

Embracing the RPA Evolution

THE Air Force has retired roughly 250 manned fighter aircraft since the middle of the past decade, and the service's Fiscal 2013 budget plan will send another 123 fighters into retirement. USAF purchased roughly 300 medium-size MQ-1 Predator and MQ-9 Reaper remotely piloted aircraft (RPAs) in that time.

Also since 2005, USAF has shrunk by 25,552 airmen and the Fiscal 2013 budget sheds another 10,000. As fighter units shrank, 4,000 airmen shifted into RPA processing, exploitation, and dissemination missions. Other airmen flowed in to serve as maintainers, pilots, and sensor operators supporting the growing Predator and Reaper inventories.

Do these opposite trend lines mean RPAs are replacing the Air Force's fighters? Absolutely not.

Specific transitions have been controversial, however. Established fighter units are often dismayed to hear they will give up the aircraft they know and love in exchange for a radically different system.

The Air Force has been criticized from all sides for the way it has handled its RPAs over the past decade. RPA advocates, including former Defense Secretary Robert Gates, accused the service of dragging its feet in fielding and institutionalizing the systems. According to one common claim, USAF does not want RPAs because the service's macho fighter pilot culture wants no part of aircraft flown by remote control and frequently derided as "drones."

Others say the integration is not too slow—it is in fact too fast. Predators and Reapers do not deserve their high levels of investment and effort, according to this line of reasoning. Complaints center on high mishap rates, claims RPAs are far more expensive than advertised, and even that their use against terrorist targets constitutes an illegal overseas assassination campaign.

The rapid growth in RPA operations is brought on by two developments. First, the technology is ready. Second, the Predator and Reaper are uniquely suited for the demands of the post-9/11 war against terrorism.

Today's RPAs are flown by remote control over Afghanistan, Pakistan, Yemen, and other terrorist redoubts. Launch and

recovery elements need forward bases, but the pilots and sensor operators can stay at their home bases and work from ground control stations in Nevada and elsewhere—saving money and reducing the number of people who need to deploy.

The Predators and Reapers are loaded with advanced sensors to track targets as small as individual people for extended periods. They can beam video back to monitors almost in real-time, and the intelligence they gather is archived so it can also be reviewed later.

The aircraft carry precision weapons so valuable targets can be attacked in

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seconds if an opportunity arises. Making the sensor also the shooter dramatically shortens the "kill chain"—the time to attack after first spotting a potential target. If an armed RPA is overhead, commanders do not have to wait for another aircraft to arrive and re-acquire the target before engaging.

Persistence is also useful against terrorist targets. RPAs can stay airborne for extremely long periods, and the crews operating them can switch out while the aircraft stays on station. This allows specific locations or individuals to remain under nonstop observation.

Predator and Reaper liabilities have been nonfactors thus far. Terrorist organizations typically lack sophisticated air defenses, and small enemy units (often individuals) do not require large weapons loads to defeat.

The Air Force is building toward an RPA fleet large enough to fly 65 nonstop combat air patrols. This level was set when the US was still in the midst of Operation Iraqi Freedom. The war in Afghanistan is also winding down and scheduled to end in 2014.

So why buy more? Simple demand. Combatant commanders have an insatiable appetite for the intelligence RPAs provide. There are always more targets to watch and additional terrorists to follow.

There is also a pent-up demand for the systems, as operations in Southwest Asia and Africa have absorbed almost all

RPA capability thus far. Commanders in other regions, such as Europe and the Pacific, would like to get their hands on Predators, Reapers, Global Hawks, and RQ-170s but have not been able to rise to the top of the Pentagon's priority list.

Getting the most out of the RPA fleet requires better processing, not dramatically more airframes or manpower. In the past, USAF "made progress on the processing tools," noted Air Force Secretary Michael Donley in April, "but not as fast as we have been getting new ideas for how to collect more data."

To avoid becoming like a rat on a treadmill, forever unable to catch up with demand, Air Force officials now believe 65 CAPs must be a maximum force level—not a step toward a new, higher requirement. Properly resourced, 65 CAPs will allow the Air Force to surge to 85 CAPs while finally filling in their "back end" support elements.

Getting out of permanent surge mode is key. The Air Force has been running some 24/7 combat air patrols with 2.5 aircraft and seven crews; it would like each CAP to have four aircraft with 10 crews.

USAF is looking to increase the efficiency of its RPA data haul three ways. First, it seeks to improve onboard processing capability to reduce human demand. Second, USAF will increasingly transmit compressed data, to reduce the strain on the military communications bandwidth. Finally, it is pushing to automate processing tools so algorithms can find and highlight important information.

RPAs offer dramatic capabilities ideally suited for the war on terror, but their utility will not end when the US leaves Afghanistan.

The Air Force has successfully absorbed revolutionary technologies many times before. Nuclear weapons did not render conventional weapons obsolete. The jet engine did not bring an end to propeller-driven aircraft. The ICBM did not mean the end of the bomber. And spy satellites did not bring an end to air-breathing spyplanes. So it will be with RPAs.

The Predators, Reapers, Global Hawks, and whatever follows will continue to evolve, and their impact on the Air Force will be permanent. The RPAs are here to stay. ■