



# Is CSAR Really Nothing “Special”?

**A new study looks at whether combat search and rescue should get a “specialized” aircraft.**

**By Otto Kreisher**

**F**or nearly 60 years, American fliers have taken off for combat missions with the knowledge that, if they went down in enemy territory, other US airmen would risk their lives in an effort to rescue them.

Most of those hazardous missions, commonly known as combat search and rescue, have been flown by Air Force units specifically trained and equipped for CSAR operations. Their history is marked with countless acts of

courage and sacrifice, and the recovery of thousands of pilots and crewmen.

Now, the future of those units is in doubt—along with the Air Force’s decade-long effort to obtain newer and better combat rescue helicopters.

**Facing page: Soldiers are hoisted aboard a USAF HH-60 Pave Hawk over the Utah Test and Training Range during a CSAR integration exercise.**

Defense Secretary Robert M. Gates threw the future of CSAR into question on April 6 when he canceled the controversial CSAR-X helicopter replacement program.

Gates eliminated CSAR-X funding from the Fiscal 2010 budget just as the Air Force was preparing its second attempt to award a contract for new helicopters to replace its fleet of old and generally underperforming HH-60 Pave Hawks.

In addition to terminating the CSAR modernization effort, Gates said there was a “fundamental question of whether this important mission can only be accomplished by yet another single-service solution, with a single-purpose aircraft.” He said the Defense Department would “take a fresh look” at the requirements for the mission and develop “a more sustainable approach.”

The study would determine whether there is a requirement for a “specialized” CSAR aircraft or whether it should be a “joint capability,” provided by multiple services with existing assets.

That re-examination not only threatens the Air Force’s long-standing role as the CSAR specialists, but also complicates the already challenging task of maintaining the dedicated USAF rescue forces.

As Gen. Norton A. Schwartz, Air Force Chief of Staff, noted, “We can-



**Left: A pararescueman descends on a rope attached to an HH-60G Pave Hawk during a CSAR team exercise supporting Operation Iraqi Freedom. Right: Two Pave Hawks maneuver into landing position during an exercise at Moody AFB, Ga.**



celed a platform. We didn’t cancel the mission.”

### Personnel Recovery

Military leaders have been concerned for more than a decade that their current dedicated CSAR helicopter, the HH-60G, does not have all of capabilities needed for the mission. It had deficiencies in speed, range, cabin space, survivability, battlespace awareness, and all-weather operability.

Air Force leaders had been expected to announce the winner of the second CSAR-X competition in the summer of 2009. Now they must wait to see what the study ordered by Gates determines about the future of the vital mission, now officially called “personnel recovery.”

DOD “will reassess this important mission in the context of joint force capabilities,” a statement from the Defense Secretary’s office said. “The assessment will provide the basis to affirm or adjust current DOD policy with regard to personnel recovery; will inform the department regarding what capabilities are essential to a follow-on program for Air Force combat search and rescue aircraft; and will provide a basis from which to ensure that the national combat search and rescue capability provides for recovery of any downed, injured, or isolated service member, including [in] combat environments. We expect a reply to the Secretary’s tasking in the fall time frame.”

Pentagon officials said the review was being conducted by the Cost Assessment and Program Evaluation office, the Joint Staff, and Joint Forces Command. The results would be reported to the Deputy’s Advisory Working Group in Gates’ office.

Current military doctrine dictates that “all the services are responsible for train-



**SSgt. Ben Vorheis, a flight engineer with the 66th Expeditionary Rescue Squadron, runs a preflight inspection on an HH-60G Pave Hawk at Joint Base Balad, Iraq.**



**USAF pararescuemen from the 48th Rescue Squadron and members of the Royal Netherlands Army practice a CSAR mission during a joint training exercise.**

ing and equipping personnel recovery forces,” said Lt. Col. Paul Fiorenza, branch head for special operations forces and CSAR in the assistant Air Force secretary for acquisition office.

“The Air Force is unique in that it doesn’t have a geographical mission, it has a global mission. ... That drives a high level of training and equipping for that challenging mission, a high risk mission,” Fiorenza added.

