





**USAF picked Boeing's HH-47 variant of the Chinook for the CSAR-X.**

# The Struggle Over CSAR-X

By Michael C. Sirak

Boeing photo

**USAF's plan to quickly buy a new combat search and rescue helicopter is going nowhere fast.**

**T**he Air Force's quest to quickly field a new fleet of combat search and rescue helicopters has become an unexpectedly dramatic and contentious process. The service is trying to field a fleet of 141 next generation CSAR-X aircraft beginning early next decade to replace its old HH-60 rescue helicopters, but the process has been controversial and nasty from the day Boeing's HH-47 was first named the surprise winner.

The controversy continues to simmer, and no resolution is expected soon.

Last November, Boeing's HH-47 tandem-rotor helicopter, derived from the venerable Chinook, won out over Sikorsky's HH-92 Super Hawk and the Lockheed Martin-led US101 as the Air Force pick for CSAR-X. The losing competitors immediately protested the decision to the Government Accountability Office.

"Protests are part of the acquisition

process," Lt. Gen. Donald J. Hoffman, USAF's senior uniformed acquisition official, recently said. But things really got interesting after the protests were filed.

In a highly unusual sequence, the GAO upheld the losing contractors' protests, and the Air Force then decided to reopen the competition to resolve the cost issue.

By this point, nearly everybody—GAO, contractors, and Air Force—has been able to find fault with some part of the process. No less an authority than Gen. T. Michael Moseley, Chief of Staff, created waves this winter when he said the HH-47 would not have been his first choice for CSAR-X.

"It was a surprise to me," Moseley told reporters in February at the Air Force Association's Orlando, Fla., symposium.

The Chief's words, while not a ringing endorsement, were not a total rebuke of the HH-47 either. "I am going to be OK with this," he clarified. The US military has "a lot of people out there operating that airplane in some fairly bad places and it is working like a champ," he said in reference to the Army's workhorse Chinook helicopter and its continued use in Afghanistan and Iraq. "I didn't say I was upset about it. All I said is, it wouldn't have been the one that I picked, but I will make this work."

While the road to the new CSAR platform may still have bumps ahead, this is clear: The Air Force's leadership wants the new fleet of rescue birds as soon as possible. The CSAR-X program is the service's second-highest procurement priority, eclipsed only by the quest to field a new aerial refueling aircraft.

In fact, Moseley says the Air Force has a "moral and ethical imperative" to rescue the pilots and ground troops that venture into harm's way—potentially hundreds of miles into hostile environments—in service of their country.

"Combat search and rescue is a big deal for people like me," he told reporters in April. Accordingly, the service wants to have the best equipment possible to carry out the mission.

As good as the Air Force's current rescue bird, the Sikorsky-built HH-60G Pave Hawk, has been since its incep-

tion in 1982, it has acute performance limitations in areas such as speed, range, carrying capacity, and reliability that are evident in Afghanistan's harsh operations environment and in Iraq.

A more capable platform is needed to execute the kinds of dangerous missions necessary to retrieve downed aircrew and stranded soldiers, sailors, or marines, including those wounded or injured, in future conflicts, officials say.

Accordingly, the Air Force has been pursuing the CSAR-X with a sense of urgency. Last November, when the service chose the HH-47, it wanted to have the first combat-ready squadron of five CSAR-X aircraft, as well as a training unit, before the end of 2012.

The goal is to have all 141 of the new airframes in the inventory by 2019.

As of mid-2007, all three offerors were still saying they could meet the initial combat-ready date in 2012.

For each industry team, the stakes are high, since it's not every day that a multibillion-dollar program comes along for 141 helicopters, plus test assets, spares, and training equipment. The Air Force estimates that the total value of the work to develop and build the new helicopters could be \$15 billion—an absolute bonanza in the military helicopter market. An additional \$20 billion is projected to cover the costs of operating and maintaining the fleet for 30 years.

Prevailing in the CSAR-X competition could also potentially afford the helicopter the inside track to fill the Air Force's other rotary-winged

void: the future Common Vertical Lift Support Platform (CVLSP). This bird will replace the Vietnam War-era Bell UH-1N Hueys that protect the nation's ICBM fields, and that are also used to transport VIPs. The Air Force plans to buy more than 50 helicopters for these missions.

### A Protest

Nothing is a given in this business, however. A US101 variant, now designated the VH-71, is being built as the next generation "Marine One" shuttle for the President. Many analysts thought the Lockheed Martin-led US101 team had the inside track for CSAR-X because it had already won that competition. (Team US101 is a transatlantic partnership of Bell Helicopter, Lockheed Martin, and the Italian-UK joint venture AgustaWestland.)

