

It's the Air Force UAV, which delivers vital information as well as an occasional shot between the eyes.

The Indispensable Weapon

By Marc V. Schanz, Associate Editor



USAF photo

In just a few years, USAF's fleet of unmanned aerial vehicles has become a critical factor in the success of US combat operations in Iraq and Afghanistan. Contributions now range from dismantlement of improvised explosive devices (IEDs) to the tracking of foes in some of the harshest terrain on Earth.

The aircraft, flown in combat by airmen stationed at US sites, can monitor combat activities for many hours more than has been possible with manned aircraft. The MQ-1 Predator, for example, boasts an operational endurance of 22 hours.

UAVs often play vital roles in the slow, painstaking process of gathering

information on militant activity and "pattern of life" analysis, which is usually compiled over the course of days or weeks.

Lt. Gen. David A. Deptula, USAF's deputy chief of staff for intelligence, surveillance, and reconnaissance, cites the example of the 2006 mission targeting Abu Musab al Zarqawi, the leader



USAF photo by TSgt. Efren Lopez



USAF photo by SSGT Samuel Morse

Above left: An MQ-9 Reaper flies a combat mission over Afghanistan. Left: An MQ-1 Predator heads out on a night mission from Kandahar Airfield, Afghanistan. Above: Maj. Rick Wageman pilots an MQ-1 Predator from a virtual cockpit at a base in Southwest Asia.

of al Qaeda in Iraq. That operation ended with an F-16 strike, but was made possible by hundreds of hours of MQ-1 Predator surveillance and time spent analyzing the raw data.

Airmen involved in theater operations are low key about their contributions.

Maj. Michael Navicki, UAV liaison officer at Air Forces Central's combined air and space operations center in Southwest Asia, said, "The guy on the ground dictates our requirements."

Navicki helps choreograph the use of Predators, the larger and more fearsome MQ-9 Reapers, and other remotely piloted aircraft.

Requests from ground commanders and joint terminal attack controllers (JTACs) pour in without letup. Ground forces seek assistance with tasks from watching over raids to assisting in "troops in contact" firefights, to tracking the movement of improvised explosive device teams on vital transit routes. "We're going to flex and meet the missions they have," added Navicki.

We Own Time

Predator and Reaper aircraft bring distinct capabilities to combat. UAV operators "have a high capacity to make sure that we have the exact, right target in our crosshairs," said Col. Peter E. Gersten, commander of the 432nd Wing at Creech AFB, Nev. "Time is not our enemy. We own time."

The demand for UAVs has spurred Defense Secretary Robert M. Gates and senior service leaders to aggressively develop both the aircraft and the infrastructure supporting them.

Today, troops in the field in Iraq and Afghanistan can't imagine conducting operations without the sensors and full-motion video capabilities UAVs bring, according to the airmen who work in the rapidly expanding mission.

"Initially, this was a piece that people underappreciated," said Col. John P. Montgomery, commander of the 98th Range Wing at Nellis AFB, Nev. Now, "somebody is watching the ground [24 hours a day] in the places that matter" to the people on the ground—and it means life and death. This is now "completely invaluable" to the war effort.

Montgomery told reporters visiting Creech in spring 2009—when he was 432nd vice commander—that the Air Force's rapid expansion is partly inspired by the hard-fought urban combat operations of the Iraqi surge. Montgomery, a career F-16 driver, described flying combat missions over Sadr City—a once violent and dangerous section of Baghdad which was a flash point during surge operations—and how Predators changed the combat dynamic.

"When I flew over Sadr City, I knew where they hung out the laundry, I knew when they took out the trash, and I knew the traffic flow," he said. "And when that changed, I knew it. It was part of the pattern of life that was



An MQ-9 powers up for departure from Kandahar Airfield.

USAF photo by TSgt. Efren Lopez

going on. We could tell people on the ground what was happening, and when something changed—which meant something was about to happen.”

The ability to keep aircraft overhead in an ISR role, carrying up to 3,000 pounds of ordnance—for 24 hours at a time while swapping out crews—has proved to be a game changer for the Air Force.

“You are going to have the opportunity to become more familiar with the area,” Navicki said. “You spend hours and hours talking with support units, ... through radio or [secure] chat.” The ground commanders, JTACs, and operators are now very smart about what UAVs can and can’t do, he added. “If we feel we might give better effects, we could recommend more appropriate actions in combat,” Navicki said.

The demand for persistent ISR and strike capability has driven operational statistics through the roof. When Montgomery arrived at the 432nd Wing in June 2007, the Air Force was flying 10 combat air patrols in the US Central Command region daily. The plan at the time was to build to 12 CAPs by Fiscal 2010.

The number of Predator and Reaper CAPs has actually increased 680 percent in five years—going from five in 2004 to 39 as of mid-December 2009. The CAPs were composed of 31 MQ-1 patrols, seven MQ-9 orbits, and one RQ-4 high-altitude surveillance patrol. The fleet of Predators surpassed

600,000 flight hours in September during operations in Southwest Asia—an incredible statistic considering the fleet had achieved the half-million flight hour mark a mere seven months earlier.