The Air Force also differs from the other services in that it fields squadrons of HC-130 refueling aircraft and units of highly trained pararescue jumpers (PJs) in its dedicated CSAR force, and can apply “the entire network of Air Force assets,” including tactical air for close air support, intelligence, and other capabilities to support the mission, he said.

Among the other services, only the Navy has anything approaching a dedicated CSAR capability. It fields helicopters to rescue aviators who go into the water near the carriers and aviators downed by enemy action ashore.

The Navy now is deploying new multimission MH-60S Knighthawk helicopters, some of which are equipped to perform CSAR and special warfare support missions as a secondary duty. Those Knighthawks have most of the survivability and defensive systems of the HH-60Gs. The crewmen assigned that mission are specially trained and qualified, using CSAR tactics and procedures adopted from the Air Force, the Navy said.

Also, every marine expeditionary unit that deploys aboard Navy amphibious ships has a team trained to conduct the

tactical recovery of aircraft and personnel (TRAP) mission.

A Marine Corps spokesman emphasized that “TRAP is not CSAR,” and is not intended to be conducted against enemy resistance.

This is an important distinction: Experience has demonstrated the value of units trained and equipped to rescue other fliers in the midst of combat. Starting in the Korean War in 1950, two Air Force units—the 2nd and 3rd Air Rescue Squadrons—used SA-16 amphibious aircraft and relatively primitive H-5A helicopters to rescue downed Air Force and Navy pilots.

An official Air Force history credits the 3rd with recovering 997 US or allied personnel who had gone down behind enemy lines.

During the long air war in Vietnam, dedicated Air Force CSAR units, using specially configured HH-3 or HH-53 “Jolly Green Giant” helicopters, and frequently supported by A-1 or other attack airplanes, saved a total of 4,120 personnel, including 2,780 in combat situations.

Individual heroism and dedication brought CSAR practitioners two Medals of Honor, 38 Air Force Crosses, and numerous Silver Stars.

In Iraq and Afghanistan, Air Force CSAR forces have rescued more than 470 US or allied personnel since Sept. 11, 2001.

Official statistics reveal the danger of the mission, even when conducted by well-trained and -equipped crews. Air Force CSAR units in Vietnam lost one crewman and two aircraft for every 9.2 recoveries.

The limited number of CSAR assets means combat search and rescue has sometimes been a pickup game. For example, because no Air Force CSAR units were available, marines used CH-53E transports launched from the amphibious assault ship *Kearsarge* to rescue Air Force Capt. Scott O’Grady from the midst of Serbian troops after his F-16 was shot down in Bosnia in June 1995.

Similarly, special operations forces covered the CSAR mission during the



**HH-3 Jolly Green Giants performed hundreds of rescues during the Vietnam War. Here, an HH-3 lands to pick up a “survivor” during a training mission in 1981.**

early days of Operation Enduring Freedom in 2001 in Afghanistan. Because of shortages such as these, the Air Force had planned to expand the size of the dedicated combat rescue fleet to relieve the operational pressure on the HH-60s, which have the highest committed rate, measured by dwell-to-deployed ratio, of all US military rotary wing assets, Fiorenza said.

Active Air Force Pave Hawk units have a one-to-one deploy-to-dwell ratio, which means they are home just 180 days between each 180-day deployment. Air Guard and Air Force Reserve HH-60s, which make up 33 percent of the force, have a one-to-four deploy-to-dwell rate.

That hectic pace is required because USAF retains only 100 Pave Hawks—and four of those are not flyable due to combat damage, Fiorenza said.

The 141 new CSAR-X helicopters were to get combat rescue forces out of the low-density, high-demand bind, he said, and that long-term effort to replace the HH-60Gs was just one of three Air Force initiatives for the CSAR force.

The Army considers combat rescue to be part of the overall personnel recovery mission, usually performed by its dedicated medevac units. These units fly unarmed HH-60 Black Hawks emblazoned with large red cross emblems. Army doctrine also calls for ground units to carry out personnel recovery if the situation warrants.

