide extended-dwell area surveillance.

"NAVAIR has a cadre of subject matter experts and can manage the programs effectively. The other services don't necessarily have a program structure set up," Dishman said.

The Coast Guard has expressed a desire to create a common operating picture for U.S. territorial waters, much like the Federal Aviation Administration has for the skies. Blimps, which were used for persistent surveillance at the Olympic Games in Atlanta in 1996 and in Athens in 2004, and at the Republican National Convention in New York, also in 2004, could provide a cost-effective platform for law enforcement and interdiction activities, service officials said.

"We're really looking for anything to increase our maritime domain awareness and tell who's transiting the area,

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distinguishing between the good, legitimate maritime operators and those involved in illicit activity," Meinhold said. "The real-time information that the Skyship 600 is providing is really applicable to the Coast Guard."

Industry appears to believe that the timing is right for an airship renaissance. In 2006, Lockheed Martin Advanced Development Projects developed and flew its P-791, a chubby hybrid aircraft with hovercraft landing pads, to explore airship materials, technology and capability.

In 2005, Blackwater Airships, Moyock, N.C., began developing its own product for aerial surveillance. The company's Polar 400 flew in November 2007.

"Airships are far less offensive for surveillance. The Black Hawk helicopter is a much more intrusive presence. We're more of a benign 'eye-in-the-sky,'" Spyrou said.

A hovering blimp used for surveillance, however, has drawn concern from civil libertarians for its potential use to track lawful citizens.

"One of the most disturbing [practices during the Republican National Convention] was the [New York Police] Department's pervasive videotaping — with

hand-held cameras, cameras mounted on poles and vehicles, even a blimp — of people engaged in lawful protest activity," wrote the New York Civil Liberties Union in a special report "Rights and Wrongs at the RNC."

Dishman acknowledged the privacy concerns regarding persistent surveillance and said the services have "instructions in place" to address their support of domestic law enforcement activities.

"Sure it's a concern, because [monitoring citizens] is illegal to do. You avoid potential conflicts by being careful. For example, [when] we supported [U.S. Northern Command] in looking at the California wild fires and all that video, we made sure there weren't any issues with it prior to release. The process is in place," he said.

Airships once struck fear in civilian and military populations when they were first used in World War I. Today, they often are viewed as a folly — a platform for advertisement and entertainment. Industry leaders like Spyrou are convinced they have more to contribute.

"If there's something that needs to be investigated, a blimp can motor over and monitor. It's quiet. It's inexpensive. It's hiding in plain sight," he said. ■