





USAF photo by TSgt. Shane A. Cuomo

# High Stress Numbers Game

**Demand is high. Systems and forces are few. How will the Air Force square the circle?**

**By John A. Tirpak, Executive Editor**

**T**he Air Force has long struggled to supply combatant commanders certain premium but scarce capabilities. These powers, essential to battlefield success, flow from a small number of precious, highly specialized aircraft and airmen.

They have never been fielded in sufficient numbers. There are never enough to go around.

Now, USAF is under intensifying pressure to expand these capabilities. Because future budgets are expected to stay flat at best, the service now must find solutions other than spending a larger amount of money on the problem.

Systems and forces experiencing the greatest stress fall into four categories. The four are: battle management; electronic warfare; battlefield airmen/combat search and rescue; and intelligence-surveillance-reconnaissance.

It is an eclectic mix, ranging from the big flying sensor platforms such as the RC-135 Rivet Joint down to

small forces of special operations personnel.

The Pentagon for years referred to these as “low-density, high-demand” capabilities. (The official term is “limited-supply, high-demand,” but it has yet to catch on at the highest levels.) Former Defense Secretary Donald H. Rumsfeld once quipped that, whatever the name, the meaning was clear: “We didn’t buy enough.”

The problem of LD/HD has gotten lip service from senior Pentagon leaders over the years. Even Rumsfeld, after issuing his famous statement, did little to address the problem.

Many LD/HDs are either too expensive, too complex, or both, for the Air Force to simply buy more with available funds, while others cannot be built up quickly at all. In the latter category are special operations forces and battlefield airmen, who require years of training and seasoning.

Air Force officials charged with providing LD/HDs point out that there are

only three ways to cope with the situation: restrain demand, increase supply, or squeeze more out of assets on hand.

One element—demand—is out of their hands.

The demand is “insatiable,” contended Maj. Gen. Paul A. Dettmer, the Air Force’s assistant deputy chief of staff for ISR. Dettmer, specifically commenting on shortages in his area, noted that the demand for ISR systems has been “exponential” during the past seven years of war in Afghanistan and Iraq.

Field commanders want it all—everything from signals data to imagery—but their singular cry is for full-motion video, such as that provided by Predator and Reaper unmanned aerial vehicles and fighters equipped with new targeting pods, he said.

Almost all Air Force ISR systems are “in a surge mode, and have been for quite some time,” Dettmer noted.

“Virtually everything we have in our inventory, we have pushed up and out, in support of combat ops.”

**SSgt. George Earhart takes point as he trains with other TACPs from the 25th Air Support Operations Squadron.**

In most other fields, the story is much the same. How did the Air Force get in this situation?

Dettmer speculated that, for the last decade, Air Combat Command, which controls most ISR assets, “probably didn’t place as much emphasis and priority on the ISR because of other, equally high-priority issues, like recapitalization of our aging fleet of aircraft.”

However, he said, “There’s been a recognition by the Air Force that ISR is [as] important as next generation fighters [and] bombers.”

The pressure on the Air Force to provide ever-increasing amounts of battlefield information has grown in recent months. Last spring, Defense Secretary Robert M. Gates lamented publicly that he was having a hard time getting the services to meet theater commander demands for coverage, and in a speech at the Air War College at Maxwell AFB, Ala., he complained that it had been like “pulling teeth” to

deploy more ISR capabilities—a job squarely aimed at the Air Force.

After the top two Air Force leaders were forced out in June (ostensibly for service failures in the handling of nuclear weapons), Gates made it known that he wanted their replacements to pull out all the stops and push to get more ISR into the fight. The new Chief of Staff, Gen. Norton A. Schwartz, and the new Air Force Secretary, Michael B. Donley, rolled out an aggressive plan to do just that.

### **Assumption of Risk**

The push to beef up the ISR contingent is getting the most attention and the most resources. Air Force officials, speaking in October, said it wasn’t a done deal yet, but ISR capabilities were slated to get the greatest share of 14,000 personnel billets that Gates returned to the Air Force in June. Some officials suggested that ISR would get as many as 12,000 of these slots.

The ISR field was also set to get “tens of billions” of procurement dollars in the five-year spending plan built for 2010 and beyond, one official reported. The bulk would go toward

sharply increasing the size of the UAV fleet.