If Gates decides to make CSAR truly a multiservice requirement, some of the other services would have to invest heavily in the additional capabilities required for that mission. Whatever the decision, the Air Force will still have the same problems with the HH-60s that led to the CSAR-X program in the first place.

Initially, the Air Force wanted a larger, faster, more survivable, and more reliable fleet of helicopters to replace the HH-60s. The CSAR-X program requested a readily available aircraft that could fly 316 miles, loiter for five minutes during an extraction, and return to base. The new helicopter also had to carry three PJs, in addition to the flight crew, and hold four litters for wounded.

The HH-60s have a mission radius of only 213 miles, and can carry only two PJs and two litters.

The CSAR-X program intended later to add enhancements such as terrain-clearance radar and air-to-air missiles as a defense against hostile aircraft.

## CSAR-X's Decade of Difficulty

First acquired in the 1980s, the Pave Hawks were experiencing declining readiness rates a decade ago.

The Joint Requirements Oversight Council therefore approved a mission-needs statement for a replacement helicopter in 1999, initiating the CSAR-X program.

After an extensive process to draft requirements and solicit bids for new rescue helicopters, the Air Force announced on Nov. 9, 2006 it had chosen the HH-47, a modified version of Boeing's widely used twin-rotor Chinook. The HH-47 was a surprise winner, beating out proposals from Sikorsky and a Lockheed Martin-AgustaWestland team.

Even then-Air Force Chief of Staff Gen. T. Michael Moseley was surprised by the selection of the heavy-lift Chinook over Sikorsky's HH-92, an updated and larger H-60, and the US101 (the Lockheed Martin-led offer of a modified AgustaWestland EH101). Both of the rivals were medium-lift helicopters, which the Air Force had previously said was its desired size for the mission.

With a potentially \$15 billion contract at stake, the losers immediately filed protests with the Government Accountability Office, citing a long list of perceived errors in the Air Force's criteria, standards, and evaluation of the bids.

Lockheed, for example, said the US101's projected life-cycle cost was about \$3 billion less than the HH-47.

Air Force acquisition officials said they had determined that the HH-47 met mission requirements, could be fielded sooner and with the lower technical risk than the rivals, and that cost was not a primary criterion.

In February 2007, however, GAO ruled for the protestors on one of their many complaints, finding that the Air Force's evaluation of the life-cycle operations and support costs "was inconsistent" with the approach described in the bid solicitation.

The Air Force accepted GAO's findings and issued a revised solicitation. Although Sikorsky and Lockheed protested the new proposal, GAO rejected their complaints, which put the CSAR-X program back on the books—until Defense Secretary Robert M. Gates killed it this spring.

With CSAR-X dead, the stopgap combat search and rescue plan calls for sustaining the current fleet by correcting problems caused by the Pave Hawks' average age of 19 years. That effort received \$99 million in Fiscal 2008 for safety and survivability fixes, primarily repairing structural cracks in eight aircraft with more than 7,000 hours.

### The 80 percent solution

Replacing the cracked beams takes six to nine months in depot. This further degrades availability, which had dropped into the mid-60 percent and is projected to drop to 40 percent, Fiorenza noted.

There also is a short-term effort to replace the 12 lost aircraft by buying new HH-60s and the required CSAR modifications, planned for FY10 to FY12.

And while DOD is re-examining the CSAR mission, "the Air Force will be doing an assessment of requirements

for sustaining the current aircraft" for the long term, Fiorenza said.

That poses an economic question of whether it would cost more to extend the life of the current fleet for some time or to buy new aircraft, he said. They also must assess the impact on availability of taking 10 percent of the fleet out of service for a life extension.

"The Air Force is in a position it didn't expect," because planners had anticipated the first CSAR-X aircraft would be on the flight line in 2009, Fiorenza said.

"CSAR-X was intended to do two things: shore up the capabilities gap and increase the number of aircraft," he said.

Now, due to OSD guidance "to focus on the 80 percent solution using current fielded assets, the Air Force will probably have to accept less," Fiorenza said. "We now expect an aircraft that will not have the range and payload of the past CSAR-X requirements." ■

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