The controversy began after the Air Force's choice of the HH-47 on Nov. 9, 2006. Service acquisition officials said they found the HH-47 to be a capable machine that could be fielded soonest with the lowest technical risk of the three helicopters. On the same day, the

Air Force awarded the Chicago-based company a \$712 million contract to mature the HH-47 design and start building the helicopters.

Sue C. Payton, the Air Force's acquisition executive, said on that day that the HH-47 represented the best overall value, when factoring four areas ranked in order of importance: mission capability, proposal risk, past performance, and cost-price calculated on the basis of most probable life cycle cost (MPLCC).

The HH-47 met the criteria "better than any other proposal," she said.

While the US101's life cycle costs were estimated to be approximately \$3 billion less than the other two designs, cost was not the driving factor in the assessment, the Air Force said.

Days after the award, both Sikorsky and Lockheed protested the decision with the GAO, contending that their respective offers may not have been fairly and accurately evaluated. By law, a work stoppage was issued to Boeing while the GAO investigated the complaints.

That work stoppage remains in effect today.

*At right and below, members of the Utah National Guard are lifted on board an HH-60 during a combat search and rescue exercise.*



USAF photos by MSgt. Kevin J. Gruenwald



**Sikorsky's HH-92 Super Hawk, left, was originally a V-22 competitor.**

In late February, the GAO ruled in favor of the two protestors on one of the numerous complaints that they lodged. The agency found that the Air Force's manner of evaluating the MPLCC of each offeror's helicopters "was inconsistent" with the required approach as set forth in the solicitation. CSAR-X is one of the largest weapon projects for which the GAO has ever sustained a protest.

"We basically found out that we were not clear enough in how we were going to evaluate one of the factors under operations and support in our cost area," Payton told *Air Force Magazine* during a June interview.

The Air Force had asked the offerors to provide data on the maintenance man-hours per flight hour necessary to keep their respective aircraft flying, so that the service could evaluate mission capability.

Air Force evaluators "never intended to use that data to help . . . determine manpower requirements out in the field or at a base for doing maintenance on the aircraft," Payton said. But aside from a single reference to this effect in a request for proposals spreadsheet, the Air Force did not properly clarify this point.

Instead, USAF calculated the manpower requirements for the helicopters

"based on our own infrastructure of how many people we need to fix a helicopter, and based on the level of skills" available, she said.

### **An Opportunity to Quantify**

What the service "did wrong" was "not clarify that that data was not going to be used to calculate how we would maintain the helicopters," she said. "We absolutely owe it to industry and to the warfighter to be clear on what it

is that we are going to do once we get their data in."

This was enough for GAO to sustain the protest and throw a wrench into what was already a controversial decision. Some observers thought the HH-47 the best choice for its size, payload, and proven effectiveness. Others felt speed is more important than size in rescuing downed airmen, and said the HH-47's mass may actually be a liability.

The HH-47, as the reigning winner, is the target of harsh criticism from analysts and paid consultants. Some have argued the Boeing platform is too old, too large, heavy and cumbersome, too noisy and too easy to detect, and kicks up too much dust—among other purported flaws that make it ill-suited for the CSAR role.

Part of the reason its selection was so surprising in the first place is because the Air Force had for several years before the formal competition described the need for a "medium lift" CSAR-X. The Chinook is decidedly heavy compared to its competitors.

USAF has indirectly refuted the charges. "From program inception, experienced Air Force combat search and rescue personnel, both aircrew and maintainers, have been involved in every step of the acquisition process," the service said in May in a statement. "The development of the CSAR-X requirements was led by Air Force pilots, aircrew, and support personnel who have flown demanding CSAR missions, maintained CSAR aircraft, and supported CSAR operations in austere locations around the world."

Further, the Air Force's leadership,

Lockheed Martin photo



**The US101 seemed a favorite for a "medium" lift rescue chopper. The choice of the "heavy" HH-47 surprised many.**

including Payton, notes that GAO found fault with the Air Force solely on the cost issue—not capability assessments.

To resolve the protest, the Air Force agreed to follow the GAO's recommendations. The service issued a revised solicitation in May that clarified how it will calculate the CSAR-X's operations and support costs, and is accepting new data from the bidders in that area.

If the HH-47 is found to no longer represent the best overall value based on inclusion of the new cost data in the pool of already completed analysis from the original source-selection evaluation, the Air Force will terminate its contract with Boeing and crown a new winner.