While the Air Force is meeting the requirements of US Central Command, this has been done “at the expense of” European Command, Pacific Command, and Southern Command, Dettmer said. In those other areas of responsibility, “we’ve had to assume risk,” he said, meaning that those combatant commanders usually don’t get the ISR coverage they need to have comprehensive situational awareness in their theaters.

Dettmer said he can scarcely think of an Air Force ISR system that isn’t “in a surged mode right now.” The Rivet Joint Sigint aircraft, the U-2 Dragon Lady, and RQ-4 Global Hawk high-flying recce aircraft and MQ-1 Predators and MQ-9 Reapers all have been tasked for nearly nonstop action.

About the only ones not stressed, he said, are super-specialized aircraft such as Combat Sent and Cobra Ball variants of the RC-135, which have specific “scientific and technical” intelligence collection functions needed only for observing events like a North Korean missile test.



**HH-60G Pave Hawks from the 66th Expeditionary Rescue Squadron fly over Iraq in September.**

USAF photo by SSgt. Aaron Allmon



USAF photo by SSgt. Brian Ferguson

**Alexander Holcomb (l) and Darryl France, contractors with General Atomics, off-load an AGM-114 Hellfire missile from an MQ-9 Reaper.**

Although technically a battle management asset, the E-8C Joint STARS aircraft fleet is under related stress, said Dettmer, because “its sensors are in very high demand for ISR purposes.” The Joint STARS can provide a wide-area view of all the vehicles moving within a geographical area, and analysts have been able to rewind the imagery of moving vehicles to trace insurgents who buried an improvised explosive device or set up an ambush.

Practically every ISR career field is strained, Dettmer said. The people most in demand are operations intelligence analysts, imagery analysts, and crypto-linguists with Middle Eastern language skills.

These specialists are in what Dettmer calls “one-to-one dwell.” Under the Air and Space Expeditionary Force (AEF) system, the typical Air Force unit or individual deploys for 120 days and is at home for the other 245 days of the year. That amounts to a “two-to-one dwell”—two times as much time “dwelling” in the US as deployed overseas.

With intelligence personnel, “it’s been recognized” that the 120-day AEF goal won’t work, Dettmer reported. “We can’t do that. We can’t... keep that kind of tempo; we have to do something different,” he admitted.

These LD/HD personnel, rather than go through the AEF structure of a training and rest period followed by a work-up period and finally a deployment before the cycle begins again, have gone instead

into “what we call a ‘tempo banding’” format where they are simply deployed six months to a year, and then rotate to home base for a similar amount of time, Dettmer said. Those in the bands are thus deployed about three times as much as those in the standard AEF rotations.

### No Rest For the Weary

“It’s not fixing the problem, but it’s a recognition that we cannot stick to the standard AEF deployment cycle because we’re in a one-to-one dwell,” Dettmer observed.

A decade ago, as the LD/HD problem was just beginning to draw attention, the Air Force began to ask other services to

supply comparable systems that could substitute for Air Force aircraft so the stressed people and hardware could be rested. The Navy, for example, would provide EP-3 Orion aircraft to fill in for some of the electronic reconnaissance mission.

The other services have thrown their ISR assets into the mix for CENTCOM, but the Air Force hasn’t been able to rest as a result. Asked if the other services’ contributions are allowing a respite for the Air Force, Dettmer said, “No. It’s an addition.”

He added that the Air Force is now looking at ways to increase ISR coverage in Afghanistan—where senior leaders have said a greater overall military effort will be required than has been the case the last few years—without stinting Iraq.

How will USAF pull that off? “I don’t know, but we’re working our way through that,” Dettmer answered.

Among the ideas on how to rapidly increase the ISR capabilities in CENTCOM is something called Project Liberty, modeled on the Liberty Ship idea of World War II, in which American shipyards took the design for a tramp steamer and mass-produced 2,700 of them as cargo ships. In the modern incarnation, the Air Force and Army have turned to the RC-12, a military variant of the Beech King Air, to be outfitted with sensors and a crew to replicate the capabilities of a Predator UAV, plus some other “ints” as well.

“It would add in more multiple intelligence-discipline sensors but, predominantly, imaging, full-motion video, and Sigint,” Dettmer reported.

USAF photo by TSgt. Cecilio M. Ricardo



**An aircrew member boards an E-3 Sentry AWACS aircraft just before a surveillance mission over the eastern Pacific.**



Photo by Jim Haseltine

**An RC-135W Rivet Joint aircraft from the 55th Wing, Offutt AFB, Neb., on a recent training mission.**

The Air Force will buy 37 of the planned 51 new RC-12s, and could field the first one as early as February, Dettmer said.