More Kinetic Options

Crucial to the Air Force’s ability to leverage so much UAV combat power so quickly is the rapid expansion of the mission in the Air National Guard—from

flying units to intelligence analysis and ground control capability.

In Fiscal 2006, the Air National Guard had six ISR units, said Col. Gregory T. White, the National Guard Bureau’s director of ISR. Today, the ANG has 36 ISR squadrons, from flying units to training units and signals intelligence squadrons.

Guard squadrons in Arizona, California, North Dakota, and Texas all operate

USAF photo by MSgt. Jerry Morrison



Deputy Secretary of Defense William Lynn III (left), escorted by Lt. Col. Morgan Curry (right), examines Predator and Reaper aircraft on a tour of Kandahar Airfield.

Predator orbits in theater daily and their capability is expanding, White said, performing approximately two CAPs every day. To aid the Air Force's effort in expanding the pilot and maintainer training for Predators, the California ANG's 163rd Reconnaissance Wing conducts both flying and maintenance training at March Air Reserve Base, to help relieve the burden on the Creech schoolhouse.

The active duty Air Force is also expanding training activities—announcing in July that Holloman AFB, N.M., would be the site of the service's new Predator and Reaper formal training unit for combat operators.

Most Guardsmen have years of flight experience and are eager to volunteer for the mission. If an Air Guardsman is available for four or five days a month, he can come in and fly a fighter for a few sorties, White explained, even as some organization issues are still being smoothed out.

As the Air Force drives toward its goal of 50 CAPs, the service has decided it will not buy any more Predators—choosing instead to expand its fleet of MQ-9 Reapers. With more payload capacity and enhanced sensors than MQ-1s, the Air Force plans to eventually purchase 319 Reapers, according to the service's 2009 unmanned aircraft system's flight plan. By 2016, the Air Force plans to have 50 CAPs composed solely of Reapers.

USAF's MQ-9 Reaper field training detachment opened at Hancock ANGB, N.Y., in October, the first schoolhouse in the Air Force dedicated to training personnel for Reaper maintenance. On Dec. 1, 2009, the wing entered steady-state operations flying MQ-9 Reaper missions for operations in Afghanistan—the first Air Guard unit to operate the more robust and heavily armed MQ-9 in theater, White said.

"It enhances the fleet, it offers many advances, ... more kinetic options," Navicki said of the transition to an "all Reaper" force. The Reaper has a slightly reduced loiter time due to its size, but that can be managed depending on the weapons load. The difference between staying on target 10 hours vs. 20 hours often comes down to the availability of crews to switch out of the ground control station.

There will be additional training requirements in the coming years for fields such as weapons loaders, White said of the Reaper transition, but in the ground station back home, pilots will be flying "the same stick and rudder."



USAF photo by S/A. Larry E. Reid Jr.

SrA. Jason Atwell secures the fins of a GBU-12 Paveway II laser guided bomb at Creech AFB, Nev. There is so much demand for Predator expertise that training is now also being done by the California ANG.

The payload capacity of the Reaper will also enable the Air Force to expand use of modular sensors and payloads, to eventually enable and expand missions such as electronic attack, strike, and "multi-INT ISR missions," according to the UAS flight plan. This spring, the service will add a new podded wide-area surveillance sensor called Gorgon Stare to its Reapers, which will enhance the amount of live simultaneous video feeds from a single aircraft. Air Force officials say the pod will be able to broadcast up to 10 feeds at first, eventually growing in capability in later iterations of the system.

Fill the Billets

Airmen working in six UAV-related specialty codes are currently prohibited from transferring out of the field. Airmen are not prohibited from transferring for reassignment within the remote piloted aircraft community, however.

In November, USAF announced it is seeking combat systems officers (lieutenants through majors, including those without a commercial instrument rating) to volunteer to fly UAVs. Once trained, they will be awarded the new 18X Air Force Specialty Code and become permanent unmanned system experts, said Lt. Col. Jeffrey Kwoka, the UAS career field manager. As of June 1, however, CSOs who have commercial instrument ratings must go through the full UAS pilot training course.

Early in 2009, the Air Force initiated a voluntary recall of reservists

who were previously on active duty to return to fill UAV billets for a limited time, among others.

Initially hesitant to return to active duty, Lt. Col. Rob Perrin—a former KC-135 navigator and deputy director of the 717th Test Squadron at Arnold AFB, Tenn., until last month—said a lower deployment cycle was one of the reasons he was attracted to the field. While UAVs are unmanned in the literal sense, they demand more manning per sortie—one of the reasons the Air Force has relaxed its requirements enough to allow experienced navigators to return to active duty in the UAS field.

"This is a unique career field," Montgomery said, and there continues to be debate on how to develop it properly. Sensor operators are different from classical imagery analysts—a career field many current sensor operators came out of. "They can do [imagery analysis], but there are more skills involved. ... There are motor skills, more situational awareness," he said. They want to be sure they're not stovepiped into a narrow career field. Similar issues exist with the development of a pilot cadre for UAVs.

"Over the coming years and decades, we're going to [perform] more and more missions and roles in unmanned aircraft," White said, in both the active duty and the reserve components.

The burgeoning field of unmanned aircraft operations is expected to become even more prominent over the next few years. ■