Boeing has said publicly that it remains confident that the new assessment will show that the HH-47 clearly remains the best choice. Further, supporters of the HH-47 say many of the criticisms leveled at it do not hold water on a closer examination of the facts and that the qualities of the aircraft, such as its heat signature, met or exceeded the Air Force's requirements.

Before it issued the revised solicitation, the Air Force asked the GAO to go back and rule on the remaining 19 or so protest points that Sikorsky and Lockheed had raised. The agency denied all of these additional initial protests, thereby clearing the way for the Air Force to move forward.

Said Payton, "We didn't want to have shades of gray" clouding the competition.

In the revised solicitation, issued May 29, the Air Force did more than just clarify how it intends to evaluate the operations and support costs. It also provided the offerors "an opportunity to quantify and substantiate potential maintenance manpower efficiencies based on the reliability and maintainability characteristics of their proposed aircraft," according to an Air Force statement.

Payton said the Air Force could have just republished the RFP clarifying its intent, because "the way in which we calculate most probable life cycle cost is the same way that we have done it for decades." Instead, the Air Force "felt it compelling" to "give credit to better designed, more reliable offerings" and "allow industry to substantiate their potential maintenance savings," she said.

At the same time, the Air Force was clear that it would not reopen the other areas of the original evaluation to new data.

## Combat Rescue Mission Requirements

The Air Force designed the CSAR-X program to be a low-risk undertaking that would field an initial Block 0 combat search and rescue aircraft that met the basic performance attributes needed in the new platform. The service would then field a more sophisticated Block 10 configuration later.

At issue is the Air Force's need for a larger, faster, more survivable, and more reliable fleet of helicopters to replace the old HH-60 Pave Hawks that have served admirably but have serious mission limitations and are now nearly worn out.

USAF wants the Block 0 CSAR-X platform capable of flying out to 316 miles and loitering for five minutes during an extraction, and then returning to base. This compares favorably to the HH-60 Pave Hawk, which can only reach out 213 miles under the same rescue scenario.

The new rescue bird must also be able to carry three pararescue jumpers (PJs)—the airmen that leave the helicopter to retrieve downed aircrew—as opposed to two on the HH-60G, and hold four litters for wounded when carrying a full crew, as opposed to two litter patients on the Pave Hawk.

Block 10 enhancements would include items such as radar that allows the helicopter to fly low and hug the terrain, an obstacle-detection system, and air-to-air missiles to defend itself from hostile aircraft, the Air Force says.

This approach did not sit well with Sikorsky and Lockheed Martin. The contractors currently on the outside said the service was taking a far too restrictive approach that would not properly factor in the technical innovations of their designs and their resulting cost savings.

### About Operational Capability

Sikorsky called the latest competition "seriously flawed" since, among other things, it did not appear to show that it would calculate fuel cost as prescribed by the Office of the Secretary of Defense. This is important, the company said, because "the HH-92 has a significant fuel burn advantage over both competitors."

Lockheed called for a "fair and open reconsideration of fully revised proposals—to include updated past performance information based on recent rather than historical data." The US101 was penalized in the past-performance portion of the original evaluation due to the track record of the VH-71 program.

Since the time period the Air Force evaluated, even the Navy has said VH-71 is now on track to achieve its goals. The Air Force reiterated in June that the GAO's March decision rejected the additional protests, however, "including the Air Force's evaluation of [Lockheed Martin's] past performance issues with the VH-71 Presidential Helicopter program."

Lockheed filed a new protest with the GAO on June 8, saying the Air Force's action "does not comply with the corrective action recommended by the GAO earlier this year."

Sikorsky also strenuously objected, and followed suit with its own new

protest on June 18, contending that "the only way to ensure a full, fair, and complete competition is for a broader re-evaluation of the proposals."

The GAO has 100 days, until September, to rule on the new protests, but said it would expedite the process—at the Air Force's request.

While Air Force officials have said they are committed to resolving the cost issue properly, they have added that they do not want the controversy to linger on with no end in sight.

"At the end of the day, we have to get a new helicopter," Moseley said in April.

"This is not about lawyers. This is not about companies. This is about operational capability," Moseley continued. The Air Force must be able to "go pick up airmen, soldiers, sailors, marines, and coalition partners. ... So the notion of continued protests, and the notion of continued lawyers, and admin, and messing with this, is not right" when there is a war going on.

Unfortunately for the Air Force, there is so much at stake for the competitors that a new round of protests is almost a certainty, no matter which helicopter it chooses as its new CSAR platform. The losers, whoever they are, are expected to find fault with the result and may very well call in the lawyers once again.

The question is not just which platform will win, but when it will be allowed to enter service. ■

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