At the same time, the Air Force is in production of Predator, Reaper, and Global Hawk at the maximum capacity of the manufacturers, he noted.

In battle management, while the E-8C Joint STARS is in heavy demand, there is less stress on the E-3 AWACS fleet, according to Col. Steven Ruehl, deputy director for air operations.

Ruehl reported that, because the enemy in Iraq and Afghanistan is almost exclusively a ground force, the AWACS fleet has come off a full-press deployment schedule, and other COCOMs are getting the coverage they need from the system. That wasn't always the case; in the 1990s, AWACS was one of the most-stressed systems, and during the combat phase of Operation Iraqi Freedom, AWACS was "heavily tasked," Ruehl said.

The AWACS force today is "stretched, but it is not anything we can't manage," he observed. Even so, AWACS and Joint STARS, while "being managed at a rate that is sustainable, [are] still considered [low-density], high-demand."

The Pentagon top leadership is not turning a blind eye to the LD/HD problem. Marine Corps Gen. James E. Cartwright, vice chairman of the Joint Chiefs of Staff, ordered US Strategic Command to perform "a force sizing study," which was due to be completed in November, to address some of the LD/

HD issues, Dettmer reported. The study was to identify models or other tools that could predict the mix of resources needed to deal with ISR requirements across a range of scenarios. It will be one of the first studies in recent times to get into "this issue about the requirement," Dettmer said.

### **The Brute Force Way**

"What's the requirement?" he asked rhetorically. "What's the required capability for Iraq and Afghanistan? ... We don't have a good answer yet."

That has been a problem because the Air Force has been chasing an ever-changing demand for LD/HD assets. The Air Force handily beat 2007 Quadrennial Defense Review targets for increasing UAV patrols over Iraq and Afghanistan, but has been told it's still not enough. Particularly in ISR, no matter what is provided, the combatant commander asks for more. The Air Force has not wanted to say no, so it has squeezed hard to put more capability out.

"We're going to keep putting out until someone says we've got it right, or we can't afford more," Dettmer asserted. "When folks are getting shot up and maimed, then you're not doing enough. That's been our view." Continually throwing more into the mix is "kind of a brute force way to do this," he said, and he's hoping STRATCOM's analysis will develop more quantifiable goals.

"If we can get agreement by everyone in all the services and OSD that, for want of a better, this model is what we'll use,

that may get us closer to ... what kind of mixes help satisfy the requirement in ... Iraq and Afghanistan, with both traditional and nontraditional sources, and to include our national overhead systems as well," he said.

More money and machines will help, but Dettmer noted that projections show that by 2011, USAF will have increased its ISR flying hours by 4,700 percent since 2001, but its manpower "will have contracted by about two percent. So, you can draw your own conclusions; something's got to give." Even if all notional budget adds to the ISR personnel force come to fruition, it would still yield only "a net .6 percent increase in Air Force intel manpower."

The Air Force lost its E-10 battle management program in budget drills two years ago. The aircraft was to have replaced AWACS, Joint STARS, and Rivet Joint aircraft, and without a new aircraft, those platforms need upgrades to stay airworthy. The AWACS fleet is undergoing a major capability enhancement, and the E-8C fleet will get a long-requested engine upgrade to improve performance and time on station. But simply replacing the big platforms won't, by itself, fix the LD/HD problem.

Dettmer said the Air Force will likely develop a new solution to ISR shortages, capitalizing on "significant sensor capabilities on nontraditional [ISR] platforms like the F-22, F-35, [and] bombers" to collect more information on the battlefield. The stealth aircraft will both have impressive sensor suites that will act as ISR vacuum cleaners, sucking up data about the enemy's posture and feeding it to military networks.

This nontraditional ISR "is a way to mitigate" the LD/HD problem, Dettmer said, and a whole series of studies is under way to look at "concepts of operation, ... tactics, techniques, and procedures" to turn every aircraft in theater into an ISR sensor.

Ruehl said the Air Force currently does not consider any of its "shooters"—bombers, fighters, attack aircraft—to be in the LD/HD category. All the combat aircraft are being managed within the framework of the AEF, and they are generally sticking to the 120-day AEF deployment rotation, he reported.

