Sharing the Risk: Homeland Security Dept., other U.S. agencies cooperate on tests to expand UAV missions
(patrolling the Gulf Coast and the Caribbean)

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Homeland Security Dept., other U.S. agencies cooperate on tests to expand UAV missions

U.S. Customs and Border Protection (CBP) plans to test the feasibility of patrolling wide swaths of the Gulf Coast and Caribbean with land-based unmanned aircraft early next year.

The Coast Guard, possibly the National Oceanic and Atmospheric Administration (NOAA) and other federal agencies are partners in the 3-4-week demonstration, according to Michael Kostelnik, head of CBP’s air and marine division.

The plan is one of a growing number of Homeland Security Dept. programs exploring unmanned aerial vehicles? (UAVs) capabilities?beyond patrolling U.S. land borders?to conduct maritime surveillance and protect commercial aircraft from a terrorist missile attack.

Kostelnik says CBP, which now patrols the U.S.-Mexico border with two General Atomics Aeronautical Systems Predator B unmanned aircraft systems, was already planning to test a marinized unmanned aircraft when an old colleague, Adm. Thad Allen, the Coast Guard commandant, suggested a partnership.

The Coast Guard?S boat-launched, vertical takeoff UAV (VUAV), which it hopes will extend long-range maritime patrol operations as part of the Deepwater recapitalization program, is over budget and behind schedule. That prompted Allen to suspend work on Bell?s Eagle Eye VUAV and start looking around the department for a partner with UAV capabilities.

Cdr. Todd Schmidt, Coast Guard unmanned aircraft systems program manager, says the joint effort is still ?in the initial planning stages,? but the maritime concept demonstration is expected in early 2008 before the start of hurricane season.

Using an Air Force contractor?S demonstration UAV?a General Atomics Altair rather than a Predator B?equipped with an Israeli maritime radar system, the CBP project plans several test missions flying from Tyndall AFB, Fla., down to Key West, Kostelnik says.
We really need a maritime variant that we can deploy in the Caribbean and the Great Lakes, Kostelnik says. We think there’s an important opportunity for us to come out with a joint requirement for a maritime version, he adds. The Coast Guard has offered to spend $750,000 on the maritime demonstration and the Homeland Security Dept.’s Science and Technology Directorate has pledged up to $250,000. CBP will support the ground elements with its mobile stations in Sierra Vista, Ariz., and fly the UAV either from Sierra Vista or General Atomics? Gray Butte, Calif., facility.

Kostelnik has invited NOAA, which has no UAVs of its own, to participate in the maritime demonstration (see p. 55). The Predator B we fly has a lot of excess capacity. We have hardpoints on the wing. We can carry external loads. We could do atmospherics [studies] for them, says Kostelnik, adding, I see no downside to letting them play with us for small amounts of money if they have an interest.?

After the tests are completed, Kostelnik would like to convene a summit of government users such as the Coast Guard, NOAA and possibly the Defense Dept. to work out needs, capabilities and priorities.

Meanwhile, CBP continues its plans to expand Predator B patrols to the U.S. border with Canada. The agency’s third UAV is expected to be delivered in September and will be posted in the spring of 2008 to the northern border, probably at Grand Forks AFB, where the North Dakota Air National Guard is flying Predator As.

The fourth Predator, expected late in 2007, will either be posted to the southwest border or it could be the prototype for the maritime piece, says Kostelnik. All are to be equipped with an electro-optical/infrared camera system, multifunctional Lynx Synthetic Aperture Radar and Ground Moving Target indicator.

Perhaps the most ambitious unmanned aircraft plan, proposed by the department’s new head of research and development, would use a high-flying UAV as a surveillance platform to protect airports and aircraft from attacks by portable ground-to-air missiles.

As envisioned by Adm. (ret.) Jay Cohen, the former head of the Naval Research Lab who now oversees the Science and Technology Directorate, the program is testing the viability of posting high-flying UAVs that can loiter over an airport to watch for the launch of portable ground-to-air missile attacks on commercial aircraft as they take off and land (AW&ST Mar. 19, p. 116).

Cohen says a UAV patrolling an area 65,000 ft. above an airport could spot the heat signature of small missiles fired by man-portable air defense systems (Manpads) and decoy them above their maximum ceiling, about 20,000 ft., rendering them harmless.

The program is also considering other missions including: serving as a communications relay platform in disaster recovery and relief, supporting the border and coastal security efforts of other agencies and monitoring critical infrastructure such as oil pipelines.
The Science and Technology Directorate is culling white papers submitted in response to a broad area announcement last spring, officials say. It has yet to pick an aircraft system, although Northrop Grumman’s Global Hawk, which is being tested by the Navy for its marinized UAV mission, and the Predator B are being considered.

Kostelnik envisions as many as 20 UAVs eventually patrolling U.S. land and sea borders in the future, but his biggest concern right now is training personnel to fly the Predator. “We don’t have any that are certified for takeoffs and landings,” says Kostelnik, “We’re trying to grow a cadre of experienced people.”