Only one kinetic combat system is considered to be LD/HD, and that is in combat search and rescue, Ruehl noted. The Air Force is overdue on beginning



USAF photo by S/A. Miranda Moorer

**A flight line ground crew attaches a tow rod to a Global Hawk UAV at Andersen AFB, Guam.**

replacement of its 101 HH-60 Pave Hawks, which are averaging a one-to-two dwell time, he reported—meaning that for every month deployed, two are spent at home base. This does not necessarily equate to the 120-day AEF rotation. In the reserve component, Ruehl said, CSAR units are on a one-to-four dwell.

Not to be overlooked in the CSAR mission is the HC-130 fixed-wing transport, which, like most of the legacy C-130 fleet, is showing its age and is in need of structural upgrades, particularly to center wing boxes.

Moreover, the HH-60s have been heavily used, and their maintenance requirements are putting a strain on ground crews.

“It takes more effort by the entire team to get those airplanes prepped and ready to execute,” Ruehl said. “They have a lot of hours on those aircraft.”

A new CSAR aircraft was selected two years ago to replace the HH-60, but after a series of protests, the Air Force was compelled to rerun the competition. A winner is expected to be selected in the next couple of months. Competitors include Boeing, with its HH-47 (which originally won the contest before the protests); Lockheed Martin, offering the HH-71, a version of the European EH-101 also selected as the new Presidential transport helicopter; and Sikorsky, offering its HH-92 SuperHawk.

The CSAR-X acquisition is supposed to yield 141 aircraft, which would ease the burden on CSAR forces. However,

Ruehl said that CSAR is not one of those missions where COCOMs are being asked to do without.

“At this point, we are meeting the needs of all the combatant commanders with regard to CSAR,” he asserted.

Beyond that, Ruehl said the most stressed assets are in “human capital,” and listed a half-dozen disciplines where the Air Force is chronically short of people needed for key jobs.

Topping the list are tactical air control party airmen, or TACPs. These airmen embed with ground forces to help combat aircrew provide close support to troops on the ground. The Air Force and Army recently signed a deal that would have the Air Force increase its TACPs so that there would be enough USAF people to embed with all Army combat units.

### More Stress

“We intend to meet that requirement by 2014,” according to the agreement, Ruehl said, but he did not have a specific timetable for doing so. The Air Force agreed to provide enough airmen to integrate with the larger Army expected to be fielded by the middle of the next decade.

After the TACPs, stressed career fields include, in no particular order, explosive ordnance disposal experts, civil engineers, linguists, security forces, special operators, pararescue men, and even contracting officers. The latter are needed because local merchants want to deal with an individual they have gotten to know, and the AEF Center at Randolph AFB,

Tex., assigns people to this job for a year-long tour as a result.

Although the Air Force is striving to keep these areas at a one-to-two dwell, Ruehl acknowledged that “we are at or approaching a one-to-one dwell” in EOD, security police, civil engineers, and contracting.

He added that the Office of the Secretary of Defense instituted a series of “red lines” to highlight the issue of LD/HD. When any system or career field is at or approaching a one-to-one dwell, a formal notification must be made to the Chief of Staff. Schwartz receives such notifications regularly.

One area of stress that is not apparently being addressed with any funded program is electronic warfare. The Air Force shares use of the Navy’s EA-6B Prowler escort jamming aircraft, but the Prowler will retire in the next few years, and when it does, USAF will have no dedicated platform for electronic attack. The service is exploring a broad-area jamming system carried aboard B-52 bombers, called the Core Component Jammer. Such a project has already been tried once, but was scrapped due to high costs.

Air Force officials generally keep mum about other approaches to electronic combat, saying only that the F-22 and F-35 stealth fighters will have significant self-protection jamming capabilities by virtue of their advanced radars and sensors. Even so, inventories of other types of electronic warfare platforms, such as the EC-130J Commando Solo, will not be increased under current plans.

Ruehl said that the 14,000 billets the Air Force was given back this past summer will largely flesh out ISR units, with the remainder going to meet heightened personnel requirements in the nuclear mission. Asked if any would be left over to help the other stressed career fields, he said, “What I’ve been told is, the answer is, ‘No.’”

The stressed fields are not experiencing a massive exodus, though, Ruehl said.

“You’re always going to have some percentage of people that will elect to go on and do something else,” he said, but the stressed fields “are not voting with their feet.”

He said he believes that incentive pay and re-enlistment bonuses help with retention, but that chiefly, “I talked to these people out in the field, and they like what they’re doing, they are professionally satisfied, and know that this is important for the nation.” ■